November 29th, 2012

BY COURIER & RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, Ontario
M4P 1E4

Dear Ms. Walli:

RE: Union Gas Limited ("Union")
2013 Panhandle Replacement Exemption Request
EB-2012-0432

Union hereby requests an exemption, under Section 95 of the Ontario Energy Board Act, from the requirements of Section 90 for an Order granting leave to construct approximately 500 metres of NPS 16 natural gas pipeline. This pipeline is needed to replace a portion of the Panhandle Line which must be replaced for integrity issues.

Replacement of the existing pipeline would not require Ontario Energy Board ("OEB") leave to construct approval, if the existing pipe was removed and a new pipeline was constructed in the existing easement. However, to minimize environmental impacts, Union is proposing to abandon the existing pipeline in place and obtain a new easement for the replacement pipeline. As new lands rights will be required for the project, the project meets the requirements of Section 90(1) of the Ontario Energy Board Act, requiring leave to construct.

The proposed pipeline will be constructed in 2013.

In Union's view, there are a number of reasons why this case warrants an exemption including:

1. There is a demonstrated immediate need for the pipeline replacement;
2. The directly affected landowner has not identified any issues with the project and has signed a letter of non objection to the project;
3. In order to minimize the environmental impacts resulting from construction of the pipeline, Union proposes to complete the construction in two phases; firstly, complete a directional drill through Ojibway Park during the winter of 2013; and secondly, complete the tie-in at either end of the project in the summer of 2013;

4. The alternative would be to remove the existing pipeline and construct a new pipeline in the existing easement. This alternative will have significant environmental impacts;
5. Union has completed an environmental screening for the replacement work and the proposed project, if constructed during the time frames indicated above, minimizes the environmental impacts;
6. Union holds an approved Franchise and Certificate of Public Convenience and Necessity for the City of Windsor, where this project is located;
7. In order to ensure that there is no disruption of services to customers tie-in completion of the Panhandle Line must be completed in October of 2013.

To further assist the OEB in reviewing this matter, please find the attached package of supporting material.

Union respectfully requests the OEB initiate the process to review this request as soon as possible. The first phase of construction of the proposed Panhandle Line is scheduled to commence in February of 2013.

If you require additional information, please contact Mark Murray, Manager, Regulatory Projects, Union Gas Limited at 519-436-4601.

Yours truly,

[original signed by]

Dan Jones
Assistant General Counsel
:mjp
Encl.

cc: Neil McKay, Manager Facilities Applications
Zora Crnojacki, Project Advisor

2013 PANHANDLE REPLACEMENT PROJECT

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Project Summary

1. Union Gas Limited ("Union"), pursuant to Section 90(1) of the Ontario Energy Board Act, requests approval from the Ontario Energy Board ("OEB") for leave to construct approximately 500 meters of NPS 16 hydrocarbon (natural gas) pipeline ("Proposed Pipeline") in order to replace a portion of the existing Panhandle Line located in the City of Windsor. Union is proposing to replace approximately 500 meters of the Panhandle Line in the Ojibway Park Nature Reserve ("Ojibway Park) and under Matchette Road and Titcombe Road (the "Project"). The location of the Proposed Pipeline is shown on Schedule 1.

2. The Panhandle Line from the Ojibway Measurement Station to Grand Marais Road was originally constructed in 1965 and is inspected periodically as part of Union's Integrity Management Program. Results of scheduled inspections in 2011 identified integrity issues in the vicinity of Ojibway Park that could pose safety and security of supply concerns if not addressed.

3. The majority of the pipeline to be replaced is within the Ojibway Park, an environmentally significant area.

4. Union is proposing to abandon the existing pipeline in place. The Proposed Pipeline will be constructed adjacent to the existing pipeline and will require new land rights. Union proposes to construct the Proposed Pipeline using a directional drill through the environmentally sensitive area to minimize the impacts to the environmental features.

5. The estimated costs of the project are $2,368,000.00.

6. Union has discussed the Project with the directly affected landowners along the route of the Proposed Pipeline and the landowners have not identified any concerns with the Project.

7. Union has completed an environmental review for the Project. This review did not identify any long term significant environmental impacts as a result of the Project.

8. Union is proposing to construct the Proposed Pipeline in two phases during 2013. Union requests Ontario Energy Board approval by February 2013.

Background

9. Since 2002, Union has had an extensive pipeline maintenance and integrity management program in place that includes the regular monitoring of pipelines for corrosion, leaks or other potential damage to ensure its pipelines remain in safe operating condition.

10. As part of this program, Union regularly conducts inline inspections of its pipelines using tools to determine the condition of the pipelines. Based on the results of these assessments, Union takes appropriate mitigation action to address any integrity issues that are found.

11. The Panhandle Line was initially inspected using inline inspection tools in 2003 and subsequently another inspection was completed in 2011. Investigative digs were also completed on the line subsequent to the inline inspection, and some of the defects were removed from the line. The inspection done in 2011 identified internal metal loss on a section of the Panhandle Line that Union is proposing to replace.

12. Integrity concerns have been addressed on an individual basis.

13. Based on Union's experience with this pipeline, given its overall condition and proximity to an environmental sensitive area, abandoning the existing pipeline in place and construction of

a replacement pipeline was deemed the most effective action to manage and ensure the long term integrity of the Panhandle Line while minimizing impacts to the environment.

14. If the replacement is delayed, the integrity concerns may become more serious and require immediate action.

Proposed Facilities

15. As this is a very short length of pipeline, it was determined that upsizing the pipeline was not required and that the pipeline could be replaced size for size.

Project Costs and Economics

16. The estimated costs for the Project are $2,368,000.00. A detailed breakdown of these costs can be found at Schedule 2.

17. A Discounted Cash Flow report has not been completed as the Project is underpinned by the relocation requirements and there are no new contracts associated with this replacement.

Design and Construction

18. The Proposed Pipeline will have a Maximum Operating Pressure ("MOP") of 3450 kPa .

19. The design and pipe specifications are outlined in Schedule 3. All the design specifications are in accordance with the *Ontario Regulations 210/01* under the *Technical Standards and Safety Act 2000, Oil and Gas Pipeline Systems*. This is the regulation governing the installation of pipelines in the Province of Ontario.

20. In consideration for future potential development along the route, the Proposed Pipeline is designed to meet Class 3 location requirements. The actual current class location of the areas is Class 2.

21. The Proposed Pipeline will have an outside diameter of 406.4 mm and a minimum wall thickness of 7.1 mm. The pipe is to be manufactured by the electric resistance weld process and will have minimum specified yield strength of 359 MPa. This pipe will be manufactured to the CSA Z245.1-07 Steel Line Pipe Standard for Pipeline Systems and Materials.

22. The Proposed Pipeline will be hydrostatically tested in accordance with the Ontario Regulation requirements.

23. The minimum depth of cover will be in accordance with Clause 4.11 of the CSA Code Z662-11. Additional depth greater than the planned depth of 1.2 meters will be provided to accommodate existing or planned facilities and buoyancy.

24. The majority of the Proposed Pipeline will be constructed using the directional drill method. Schedule 4 describes the general techniques and methods of construction that will be employed in the construction of the Proposed Pipeline. This Schedule details the following activities; clearing, stringing of pipe, trenching, welding, backfilling and clean up. Union's construction procedures have been continually updated and refined in order to be responsive to landowner concerns and mitigate potential environmental effects related to pipeline construction.

25. Material is readily available for this Project.

26. Schedule 5 indicates the environmental field studies will start in February and construction will commence in March and be completed by the end of October, 2013. Construction will be completed at two different times in 2013 to reduce impact to species at risk and ensure the efficient operation of the Panhandle Line during the winter of 2013.

27. The existing pipeline will be abandoned in compliance with TSSA guidelines. The TSSA abandonment guidelines can be found at Schedule 6.

28. To construct the Proposed Pipeline Union will follow the methods outlined in Schedule 4 "Construction Techniques".

Landowners

29. For the majority of the Proposed Pipeline a new easement will be required from the City of Windsor.

30. The Proposed Pipeline will also be constructed within road allowances in the City of Windsor following the conditions of Union's existing franchise agreement.

31. Union will also use its existing easement rights for access, temporary land use and other construction activities.

32. Union will require crossing permits or agreements with the City of Windsor and other utilities along the Proposed Pipeline route.

33. Union will not require any fee simple purchases of land to complete the Project.

34. Union will require temporary lands from the City of Windsor along the Proposed Pipeline route.

35. Union has met or spoken with all of the directly affected landowners along the Proposed Pipeline route. No landowners have identified any concerns, and Union will have the necessary land rights in place prior to construction.

36. Attached at Schedule 7 is a letter of non objection from the directly affected landowner, the City of Windsor.

37. Schedule 8 is a map that shows the running line and the land rights required for the Proposed Pipeline.

38. Schedule 9 lists the names and addresses and identifies the permanent and temporary land use rights Union has or will require to construct the Proposed Pipeline.

39. Union's form of easement is attached as Schedule 10 this form will be offered to the City of Windsor where the permanent easement is required. This easement covers the installation, operation and maintenance of one pipeline. The main restrictions imposed upon the City of Windsor by having this easement is that the City of Windsor cannot erect buildings or privacy fencing in the easement. In addition, the City of Windsor cannot excavate on the easement or install structures which would impede access to Union's pipeline. The landowner can, however, install service pipe or utility lines or develop the easement into a laneway or driveway entrance upon prior written approval by Union.

40. Temporary Land Use Agreements are usually required for a period of two years. This allows Union an opportunity to return in the year following construction to perform further clean-up and remediation work as may be required. Union will offer a form of Temporary Land Use Agreement form previously approved by the Board and utilized by Union in the past on similar pipeline projects.

41. At the conclusion of construction, Union will seek a Full and Final Release from the City of Windsor. This Full and Final Release will include compensation for any damages caused or attributed to the pipeline construction.

42. Union has implemented a comprehensive program to provide landowners, tenants, and other interested persons with information regarding the Proposed Pipeline. Project information was distributed through correspondence and meetings with the landowners.

43. After construction, negotiations with landowners will continue, where necessary, to settle any damages that were not foreseen or compensated for, prior to construction. As well Union is developing in consultation with the City of Windsor a plan to relocate the existing Ojibway Park trail over the existing pipeline easement. This will reduce the amount of disturbance in the future for maintenance and also increase net green space within the park.

Environmental

44. The majority of the Proposed Pipeline to be replaced is in Ojibway Park. This park is part of the Ojibway Prairie Complex which is a related group of municipal and provincial parklands that serve to protect remnant of the original tall grass prairie and oak savannah communities that once occupied the area.

45. Union retained the services of Stantec Consulting Ltd. to review the route of the Proposed Pipeline, and identify the environmental features that could be impacted by Proposed Pipeline's construction. Stantec's Environmental Review ("ER") can be found at Schedule 11

46. Union has also completed an environmental screening for the project consistent with the requirements of E.B.O. 188. The results of this screening can be found at Schedule 11.

47. Union met with officials from the City of Windsor, park naturalists and the Ministry of Natural Resources (MNR) to discuss the route and construction methods and they did not identify any concerns with Union's approach that could not be mitigated.

48. In order to minimize impacts to the Ojibway Park, Union is proposing to directionally drill the Proposed Pipeline through Ojibway Park during the winter of 2013 and abandon in place the existing pipeline. By directionally drilling in the winter, Union will avoid impacting Species at Risk (SAR) including some birds and snake species that are found in the nature reserve.

49. Based on the above construction plan, the Stantec report did identify SAR's along the route and the report concludes that if Union's standard mitigation practices in conjunction with MNR's proposed mitigation are implemented, there will be no long term environmental impacts.

50. Union will implement a program dealing with environmental inspection. This program will ensure that the recommendation in the ER is followed. An inspector trained in environmental issues will monitor construction activities and ensure that all activities comply with the mitigation measures found in the ER.

51. The total estimated environmental mitigation costs associated with the construction of the proposed facilities are $205,000.00____. A breakdown of these costs can be found at Schedule 12. The environmental costs are included in the Projects costs.

First Nation and Métis

52. Union has a long standing practice of consulting with Métis and First Nations, and has programs in place whereby Union works with them to ensure they are aware of Union's projects and have the opportunity to participate in both the planning and construction phases of the project.

53. Union has an extensive data base and knowledge of First Nations and Métis organizations in Ontario and consults with the Tribal organizations and the data bases of the Ministry of

Natural Resources, Ministry of Aboriginal Affairs and Aboriginal Affairs and Northern Development Canada to ensure consultation is carried out with the most appropriate groups.

54. Union has signed a General Relationship Agreement with the Métis Nation of Ontario which describes Union's commitments to the Métis when planning and constructing pipeline projects.

55. Union has initiated conversations with Walpole Island First Nation and Caldwell First Nation and due to the size, scope and location of the project, no concerns were brought forward.

56. During construction, Union has inspectors in the field who are available to First Nation's and Métis organization as a primary contact to discuss and review any issues that may arise during construction.

REVISIONS				
NO.	DATE	BY	APP'D	REMARKS
01	12/08/17	KWG	PDS	ONTARIO ENERGY BOARD

20 0 40 80 120 METRES
40 0 40 80 120 160 200 400 FEET

uniongas
A Spectra Energy Company

OJIBWAY PARK REPLACEMENT
PANHANDLE NPS 16
CITY OF WINDSOR

DRAWN BY K.W. GUERIN	DATE 2012/08/20	SCALE 1:5000	PLOT SPEC. 1=5
CHECKED BY	DATE	AC/DRAW CODE M852-05	
APPROVED BY P.D. SULLIVAN	DATE 2012/08/17	JOB NO.	
SIZE B	DRAWER N/A	SHEET 1 of 1	DRAWING NO. M852

TOTAL ESTIMATED PIPELINE CAPITAL COSTS

PANHANDLE NPS 16 - OJIBWAY PARK REPLACEMENT

Pipeline and Equipment		
NPS 16 Steel Pipe, Coated 500 metres	$185,000	
Fittings & Miscellaneous Material	$50,000	
Sub-Total	$235,000	
Stores Overhead – Fittings and Misc. Material	$5,000	
Total Pipeline and Equipment		**$240,000**
Construction and Labour		
Drill 400 metres of NPS 16 Steel Pipe	$1,340,000	
Lay 100 metres of NPS 16 Steel Pipe		
Drilling, Testing, Dewatering, Park Trail Reconstruction,		
Grouting & Miscellaneous Contract Labour		
Company Labour, X-Ray, Construction Survey, Legal,	$523,000	
Environmental Fees, Mill Inspection and Consultants		
Easements, Lands & Damages	$50,000	
Total Construction and Labour		**$1,913,000**
Total Pipeline and Equipment and Construction and Labour		**$2,153,000**
Contingencies		**$215,000**
Total Estimated Pipeline Capital Costs – 2013 Construction		**$2,368,000**

Includes the Estimated Environmental Costs Identified in Schedule 12

NPS 16 PANHANDLE – OJIBWAY PARK REPLACEMENT: NATURAL GAS PIPELINE PROJECT

DESIGN AND PIPE SPECIFICATIONS

Design Specifications: NPS 16

Class Location	-	Class 2
Design Class Location	-	Class 3
Design Factor	-	0.80
Location Factor (general)	-	0.9
Location Factor (roads)	-	0.625
Maximum Operating Pressure	-	3450 kPa
Test Medium	-	Water
Test Pressure	-	Min: 8460 kPa
Valves/Fittings	-	PN 100 above grade; buried fittings Grade 414, 7.1 mm wall, Cat I
Minimum Depth of Cover	-	1.2 m

Pipe Specifications:

Size	-	NPS-16
Wall Thickness	-	7.9 mm
Grade	-	359 MPa
Type	-	Electric Resistance Weld
Description	-	C.S.A. Standard Z245.1 (Latest Edition)
Category	-	Cat. I, M5C
Coating	-	Abrasion Resistant Coating
% SMYS	-	24.72%

GENERAL TECHNIQUES AND METHODS OF CONSTRUCTION

1. Union Gas Limited ("Union") will provide its own inspection staff to enforce Union's construction specifications and *Ontario Regulation 210/01 under the Technical Standards and Safety Act 2000, Oil and Gas Pipeline Systems*.
2. Pipeline construction is divided into several crews that create a mobile assembly line. Each crew performs a different function, with a finished product left behind when the last crew has completed its work.
3. Union's contract specifications require the contractor to erect safety barricades, fences, signs or flashers, or to use flag persons as may be appropriate, around any excavation across or along a road.
4. It is Union's policy to restore the areas affected by the construction of the pipeline to "as close to original condition" as possible. As a guide to show the "original condition" of the area, photos and/or a video will be taken before any work commences. When the clean up is completed, the approval of the landowner or appropriate government authority is obtained.
5. Construction of the pipeline includes the following activities:

Locating Running Line

6. Union establishes the location where the pipeline is to be installed ("the running line"). For pipelines within road allowances, the adjacent property lines are identified and the running line is set at a specified distance from the property line. For pipelines located on private easement, the easement is surveyed and the running line is set at the specified distance from the edge of the easement. The distance from the start of the pipeline (or other suitable point) is marked on the pipeline stakes and the drawings.

Clearing and Grading

7. The right-of-way is prepared for the construction of the pipeline. When required, bushes, trees and crops are removed and the ground leveled. When required, the topsoil is stripped and stored, and/or sod is lifted.

Removing Existing Pipeline at Tie-Ins

8. The existing trench is excavated exposing the existing pipeline. The spoil material is placed onto the easement, separate from the topsoil. The existing NPS 16 pipeline is removed from the trench, cut into sections and trucked off site. The trench is then backfilled.

Abandoning Existing Pipeline

9. The existing pipe within road allowance and in environmentally sensitive areas can be abandoned in place. The abandoned sections are capped and filled with grout, a low density concrete.

Stringing

10. The joints of pipe are laid end-to-end on supports that keep the pipe off the ground to prevent damage to the pipe coating.

Welding

11. The pipe is welded/fused into manageable lengths. The welds in steel pipe are radiographically inspected, if required, and the welds are coated.

Burying

12. Pipe may be buried using either the trench method or the trenchless method. All utilities that will be crossed or paralleled by the pipeline are located by the appropriate utility prior to installing the pipeline. Prior to trenching, all such utilities will be hand-located or hydro vacuumed.

    Trench Method: Trenching is done by using a trenching machine or hoe excavator depending upon the ground conditions. Provisions are made to allow residents access to their property, as required. All drainage tiles that are cut during the trench excavation are flagged to signify that a repair is required. All tiles are measured and recorded as to size, depth, type and quality. This information is kept on file with Union. If a repair is necessary in the future, Union will have an accurate method of locating the tile. Next, the pipe is lowered into the trench. For steel pipe, the pipe coating is tested using a high voltage electrical tester as the pipe is lowered into the trench. All defects in the coating are repaired before the pipe is lowered in. Next, if the soil that was excavated from the trench is suitable for backfill, it is backfilled. If the soil is not suitable for

backfill (such as rock), it is hauled away and the trench is backfilled with suitable material such as sand. After the trench is backfilled, drainage tile is repaired.

Rock Excavation: Rock in solid beds or masses will be removed by "Hoe Ram", where practical. Where rock that is too hard to "Hoe Ram" is encountered, blasting will be permitted in accordance to Union's construction procedures and the *Canadian Explosives Act*. The contractor shall obtain all necessary permits and shall comply with all legal requirements in connection with the use, storage and transportation of explosives.

Trenchless Method: Trenchless methods are alternate methods used to install pipelines under railways, roads, sidewalks, trees and environmentally sensitive areas. The trenchless method proposed for the NPS 16 pipeline is directional drilling. This method involves a setting un a receiving hole and an exit hole, drilling a pilot hole on the design path, reaming the pilot hole larger by passing a cutting tool and pulling the pipe back through the bored hole.

Tie-Ins

13. The sections of pipelines that have been buried using either the trench or trenchless method are joined together (tied-in).

Cleaning and Testing

14. To complete the construction, the pipeline is cleaned, tested in accordance with Union's specifications using water.

Restoration

15. The final activity is the restoration. The work area is leveled, the sod is replaced in lawn areas and other grassed areas are re-seeded. Where required, concrete, asphalt and gravel are replaced to return the areas to as close to the original conditions as possible.

NPS 16 Panhandle - Ojibway Park Replacement Construction Schedule

ACTIVITY	Feburary				March					April				May				June					July				August				September				October			
	3	10	17	24	3	10	17	24	31	7	14	21	28	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27
Field Survey Work																																							
Environmental Work																																							
Access and Grading																																							
Stringing																																							
Welding																																							
Drilling																																							
Pressure Testing																																							
Open Cut Pre-Work at Tie-ins																																							
Isolate, Tie-in, Purge and Pressurize																																							
Trail Relocation																																							
Final Clean Up																																							
In Service (Nov 1, 2013)																																							

PIPELINE ABANDONMENT CHECKLIST

PLANNING

1. Has subsidence been considered for pipelines having a diameter greater than 323.9 mm (12 inches)?
2. Has the pipeline company notified the landowners and proper authorities (municipalities, MOE, MTO, MNR, etc.) of the abandonment?
3. Have abandonment procedures for crossings been agreed upon by utilities (road, railway, pipelines, etc.) and authorities responsible for rivers and streams crossed by the pipeline?
4. Has consideration been given to the effect of drainage in the area surrounding the abandoned pipeline , which may act as a conduit for ground water after the pipe is perforated by corrosion?
5. Has consideration been given to the removal of all the aboveground facilities?
6. Has consideration been given to any hazards posed to people, equipment, wildlife or livestock by any apparatus left in place above or underground?

IMPLEMENTATION

1. Has the abandoned pipeline been physically isolated from the live pipeline?
2. Has the pipeline been drained of all fluids and adequately cleaned to prevent ground water contamination from hydrocarbon residue on the pipe wall after the pipe is perforated by corrosion?
3. Have all aboveground facilities been removed and has consideration been given to removing underground facilities such as anode beds and tanks?

LIABILITY/RISK MANAGEMENT

1. Does the pipeline company have a contingency plan to remedy any contamination caused by the abandoned pipeline?
2. Has consideration been given to conducting post-abandonment surveillance programs?
3. Has consideration been given to maintaining signage after the pipeline is abandoned?
4. Has consideration been given to providing a locate service after the pipeline is abandoned?

THE CITY OF WINDSOR

MISSION STATEMENT:
"The City of Windsor, with the involvement of its citizens, will deliver effective and responsive municipal services, and will mobilize innovative community partnerships"

COUNCIL SERVICES/CITY CLERK
CITY HALL
WINDSOR, ONTARIO
N9A 6S1

Phone: (519)255-6211
Fax: (519)255-6868
E-mail: clerks@city.windsor.on.ca.
WEBSITE: www.citywindsor.ca

CAO APPROVAL NOTICE

The Chief Administrative Officer approved the following recommendation:

CAO2179
APPROVED – November 23, 2012

THAT an expanded easement **BE GRANTED** to Union Gas Limited to allow for replacement of its NPS16 gas pipeline, through Ojibway Park (Ojibway Prairie).

EASEMENT GRANTEE:
Union Gas Limited
c/o Ryan Langan, Real Estate Agent
50 Keil Drive North
Chatham, ON N7M 5M1

NEW EASEMENT: An approximate 15.24 m wide by 500 m long (7620 m^2) underground easement (see attached drawing), described legally as Part of Block Z, Registered Plan 927, and to be more particularly described as Part(s) on a 12R Plan of Survey to be prepared and registered.

CONSIDERATION: $1.00. In lieu of a payment for the easement Union Gas Limited will agree to make a $1,000.00 donation to the Ojibway Nature Centre to be used for its programming.

TERMS & CONDITIONS:

a) Union Gas Limited will be responsible for all survey and restoration costs related to this transaction.

b) The existing gas pipeline will remain in place but not in service. It will be abandoned and filled with grout.

c) The new NPS 16 pipeline will be installed by underground horizontal direction drill method to greatly reduce the impact on the environmental area.

d) Union Gas Limited will agree to relocate the existing park trail over the new pipeline easement to allow for increased tree cover in the

future. The exact trail specifications have not been determined. It is understood Union Gas Limited will provide a "natural" looking trail of equivalent or better material than the existing trail. Trail specifications will be established with City staff.

e) Union Gas Limited will agree to remove certain invasive trees as identified by City Forestry & Naturalist staff.

f) Prior to installing the new pipeline Union Gas Limited will have the new easement staked out and meet with City staff to review the new trail location and incorporate measures to help re-establish growth on the existing trail; and

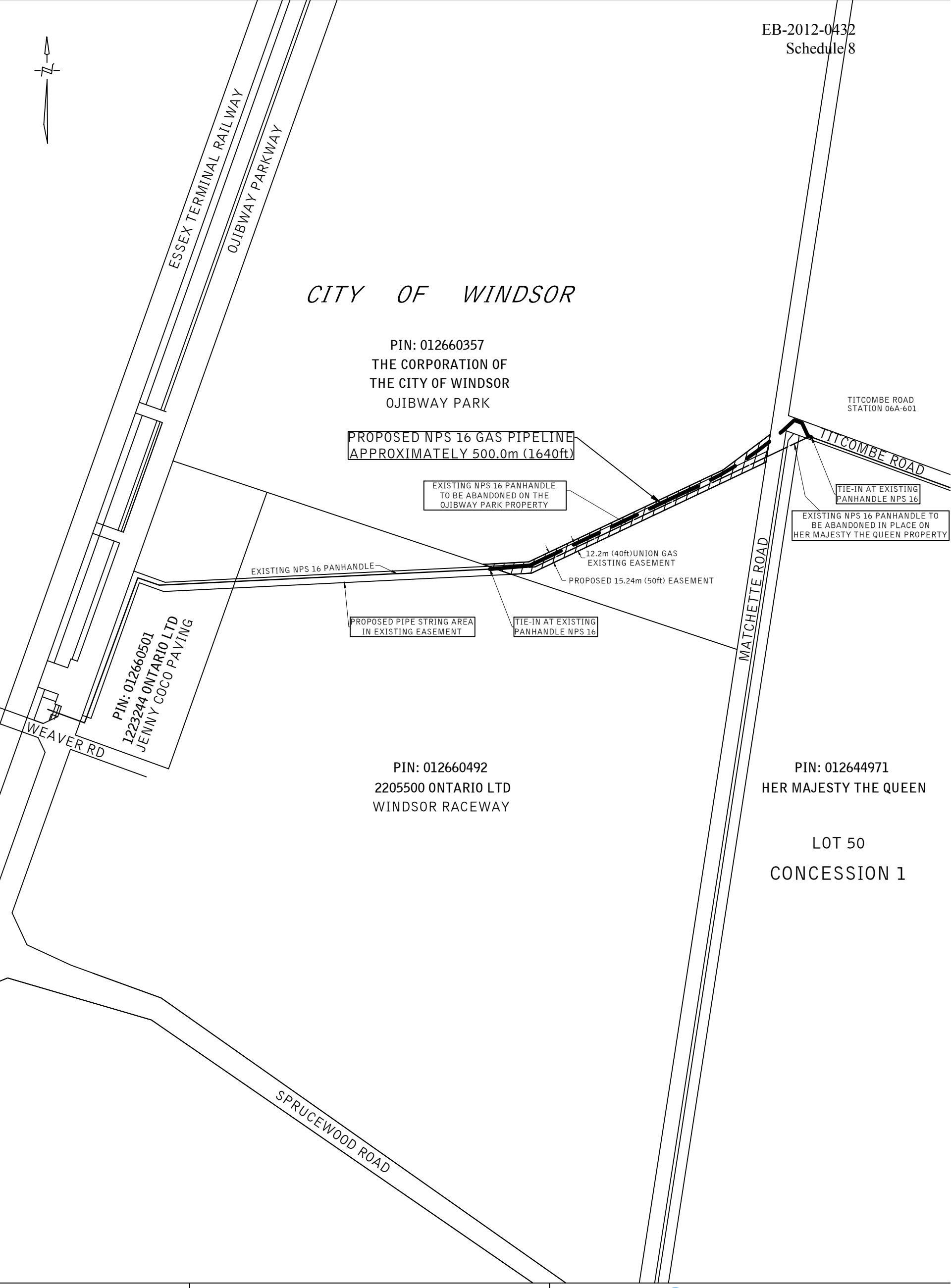
THAT the Chief Administrative Officer and City Clerk **BE AUTHORIZED** to sign the new easement document, prepared in form and content satisfactory to the City Solicitor or designate, in content satisfactory to the Property Supervisor and in content satisfactory to the Executive Director of Parks & Facilities.

MU/11602

Steve Vlachodimos
Deputy City Clerk/Senior Manager of Council Services
November 28, 2012
/jr

Internal Distribution
Legal [Mike Stamp]
City Solicitor
Executive Director of Parks & Facility Operations
Chief Financial Officer & City Treasurer

External Distribution



REVISIONS

NO.	DATE	BY	APP'D	REMARKS
01	12/08/17	KWG	PDS	ONTARIO ENERGY BOARD

20 0 40 80 120METRES
40 0 40 80 120 160 200 400 FEET

uniongas
A Spectra Energy Company

OJIBWAY PARK REPLACEMENT
PANHANDLE NPS 16
CITY OF WINDSOR

DRAWN BY	K.W. GUERIN	DATE	2012/08/20	SCALE 1:5000	PLOT SPEC. 1=5
CHECKED BY		DATE		AC/DRAW CODE	M852-05
APPROVED BY	P.D. SULLIVAN	DATE	2012/08/17	JOB NO.	
SIZE B	DRAWER N/A	SHEET 1 of 1		DRAWING NO.	M852

OJIBWAY REPLACEMENT
NPS 16 PANHANDLE
WBS 64-12-403-4612

\\Regulatory Projects Land & Aborignal Affiars/Lands/Transmission Projects/Ojibway Replacement - Nov 15 2012.xlsx

File #	PIN	NAME & ADDRESS	PROPERTY DESCRIPTION	PERMANENT EASEMENT Dimensions (Metres) Area Length Width (Hectares)	TEMPORARY EASEMENT Dimensions (Metres) Area Length Width (Hectares)	MORTGAGE, LIEN/LEASE &/OR ENCUMBRANCES	REMARKS
Ojibway 1	01264-4971 (LT)	[redacted]	Pt Blk Z PL 927 Ojibway Pt Lt 50 Con 1, Sandwich West (Windsor) Pt Lt 51 Con 1, Sandwich West (Windsor) Pts 1 to 7, 12R-1009 S/T Reservations in R580662 S/T R240218, R594791, SW54031 Windsor		10m x 3m 0.001ac	(e) The Hydro Electric Power Commission of Ontario 185 Clegg Road Markham, ON Inst #SW54031; R240218 (e) Dome NGL Pipeline Ltd 240-4th Avenue SW Calgary, Alberta T2P 4H4 Inst #R594791; CE345016 - Assignment	Provincial park Permit
T1801-200	01266-0492		Pt Blk Z PL 927 Ojibway (as amended by OJ100) as in R238162, R1162703 S/T Reservations in R238162, R1162703 S/T R238162; R279622, R342703, R371997 R574422; R625164; R824498 Windsor	15.24m x 450m 1.70ac 0.67ha	14m x 444m Existing easement 1.54 ac 0.62ha	(e) The Hydro Electric Power Commission of Ontario 185 Clegg Road Markham, ON Inst #R279622 (e) Union Gas Limited 50 Keil Drive North Chatham, ON N7M 5M1 Inst. #R371997; R574422 (e) Cochin Pipe Lines Ltd PO Box 200 Calgary, Albera Inst. #R625164; R824498 © Bank of Montreal Inst. # R1057758; R1060422 (c) 1005300 Ontario Limited Hwy 18, PO Box 998 Windsor, ON N9A 6Z9 Inst. #R1223652	
T1801-201	01266-0492		Pt Blk Z PL 927 as Parts 3, 4, 7, 10, 12 & 13 on 12R-15244 as in R574422 Save & Except Pt 1, 12R-18068 S/T Ease over Pt 13, 12R-15244 as inR574422 S/T Ease over Pt 12, 12R-15244 as in R342703 S/T Ease over Pt 10, 12R-15244 as in R342702 Windsor Save & Except all soluble Mineral Salts including without limiting the generality of the forgoing, sodium chloride & Mining rights thereto & mines thereof including any mine which as been abandoned or is not being currently worked in, on, or under the hereindescribed land as in R235531		14m x 510m Existing easement 1.76ac 0.71ha		Temporary Land Use Using Existing Easement for construction
T1801-201	01266-0501		Pt Blk Z PL 927 designated as Pt 1, 12R-17129 and Pts 4, 5, & 6, 12R-21682 and Pt 8 12R-21273; Windsor Reserving rights as in R235531; S/T Ease over Pt 6, PL 12R-21682 as in R342703 S/T Ease over Pt 4, PL 12R-21682 as in CE194273 S/T & T/W Ease as in CE147250, CE147251 S/T Ease as in CE203470 T/W Ease as in CE203471		14m x 132m Existing easement 0.46ac 0.18ha		Temporary Land Use Using Existing Easement for construction

EB-2012-0432
Schedule 9

For Internal Use Only
Lands File No.:
Cheque No.:
Project:
Acct No.:

PIPELINE EASEMENT

(the “Easement”)

Between

(herein called the “Transferor”)

and

UNION GAS LIMITED
(herein called the “Transferee”)

This Easement is an easement in Gross

WHEREAS the Transferor is the owner in fee simple of those lands and premises more particularly described as: PIN: Insert Legal (hereinafter called the "Transferor's Lands").

The Transferor does hereby GRANT, CONVEY, TRANSFER AND CONFIRM unto the Transferee, its successors and assigns, to be used and enjoyed as appurtenant to all or any part of the lands of the Transferee's lands the right, liberty, privilege and easement on, over, in, under and/or through a strip of the Transferor's Lands more particularly described as being PIN: Insert Legal Being Part of the PIN (hereinafter referred to as the "Lands") to survey, lay, construct, maintain, inspect, patrol, alter, remove, replace, reconstruct, repair, move, keep, use and/or operate one Pipe line for the transmission of pipeline quality natural gas as defined in The Ontario Energy Board Act S.O. 1998 (hereinafter referred to as the "Pipeline") including therewith all such buried attachments, equipment and appliances for cathodic protection which the Transferee may deem necessary or convenient thereto, together with the right of ingress and egress at any and all times over and upon the Lands for its servants, agents, employees, those engaged in its business, contractors and subcontractors on foot and/or with vehicles, supplies, machinery and equipment for all purposes necessary or incidental to the exercise and enjoyment of the rights, liberty, privileges and easement hereby granted. The Parties hereto mutually covenant and agree each with the other as follows:

1. In consideration of the sum of DOLLARS ($) of lawful money of Canada (hereinafter called the "Consideration"), which sum is payment in full for the rights and interest hereby granted and for the rights and interest, if any, acquired by the Transferee by expropriation, including in either or both cases payment in full for all such matters as injurious affection to remaining lands and the effect, if any, of registration on title of this document and where applicable, of the expropriation documents, subject to Clause 12 hereof to be paid by the Transferee to the Transferor within 90 days from the date of these presents or prior to the exercise by the Transferee of any of its rights hereunder other than the right to survey (whichever may be the earlier date), the rights, privileges and easement hereby granted shall continue in perpetuity or until the Transferee, with the express written consent of the Transferor, shall execute and deliver a surrender thereof . Prior to such surrender Transferee shall remove all debris as may have resulted from the Transferee's use of the Lands from the Lands and in all respects restore the Lands to it's previous productivity and fertility so far as is reasonably possible , save and except for items in respect of which compensation is due under Clause 2. hereof. Transferor and Transferee hereby agree that nothing herein shall oblige Transferee to remove the Pipeline from the Lands as part of Transferee's obligation to restore the Lands.

2. The Transferee shall make to the Transferor (or the person or persons entitled thereto) due compensation for any damages to the Lands resulting from the exercise of any of the rights herein granted, and if the compensation is not agreed upon by the Transferee and the Transferor, it shall be determined by arbitration in the manner prescribed by the Expropriations Act, R.S.O. 1990, Chapter E-26 or any Act passed in amendment thereof or substitution therefore. Any gates, fences and tile drains curbs, gutters, asphalt paving, lockstone, patio tiles interfered with by the Transferee shall be restored by the Transferee at its expense as closely as reasonably possible to the condition and function in which they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice and applicable government regulations.

3. The Pipeline (including attachments, equipment and appliances for cathodic protection but excluding valves, take-offs and fencing installed under Clause 9 hereof) shall be laid to such a depth that upon completion of installation it will not obstruct the natural surface run-off from the Lands nor ordinary cultivation of the Lands nor

any tile drainage system existing in the Lands at the time of installation of the Pipeline nor any planned tile drainage system to be laid in the Lands in accordance with standard drainage practice, if the Transferee is given at least thirty (30) days notice of such planned system prior to the installation of the pipeline; provided that the Transferee may leave the Pipeline exposed in crossing a ditch, stream, gorge or similar object where approval has been obtained from the Ontario Energy Board or other Provincial Board or authority having jurisdiction in the premises. The Transferee agrees to make reasonable efforts to accommodate the planning and installation of future tile drainage systems following installation of the pipeline so as not to obstruct or interfere with such tile installation.

4. As soon as reasonably possible after the construction of the Pipeline, the Transferee shall level the Lands and unless otherwise agreed to by the Transferor, shall remove all debris as may have resulted from the Transferee's use of the Lands therefrom and in all respects restore the Lands to its previous productivity and fertility so far as is reasonably possible, save and except for items in respect of which compensation is due under Clause 2 hereof.

5. The Transferee shall indemnify the Transferor for any and all liabilities, damages, costs, claims, suits and actions which are directly attributable to the exercise of the rights hereby granted, except to the extent of those resulting from the gross negligence or wilful misconduct of the Transferor.

6. In the event that the Transferee fails to comply with any of the requirements set out in Clause 2, 3, or 4 hereof within a reasonable time of the receipt of notice in writing from the Transferor setting forth the failure complained of, the Transferee shall compensate the Transferor (or the person or persons entitled thereto) for any damage, if any, necessarily resulting from such failure and the reasonable costs if any, incurred in the recovery of those damages.

7. Except in case of emergency, the Transferee shall not enter upon any of the Transferor’s Lands, other than the Lands, without the consent of the Transferor. In case of emergency the right of entry upon the Transferor's Lands for ingress and egress to and from the Lands is hereby granted. The determination of what circumstances constitute an emergency, for purposes of this paragraph is within the absolute discretion of the Transferee, but is a situation in which the Transferee has a need to access the pipeline in the public interest without notice to the Transferor, subject to the provisions of paragraph 2 herein. The Transferee will, within 72 hours of entry upon such lands, advise the Transferor of the said emergency circumstances and thereafter provide a written report to Transferor with respect to the resolution of the emergency situation The Transferee shall restore the lands of the Transferor at its expense as closely as reasonably practicable to the condition in which they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice.

8. The Transferor shall have the right to fully use and enjoy the Lands except for planting trees over the lesser of the Lands or a six (6) metre strip centered over the Pipeline, and except as may be necessary for any of the purposes hereby granted to the Transferee, provided that without the prior written consent of the Transferee, the Transferor shall not excavate, drill, install, erect or permit to be excavated, drilled, installed or erected in, on, over or through the Lands any pit, well, foundation, pavement, building, mobile homes or other structure or installation. Notwithstanding the foregoing the Transferee upon request shall consent to the Transferor erecting or repairing fences, hedges, pavement, lockstone constructing or repairing tile drains and domestic sewer pipes, water pipes, and utility pipes and constructing or repairing lanes, roads, driveways, pathways, and walks across, on and in the Lands or any portion or portions thereof, provided that before commencing any of the work referred to in this sentence the Transferor shall (a) give the Transferee at least (30) clear days notice in writing describing the work desired so as to enable the Transferee to evaluate and comment on the work proposed and to have a representative inspect the site and/or be present at any time or times during the performance of the work, (b) shall follow the instructions of such representative as to the performance of such work without damage to the Pipeline, (c) shall exercise a high degree of care in carrying out any such work and, (d) shall perform any such work in such a manner as not to endanger or damage the Pipeline as may be required by the Transferee.

9. The rights, privileges and easement herein granted shall include the right to install, keep, use, operate, service, maintain, repair, remove and/or replace in, on and above the Lands any valves and/or take-offs subject to additional agreements and to fence in such valves and/or take-offs and to keep same fenced in, but for this right the Transferee shall pay to the Transferor (or the person or persons entitled thereto) such additional compensation as may be agreed upon and in default of agreement as may be settled by arbitration under the provisions of The Ontario Energy Board Act, S.O. 1998, or any Act passed in amendment thereof or substitution therefore. The Transferee shall keep down weeds on any lands removed from cultivation by reason of locating any valves and/or take-offs in the Lands.

10. Notwithstanding any rule of law or equity and even though the Pipeline and its appurtenances may become annexed or affixed to the realty, title thereto shall nevertheless remain in the Transferee.

11. Neither this Agreement nor anything herein contained nor anything done hereunder shall affect or prejudice the Transferee's rights to acquire the Lands or any other portion or portions of the Transferor's lands under the provisions of The Ontario Energy Board Act, S.O. 1998, or any other laws, which rights the Transferee may exercise at its discretion in the event of the Transferor being unable or unwilling for any reason to perform this Agreement or give to the Transferee a clear and unencumbered title to the easement herein granted.

12. The Transferor covenants that he has the right to convey this easement notwithstanding any act on his part, that he will execute such further assurances of this easement as may be requisite and which the Transferee may at its expense prepare and that the Transferee, performing and observing the covenants and conditions on its part

to be performed, shall have quiet possession and enjoyment of the rights, privileges and easement hereby granted. If it shall appear that at the date hereof the Transferor is not the sole owner of the Lands, this Indenture shall nevertheless bind the Transferor to the full extent of his interest therein and shall also extend to any after-acquired interest, but all moneys payable hereunder shall be paid to the Transferor only in the proportion that his interest in the Lands bears to the entire interest therein.

13. In the event that the Transferee fails to pay the consideration as hereinbefore provided, the Transferor shall have the right to declare this easement cancelled after the expiration of 15 days from personal service upon the Secretary, Assistant Secretary or Manager, Lands Department of the Transferee at its Executive Head Office in Chatham, Ontario, (or at such other point in Ontario as the Transferee may from time to time specify by notice in writing to the Transferor) of notice in writing of such default, unless during such 15 day period the Transferee shall pay the said consideration; upon failing to pay as aforesaid, the Transferee shall forthwith after the expiration of 15 days from the service of such notice execute and deliver to the Transferor at the expense of the Transferee, a valid and registerable release and discharge of this easement.

14. All payments under these presents may be made either in cash or by cheque of the Transferee and may be made to the Transferor (or person or persons entitled thereto) either personally or by mail. All notices and mail sent pursuant to these presents shall be addressed to the Transferor at and to the Transferee at Union Gas Limited, P.O.Box 2001, 50 Keil Drive North, Chatham, Ontario N7M 5M1. Attention: Manager, Lands or to such other address in either case as the Transferor or the Transferee respectively may from time to time appoint in writing.

15 The rights, privileges and easement hereby granted are and shall be of the same force and effect as a covenant running with the land and this Indenture, including all the covenants and conditions herein contained, shall extend to, be binding upon and enure to the benefit of the heirs, executors, administrators, successors and assigns of the Parties hereto respectively; and, wherever the singular or masculine is used it shall, where necessary, be construed as if the plural, or feminine or neuter had been used, as the case may be.

16. The Transferor hereby acknowledges that this transfer will be registered electronically and the Transferor hereby authorizes the Transferee to complete the registration of this transfer.

DATED this day of January 2010

_____

Name & Title:

I have authority to bind the corporation

_____

Name & Title:

I have authority to bind the corporation

Address:

UNION GAS LIMITED

_____

Name: Mervyn R. Weishar
Senior Lands Agent

I have authority to bind the Corporation

Additional Information: (if applicable)

Solicitor:

Telephone:

Municipality of Chatham-Kent

Province of Ontario

DECLARATION REQUIRED UNDER
SECTION 50 OF THE PLANNING
ACT, R.S.O. 1990, as amended

I, Mervyn R. Weishar, of the City of Municipality of Chatham-Kent , in the Province of Ontario.

DO SOLEMNLY DECLARE THAT

1. I am, Senior Lands Agent Lands Department of Union Gas Limited, the Transferee in the attached Grant of Easement and as such have knowledge of the matters herein deposed to.

2. The use of or right in the land described in the said Grant of Easement is being acquired by Union Gas Limited for the purpose of a hydrocarbon transmission line within the meaning of part VI of the Ontario Energy Board Act , 1998.

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of The Canada Evidence Act.

DECLARED before me at the
Municipality of Chatham-Kent,
in the Province of Ontario

this day of January ,2010

A Commissioner, etc.

Stantec Consulting Ltd.
70 Southgate Drive Suite 1
Guelph ON N1G 4P5
Tel: (519) 836-6050
Fax: (519) 836-2493

October 29, 2012
File: 160960754

Union Gas Limited
Attention: Mr. Norm Dumouchelle
750 Richmond St.
Chatham, ON N7M 5J5

Reference: Environmental Review – NPS 16 inch Panhandle Line Pipeline Replacement

Dear Mr. Dumouchelle:

The following analysis identifies potential environmental and socio-economic impacts that may occur as a result of the NPS 16 inch Panhandle Line Pipeline Replacement Project. Pipeline replacement is planned near the T-junction of Matchette Road and Titcombe Road in Windsor, Ontario. The pipeline is located within municipal lands managed as natural park (Ojibway Park/Tom Joy Woods), with minor portions occurring within the provincial Ojibway Prairie Natural Reserve and along municipal road allowance. Environmental and socio-economic features potentially impacted by the proposed pipeline relocation were identified through a review of aerial photography and natural heritage field investigations on May 10, June 27 and August 22, 2012. Union Gas has dedicated considerable design effort to preserve the ecological integrity of the site and surrounding Ojibway Prairie Complex, including on-going consultation with City of Windsor natural heritage staff. These discussions have scoped the items listed below to minimize disturbance related to the pipeline replacement activities and any future maintenance events.

Background

Union Gas Ltd. (Union Gas) completed an integrity assessment of the Panhandle natural gas pipeline (circa 1965) and determined an imminent need to replace the subject reach - please refer to the appended site plan.

Union Gas is proposing a phased approach to project activities, including tree clearing in November and/or December 2012 and pipeline replacement in 2013. Tree clearing activities will occur largely via manned chainsaws, with a requirement for some tracked vehicles to clean up felled material; i.e., chipping smaller material and transportation of woody debris off-site as necessary. All activities will occur within a 12 m wide easement. The pipeline replacement will occur via directional drill and may require a small hoe for excavation at the drill location.

Construction access for all phases has been designed to ensure the least amount of disturbance to the natural environment. The drill will be set up outside of the park boundary in municipal road allowance, where Titcombe Road dead ends. Site access from the west will occur on private property along an existing paved laneway.

Environmental Constraints

Soil Erosion & Sediment Control

Soil erosion is a possibility where vegetation clearing is required, and at the location of the directional drill.

Pipeline Review

Efforts to minimize erosion and sedimentation should follow applicable Union Gas standards and procedures, including the use, inspection and maintenance of sediment barriers where it is determined that impacts may occur off-easement.

Vegetation

Pipeline replacement activities will occur within three vegetation communities, two of which are provincial significant: Pin Oak Mineral Deciduous Swamp, and Tallgrass Prairie. One hundred ninety-five (195) species of vascular plants were recorded during Stantec's field inventories, thirteen (13) of which are provincially rare.

Pipeline Review

Vegetation disturbance has been minimized by planning construction access along the paved remnants of a private access (via Coco Paving and Windsor Raceway properties). While it is understood that clearing and revegetation will follow standard Union Gas practices and procedures, the following site-specific mitigation and protective measures are recommended:

- Interaction with provincially significant species should be avoided by fencing off known locations of significant flora species;
- Selective tree clearly activities should occur under the direction of qualified ecologists and municipal staff, including the identification of specimen trees for preservation and any municipal permit requirements;
- Cut woody material should be left on site as directed, including: felled logs to remain in appropriate quantities, chipping and stock-piling of mulch for use in trail relocation (discussed below), and offsite disposal of excessive material; and,
- Union Gas should implement a monitoring program to identify and manage colonization of non-native invasive species in areas disturbed by the project.

Wildlife

Pipeline replacement activities and associated vegetation clearing measures have the potential to impact breeding birds.

Pipeline Review

The federal Migratory Birds Convention Act, 1994 (MBCA) prohibits the killing or capturing of migratory birds, as well as any damage, destruction, removal or disturbance of active nests. It also allows the Canadian government to pass and enforce regulations to protect various species of migratory birds, as well as their habitats. Most species of birds in Canada are protected under the Act. Migratory birds are defined by Article I of the Act which names the families and subfamilies of birds protected, and provides clarification of the species included. While Environment Canada can issue permits allowing the destruction of nests for scientific or agricultural purposes, or to prevent damage being caused by birds, it does not allow for permits in the case of industrial or construction activities. A charge under the MBCA could be initiated from a complaint by the public or a violation observed by an enforcement official.

The Act protects migratory birds during the nesting period generally accepted as May 1 to July 31 for nesting birds in southern Ontario as per timing windows described by the Canadian Wildlife Service (2012). If there are any sensitive species known to occur in the area, the timing window may be adjusted for that particular species.

Union Gas is planning selective tree clearing activities in fall 2012. This schedule allows the project to proceed without interaction with birds and or nests of species protected by the MBCA. In the event that construction activities require vegetation removal within the nesting period, a nest search should be undertaken by qualified individuals 48 hours prior to clearing to ensure no active nests are destroyed. If a nest is located a designated buffer will be marked off, within which no activity will be allowed while the nest is active. The radius of the buffer generally ranges from 5-60 m depending on the species. The nest will be checked every few days to determine its status. Once the nest is determined to be inactive clearing of that area may proceed. In the event the buffer overlaps with planned construction activities, activities in the buffer will need to be postponed until after July 31.

Species at Risk

Of the thirteen (13) provincially rare vascular plant species, three are also species at risk (SAR): Willow-leaved Aster (*Symphyotrichum praealtum*), Butternut (*Juglans cinerea*), and Dense Blazing-star (*Liatris spicata*). Field Investigations included habitat assessments for Eastern Foxsnake and Butler's Gartersnake. Encountered habitat features included basking features, cover habitat and mammal burrows. No snakes were observed during any of the field investigations.

Pipeline Review

The Ministry of Natural Resources (MNR) has a standard, province-wide process for reviewing projects that may impact provincial SAR. Once SAR are identified for the subject property or within the area of the proposed works, MNR requires the submission of an Information Gathering Form (IGF) to determine whether an Endangered Species Act, 2007 (ESA) permit is required for the proposed works. There is an additional Alternatives Avoidance Form which is required to accompany a permit application to ensure the proponent has considered reasonable alternatives to the project.

Stantec compiled information obtained through the background review and field investigations into an IGF dated September 21, 2012. Comment from MNR on the IGF is pending on the date of this review.

To protect against project interaction with SAR, the following measures should be undertaken:

- Fencing off known locations of flora SAR; and,
- Barrier fencing should be erected along work zones to prevent the encroachment of snake SAR and other wildlife.

Land Use

An existing trail parallels the pipe alignment, approximately 5-10m to the north. In a meeting on May 10, 2012, the City of Windsor requested the relocation of the trail to the pipe alignment to minimize ecological impacts of any future pipe maintenance activities. The trail is currently constructed of a gravel base (approximately 50 mm) overlaid by wood chips, and is designed to support recreational hiking. Union Gas agreed to relocate the trail as requested as a long term benefit to the natural environment.

Pipeline Review

In support of the trail relocation, the following measures should be undertaken:

- Plant material should be salvaged from all disturbed areas during construction and within the footprint of the new trail alignment;

Stantec

- Salvage efforts should include all individuals of provincially significant plant species where hoarding is not an option, and preservation of topsoil and seed banks for areas where no such plants occur;
- Following excavation and relocation of the existing trail to the pipe alignment, salvaged plant material and topsoil/seed banks should be reintroduced to the existing trail location;
- The project should manage invasive species as a positive effect of the undertaking, including removal of non-native invasive species introduced as seeds in the mulch of the existing trail (proposed removals are mapped on the attached figure); and,
- During vegetation clearing, direction drilling, and trail relocation activities, the existing trail will need to be closed to public use through appropriate signage and barricades.

Cultural Heritage

An archaeological assessment was conducted on September 27, 2012 at the locations where ground disturbance will occur. The archaeological assessment results found no archaeological resources, and recommended that no additional assessments were necessary. As the project will not require the removal of existing structures, result in any new above ground facilities, or result in changes to drainage, no impacts to built heritage features or cultural heritage landscapes will occur.

Pipeline Review

As no project impacts will occur to cultural heritage resources, no mitigation or protective measures are recommended.

Closure

The proposed pipeline replacement activities are subject to legislative requirements of the provincial ESA and MBCA. The current project plan appears to be in conformity with those Acts; however, formal comment from MNR is required to identify permitting needs under the ESA.

The environmental review identified additional design considerations to minimize project related disturbances on the natural environment. These considerations are expected to result in long term positive effects to the site and surrounding Ojibway Prairie Complex.

Based on the above review, and provided that all referenced mitigation and protective measures are properly implemented, pipeline replacement activities are not anticipated to have significant adverse environmental or socio-economic impacts.

Respectfully,

STANTEC CONSULTING LTD.

Sean Spisani
Senior Ecologist

Mark Knight, MA, MCIP, RPP
Environmental Planner

Attachments: Field Investigation Memo (including Site Plan)

Memo

Stantec

To:	Mark Knight	From:	Sean Spisani
	Guelph		Burlington
File:	160960754	Date:	October 18, 2012

Reference: Environmental Review - Panhandle Line Pipeline Maintenance, Ojibway Nature Reserve, Windsor ON

Background Review and Agency Consultation

Background data were collected and reviewed to identify natural features located within 120 m of the subject pipeline, including consideration of the following information sources:

- A review of the Natural Heritage Information Centre (NHIC) database for provincially rare species, species at risk (SAR) and designated natural areas (database queried May 2012).
- Supplemental element occurrence records provided by OMNR (A. McCloskey *email pers. comm.*, July 16, 2012).
- The Ontario Wetland Evaluation System (OWES) evaluation report provided for the proximate units of the Ojibway Prairie Wetland Complex (ER28) Provincial Significant Wetland (PSW) by the OMNR (A. McCloskey *email pers. comm.*, August 17, 2012).
- Ojibway Park records of SAR and provincially rare species provided by the City of Windsor (P. Pratt and K Cedar, *email pers. comm*. July 23, 2012).
- Resource Management Plan for Ojibway Prairie Provincial Natural Reserve (Woodliffe 1997).
- Ojibway Prairie Park Management Plan (Ontario Parks 2002).

The Essex Region Conservation Authority (ERCA) was also contacted on June 6, 2012 to request any relevant natural heritage data. Their reply of June 7, 2012 (D. Lebedyk *email pers. comm.*) indicated that no site specific records or rare species were available, and that ERCA would not require an application for permit under Regulation 158/06 of the *Conservation Authorities Act*.

Field Investigations

The Stantec field program included four-person field days occurring on May 10, June 27 and August 22, 2012, to undertake vegetation community mapping, flora inventories and snake habitat assessments. Field staff focused on all lands within 30m of the subject pipeline and construction access routes (refer to the accompanying figure) to identify potential project interactions with sensitive environmental features.

Investigations documented vegetation communities according to the Ecological Land Classification (ELC) System for southern Ontario (Lee *et al*. 1998), and mapped all identified provincially rare species and SAR, and potential SAR supporting habitat features using a handheld GPS.

Reference: Environmental Review - Panhandle Line Pipeline Maintenance, Ojibway Nature Reserve, Windsor ON

Snake habitat assessments were completed specifically to address snake SAR identified for the study area in the background review; i.e., Butler's Gartersnake (*Thamnophis butleri*) and Eastern foxsnake (*Pantherophis gloydi*). These assessments include casual investigations of cover habitat, such as logs, rocks and debris, visual assessments of potential basking features, and documentation of supporting habitat features.

Stantec staff was accompanied by municipal natural heritage staff with specific knowledge of the site features during the May 10 investigations.

Physiography

The Study Area is located with the Essex County Plan subregion of the St. Clair Clay Plains as described by Chapman and Putnam (1984). The Essex Clay Plan is generally characterized by a uniform till plain with very flat relief, prevailing clay loam soil textures and imperfect drainage. This combination of texture and drainage support numerous areas of muck-organic accumulation throughout the region. Elm, ash and swamp maple are common with other moisture-loving species in natural areas of the landscape, with oak and hickory abundant in rare pockets of well drained soils.

The Ojibway Prairie Complex is generally flat throughout with some rolling plains and shallow sloughs of varying sizes. Substrates range from sandy to very fine sands and sandy loams, with moisture regimes including wet-mesic, mesic and dry-mesic. Vegetation is a mosaic of recently abandoned fields, old fields, dry forb prairie, wet prairie, pin oak swamps and black oak woodlands, successional forests and shrub thickets (NHIC 2012).

Designated Natural Areas

The subject reach of pipeline overlaps the provincially significant Pairie Remnants (Ojibway Park) Life Science Area of Natural and Scientific Interest (ANSI), and the Ojibway Prairie Provincial Nature Reserve Life Science ANSI. Both ANSI units are part of a broader collection of significant natural areas referred to as the Ojibway Prairie Complex.

The pipeline is also located within 120 m of the Ojibway Prairie Wetland Complex Provincially Significant Weltand (PSW). ANSIs and PSWs are indicated on the accompanying figure.

Vegetation Description

Specific ELC communities documented for the field investigation study area include the following units:

- Pipeline West of Matchette Rd. - SWD1-3 (Pin Oak Mineral Deciduous Swamp Type)
- Pipeline East of Matchette Rd. - TPO2-1 (Fresh-Moist Tallgrass Prairie Type)
- Proposed Access – CUM1-1 (Fresh-Moist Old Field)

Provincial significance of vegetation communities was determined using the draft rankings assigned by the NHIC (Bakowsky, 1996). The Pin Oak Mineral Deciduous Swamp and Tallgrass Prairie are both provincially significant units with rankings of S2/S3 (imperiled/vulnerable) and S1 (critically imperiled) respectively.

Reference: Environmental Review - Panhandle Line Pipeline Maintenance, Ojibway Nature Reserve, Windsor ON

One hundred ninety-five (195) species of vascular plants were recorded during Stantec's field inventories. Of that total, 153 (78%) species are native and 42 (22%) species are exotic.

The provincial conservation status of all recorded plant species is based on the updated list of Ontario vascular plants produced by the NHIC Biodiversity Explorer (NHIC 2011). Of the 195-recorded native species, 110 are ranked S5 (i.e. Common and widespread in Ontario), 28 are ranked S4 (i.e. Uncommon, but not rare in Ontario) and 13 are ranked S3, S2 or S1 (i.e. Rare in Ontario). Of the 13 provincially rare species, three are also SAR, Willow-leaved Aster (*Symphyotrichum praealtum*), Butternut (*Juglans cinerea*), Dense Blazing-star (*Liatris spicata*). The complete plant list is appended to this report.

Wildlife Assessment

Field Investigations included habitat assessments for Eastern Foxsnake and Butler's Gartersnake. All potential supporting habitat features encountered were photo-documented and mapped using a hand held GPS. Encountered features included basking features, cover habitat and mammal burrows as illustrated on the accompanying figure. The field photolog is not appended, but is available upon request. No snakes were observed during any of the field investigations.

References

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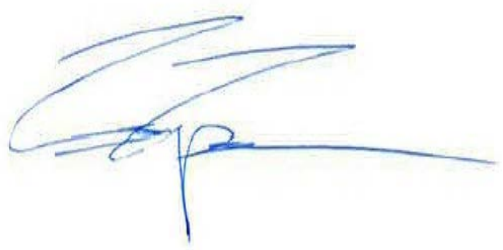

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Attachment: Site Plan

Vascular Plant Species List

RARE SPECIES

ID	Scientific Name	Common Name	COSEWIC	COSARRO	S_Rank
1	Vernonia missurica	Missouri ironweed			S3
2	Coreopsis tripteris	Tall tickseed			S2
3	Vernonia missurica	Missouri ironweed			S3
4	Veronicastrum virginicum	Culver's root			S2
5	Symphyotrichum x amethystinum	Amethyst aster			S3
6	Vernonia missurica	Missouri ironweed			S3
7	Nyssa sylvatica	Black gum - dripline			S3
8	Nyssa sylvatica	Black gum - trunk			S3
9	Vernonia missurica	Missouri ironweed			S3
10	Symphyotrichum praealtum	Willow-leaved aster	THR	THR	S2
11	Veronicastrum virginicum	Culver's root			S2
12	Eupatorium altissimum	Tall boneset			S1*
13	Eupatorium altissimum	Tall boneset			S1*
14	Eupatorium altissimum	Tall boneset			S1*
15	Vernonia missurica	Missouri ironweed			S3
16	Juglans cinerea	Butternut	END	END	S3
17	Veronicastrum virginicum	Culver's root			S2
18	Vernonia missurica	Missouri ironweed			S3
19	Veronicastrum virginicum	Culver's root			S2
20	Liatris spicata	Dense blazing-star	THR	THR	S2
21	Hypoxis hirsuta	Eastern yellow stargrass			S3
22	Cirsium discolor	Field Thistle			S3
23	Vernonia missurica	Missouri ironweed			S3
24	Oxypolis rigidior	Stiff cowbane			S2
25	Vernonia missurica	Missouri ironweed			S3
26	Oxypolis rigidior	Stiff cowbane			S2
27	Vernonia missurica	Missouri ironweed			S3
28	Liatris spicata	Dense blazing-star	THR	THR	S2
29	Vernonia missurica	Missouri ironweed			S3
30	Coreopsis tripteris	Tall tickseed			S2
31	Veronicastrum virginicum	Culver's root			S2
32	Cirsium discolor	Field Thistle			S3

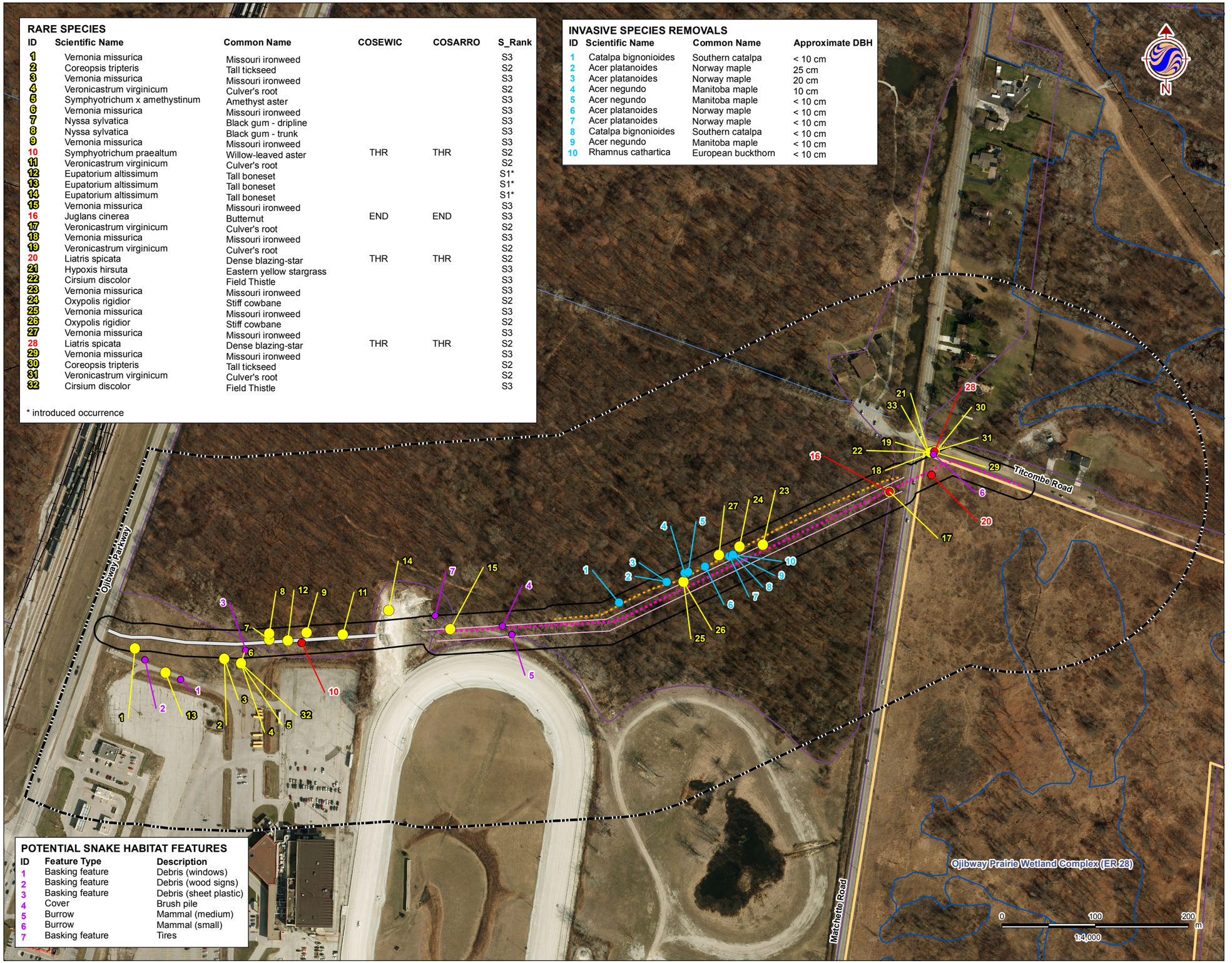
* introduced occurrence

INVASIVE SPECIES REMOVALS

ID	Scientific Name	Common Name	Approximate DBH
1	Catalpa bignonioides	Southern catalpa	< 10 cm
2	Acer platanoides	Norway maple	25 cm
3	Acer platanoides	Norway maple	20 cm
4	Acer negundo	Manitoba maple	10 cm
5	Acer negundo	Manitoba maple	< 10 cm
6	Acer platanoides	Norway maple	< 10 cm
7	Acer platanoides	Norway maple	< 10 cm
8	Catalpa bignonioides	Southern catalpa	< 10 cm
9	Acer negundo	Manitoba maple	< 10 cm
10	Rhamnus cathartica	European buckthorn	< 10 cm

POTENTIAL SNAKE HABITAT FEATURES

ID	Feature Type	Description
1	Basking feature	Debris (windows)
2	Basking feature	Debris (wood signs)
3	Basking feature	Debris (sheet plastic)
4	Cover	Brush pile
5	Burrow	Mammal (medium)
6	Burrow	Mammal (small)
7	Basking feature	Tires



Legend

- Study Area (Background Review)
- Study Areas (Field Investigations)
- Subject Pipeline
- Subject Pipeline Easement
- Proposed Access
- Existing Trail to be Relocated to Pipe Alignment
- Hydro Line
- Railway
- Provincial Park
- Provincialy Significant Wetland
- ANSI Life Science
- Watercourse
- ESA Protected Species
- Provincially Rare Species
- Invasive Species Removal
- Snake Habitat Feature

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2011.
3. Imagery Source: © Union Gas, 2012. Imagery Date: 2010

Stantec

September, 2012
160960754

Client/Project

Union Gas
Panhandle Replacement Ojibway

Figure No.

1

Title

Site Plan

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Revised: 2012-09-12 By: dharvey

List of the vascular plants recorded within the Union Gas Easement, Ojibway Park, Windsor, Ontario

Field Surveyors (survey dates) : Sean Spisani (May 10, June 27 & Aug. 22, 2012), Brian Miller (Aug. 22, 2012)

PROJECT: Union Gas Panhandle Replacement - Ojibway Park (# 160960754)

OJIBWAY PARK SURVEY AREAS				RECORDED VASUCULAR PLANTS			SPECIES STATUS				
COCO PAVING	WINDSOR RACEWAY	PIN OAK WOODS	OJIBWAY PRAIRIE	LATIN NAME		COMMON NAME	C	W	WEEDINESS	PROVINCIAL RANK (S-RANK)	OMNR STATUS
				PTERIDOPHYTES		**FERNS & ALLIES**					
	x	x	x	**Dryopteridaceae**		**Wood Fern Family**					
		x		*Athyrium*	*filix-femina* var. *angustum*	Northern Lady Fern	4	0		S5	
		x		*Dryopteris*	*carthusiana*	Spinulose Wood Fern	5	-2		S5	
	x	x		*Onoclea*	*sensibilis*	Sensitive Fern	4	-3		S5	
		x	x	**Osmundaceae**		**Royal Fern Family**					
		x		*Osmunda*	*cinnamomea*	Cinnamon Fern	7	-3		S5	
		x		*Osmunda*	*regalis* var. *spectabilis*	Royal Fern	7	-5		S5	
		x	x	**Thelypteridaceae**		**Marsh Fern Family**					
		x		*Thelypteris*	*palustris* var. *pubescens*	Marsh Fern	5	-4		S5	
				DICOTYLEDONS		**DICOTS**					
x		x	x	**Anacardiaceae**		**Sumac or Cashew Family**					
x				*Rhus*	*typhina*	Staghorn Sumac	1	5		S5	
		x		*Toxicodendron*	*radicans*	Eastern Poison-ivy	5	-1		S5	
x		x		*Toxicodendron*	*rydbergii*	Western Poison-ivy	0	0		S5	
x		x	x	**Apiaceae**		**Carrot or Parsley Family**					
		x		*Cicuta*	*maculata*	Spotted Water-hemlock	6	-5		S5	
		x		*Cryptotaenia*	*canadensis*	Honewort	5	0		S5	
x	x			*Daucus*	*carota*	Wild Carrot		5	-2	SE5	
		x		*Heracleum*	*lanatum*	Cow-parsnip	3	-3		S5	
	x	x		*Osmorhiza*	*longistylis*	Anise-root	6	4		S5	
		x		*Oxypolis*	*rigidior*	Cowbane	9	-5		S2	
		x		*Sanicula*	*marilandica*	Black Snakeroot	5	3		S5	
		x		*Sanicula*	*canadensis* var. *canadensis*	Canada Snakeroot	7	2		S4	
x		x	x	**Apocynaceae**		**Dogbane Family**					
		x		*Apocynum*	*cannabinum*	Indian Hemp	3	0		S5	
x				*Apocynum*	*sibiricum*	Clasping-leaved Dogbane				S4?	
			x	*Apocynum*	sp.	Dogbane species					
		x		*Asclepias*	*incarnata* ssp. *incarnata*	Swamp Milkweed	6	-5		S5	
x	x	x		*Asclepias*	*syriaca*	Common Milkweed	0	5		S5	
x				*Asclepias*	*tuberosa*	Butterfly-weed	8	5		S4	
x	x	x	x	**Asteraceae**		**Composite or Aster Family**					
x			x	*Achillea*	*millefolium* ssp. *millefolium*	Common Yarrow		3	-1	SE?	
		x		*Ageratina*	*altissima*	White Snakeroot	5	3		S5	
	x			*Ambrosia*	*artemisiifolia*	Common Ragweed	0	3		S5	
	x			*Arctium*	*minus*	Common Burdock		5	-2	SE5	
x	x			*Cichorium*	*intybus*	Chicory		5	-1	SE5	
x				*Cirsium*	*arvense*	Canada Thistle		3	-1	SE5	
x	x		x	*Cirsium*	*discolor*	Field Thistle	9	5		S3	
		x		*Cirsium*	*muticum*	Swamp Thistle	8	-5		S5	
		x		*Cirsium*	*vulgare*	Bull Thistle		4	-1	SE5	
x	x			*Conyza*	*canadensis*	Horseweed	0	1		S5	
			x	*Coreopsis*	*tripteris*	Tall Tickseed	9	0		S2	
	x	x		*Doellingeria*	*umbellata* var. *umbellata*	Flat-top White Aster	6	-3		S5	
		x		*Erechtites*	*hieracifolia*	Fire-weed	2	3		S5	
		x		*Erigeron*	*annuus*	Annual Fleabane	0	1		S5	
		x		*Erigeron*	*philadelphicus*	Philadelphia Fleabane	1	-3		S5	
x	x	x		*Erigeron*	*strigosus*	Daisy Fleabane	0	1		S5	
x				*Eupatorium*	*altissimum*	Tall Joe-pyeweed	3	3		S1	
		x		*Eupatorium*	*perfoliatum*	Perfoliate Thoroughwort	2	-4		S5	
		x	x	*Eutrochium*	*maculatum* var. *maculatum*	Spotted Joe-pye-weed	3	-5		S5	
	x		x	*Euthamia*	*graminifolia*	Flat-topped Bushy Goldenrod	2	-2		S5	
		x		*Helenium*	*autumnale*	Common Sneezeweed	7	-4		S5	
x				*Helianthus*	*divaricatus*	Rough Woodland Sunflower	7	5		S5	
		x		*Helianthus*	*giganteus*	Tall Wild Sunflower	6	-3		S5	
		x		*Lactuca*	*canadensis*	Tall Lettuce	3	2		S5	
			x	*Liatris*	*spicata*	Spiked Blazing Star	9	0		S3	THR
			x	*Packera*	*aurea*	Golden Groundsel	7	-3		S5	
		x		*Packera*	*paupercula*	Balsam Groundsel	7	-1		S5	
	x		x	*Rudbeckia*	*hirta*	Black-eyed Susan	0	3		S5	
		x		*Rudbeckia*	*laciniata*	Tall Coneflower	7	-4		S5	
x	x			*Solidago*	*altissima*	Tall Goldenrod	1	3		S5	
	x	x		*Solidago*	*gigantea*	Giant Goldenrod	4	-3		S5	
	x	x	x	*Solidago*	*rugosa* ssp. *rugosa*	Rough Goldenrod	4	-1		S5	

List of the vascular plants recorded within the Union Gas Easement, Ojibway Park, Windsor, Ontario

Field Surveyors (survey dates) : Sean Spisani (May 10, June 27 & Aug. 22, 2012), Brian Miller (Aug. 22, 2012)

PROJECT: Union Gas Panhandle Replacement - Ojibway Park (# 160960754)

OJIBWAY PARK SURVEY AREAS				RECORDED VASUCULAR PLANTS			SPECIES STATUS				
COCO PAVING	WINDSOR RACEWAY	PIN OAK WOODS	OJIBWAY PRAIRIE	LATIN NAME		COMMON NAME	C	W	WEEDINESS	PROVINCIAL RANK (S-RANK)	OMNR STATUS
x	x			*Solidago*	*sempervirens*	Seaside Goldenrod		-2	-1	SE2	
x				*Symphyotrichum*	*ericoides* var. *ericoides*	White Heath Aster				S5	
		x		*Symphyotrichum*	*lanceolatum* ssp. *lanceolatum*	White Panicled Aster	3	-3		S5	
	x			*Symphyotrichum*	*pilosum* var. *pilosum*	Hairy Aster	4	2		S5	
x				*Symphyotrichum*	*praealtum*	Willowleaf Aster	8	-3		S2	THR
		x		*Symphyotrichum*	sp.	Aster Species	6	5		S4	
	x			*Taraxacum*	*officinale*	Common Dandelion		3	-2	SE5	
x				*Tragopogon*	*dubius*	Doubtful Goat's-beard		5	-1	SE5	
x	x	x	x	*Vernonica*	*missurica*	Missouri Ironweed				S3?	
		x	x	**Balsaminaceae**		**Touch-me-not Family**					
		x		*Impatiens*	*capensis*	Spotted Touch-me-not	4	-3		S5	
		x	x	**Berberidaceae**		**Barberry Family**					
		x		*Podophyllum*	*peltatum*	May-apple	5	3		S5	
		x	x	**Betulaceae**		**Birch Family**					
		x	x	*Corylus*	*americana*	American Hazel	5	4		S5	
	x			**Boraginaceae**		**Borage Family**					
	x			*Hackelia*	*virginiana*	Virginia Stickweed	5	1		S5	
		x	x	**Brassicaceae**		**Mustard Family**					
		x		*Alliaria*	*petiolata*	Garlic Mustard		0	-3	SE5	
x	x			*Diplotaxis*	*tenuifolia*	Slender-leaved Wall-rocket		5	-3	SE5	
		x		**Campanulaceae**		**Bellflower Family**					
		x		*Campanula*	*rapunculoides*	Creeping Bellflower		5	-2	SE5	
		x		*Lobelia*	*cardinalis*	Cardinal-flower	7	-5		S5	
		x	x	**Cannabaceae**		**Hemp Family**					
		x		*Celtis*	*occidentalis*	Common Hackberry	8	1		S4	
x		x	x	**Caprifoliaceae**		**Honeysuckle Family**					
x	x	x		*Lonicera*	*maackii*	Amur Honeysuckle		5	-2	SE2	
		x		*Sambucus*	*canadensis*	Common Elderberry	5	-2		S5	
		x		*Sambucus*	*racemosa*	Red-berried Elderberry	5	2		S5	
		x		*Viburnum*	*acerifolium*	Maple-leaved Viburnum	6	5		S5	
		x		*Viburnum*	*lentago*	Nannyberry	4	-1		S5	
x				*Viburnum*	*opulus*	Guelder Rose		0	-1	SE4	
		x		*Viburnum*	*trilobum*	High Bush Cranberry	5	-3		S5	
x				**Caryophyllaceae**		**Pink Family**					
x				*Saponaria*	*officinalis*	Bouncing-bet		3	-3	SE5	
x				**Celastraceae**		**Staff-tree Family**					
x				*Celastrus*	*scandens*	Climbing Bittersweet	3	3		S5	
x	x	x	x	**Cornaceae**		**Dogwood Family**					
		x		*Cornus*	*alternifolia*	Alternate-leaved Dogwood	6	5		S5	
x				*Cornus*	*amomum*	Silky Dogwood	5	-4		S5	
	x	x		*Cornus*	*foemina* ssp. *racemosa*	Red Panicled Dogwood	2	-2		S5	
x				**Dipsacaceae**		**Teasel Family**					
x				*Dipsacus*	*fullonum*	Wild Teasel		5	-1	SE5	
	x			**Euphorbiaceae**		**Spurge Family**					
	x			*Euphorbia*	*corollata*	Flowering Spurge	7	5		S4	
x		x	x	**Fabaceae**		**Pea Family**					
		x	x	*Apios*	*americana*	Groundnut	6	-3		S5	
x				*Coronilla*	*varia*	Variable Crown-vetch		5	-2	SE5	
	x		x	*Desmodium*	*canadense*	Canadian Tick-trefoil	5	1		S4	
x	x			*Lotus*	*corniculatus*	Bird's-foot Trefoil		1	-2	SE5	
x				*Melilotus*	*alba*	White Sweet-clover		3	-3	SE5	
x				*Robinia*	*pseudo-acacia*	Black Locust		4	-3	SE5	
	x			*Trifolium*	*pratense*	Red Clover		2	-2	SE5	
		x	x	**Fagaceae**		**Beech Family**					
x		x	x	*Quercus*	*palustris*	Pin Oak	9	-3		S4	
x		x	x	**Geraniaceae**		**Geranium Family**					
x		x		*Geranium*	*maculatum*	Wild Geranium	6	3		S5	
		x	x	**Guttiferae**		**St. John's-wort Family**					
			x	*Hypericum*	*perforatum*	Common St. John's-wort		5	-3	SE5	
		x	x	**Juglandaceae**		**Walnut Family**					
		x		*Juglans*	*cinerea*	Butternut	6	2		S3?	END
		x	x	*Juglans*	*nigra*	Black Walnut	5	3		S4	
		x	x	**Lamiaceae**		**Mint Family**					
		x		*Glechoma*	*hederacea*	Creeping Charlie		5	-2	SE5	

List of the vascular plants recorded within the Union Gas Easement, Ojibway Park, Windsor, Ontario

Field Surveyors (survey dates) : Sean Spisani (May 10, June 27 & Aug. 22, 2012), Brian Miller (Aug. 22, 2012)

PROJECT: Union Gas Panhandle Replacement - Ojibway Park (# 160960754)

OJIBWAY PARK SURVEY AREAS				RECORDED VASUCULAR PLANTS			SPECIES STATUS				
COCO PAVING	WINDSOR RACEWAY	PIN OAK WOODS	OJIBWAY PRAIRIE	LATIN NAME		COMMON NAME	C	W	WEEDINESS	PROVINCIAL RANK (S-RANK)	OMNR STATUS
		x		*Lycopus*	*americanus*	Cut-leaved Water-horehound	4	-5		S5	
		x	x	*Lycopus*	*uniflorus*	Northern Water-horehound	5	-5		S5	
	x	x		*Mentha*	*canadensis*	Wild Mint	3	-3		S5	
			x	*Monarda*	*fistulosa*	Wild Bergamot	6	3		S5	
	x	x		*Prunella*	*vulgaris* ssp. *lanceolata*	Heal-all	5	5		S5	
			x	*Pycnanthemum*	*virginianum*	Virginia Mountain-mint	8	-4		S4	
		x		*Scutellaria*	*lateriflora*	Mad-dog Skullcap	5	-5		S5	
		x	x	**Lythraceae**		**Loosestrife Family**					
		x	x	*Lythrum*	*salicaria*	Purple Loosestrife		-5	-3	SE5	
	x	x	x	**Menispermaceae**		**Moonseed Family**					
	x	x		*Menispermum*	*canadense*	Moonseed	7	0		S4	
x	x	x	x	**Moraceae**		**Mulberry Family**					
x	x	x		*Morus*	*alba*	White Mulberry		0	-3	SE5	
x				**Nyssaceae**		**Sour Gum Family**					
x				*Nyssa*	*sylvatica*	Black Gum	9	-4		S3	
		x	x	**Oleaceae**		**Olive Family**					
		x		*Fraxinus*	*nigra*	Black Ash	7	-4		S5	
		x	x	*Fraxinus*	*pennsylvanica*	Red Ash	3	-3		S5	
		x	x	**Onagraceae**		**Evening-primrose Family**					
		x		*Circaea*	*canadensis*	Enchanter's Nightshade	3	3		S5	
x	x	x		**Phrymaceae**		**Lopseed Family**					
x	x	x		*Phryma*	*leptostachya*	Lopseed	6	5		S4S5	
x		x	x	**Plantaginaceae**		**Plantain Family**					
x	x			*Plantago*	*lanceolata*	Ribgrass		0	-1	SE5	
		x		*Plantago*	*rugelii*	Rugel's Plantain	1	0		S5	
		x	x	**Platanaceae**		**Plane-tree Family**					
		x		*Platanus*	*occidentalis*	Sycamore	8	-3		S4	
		x	x	**Polygonaceae**		**Smartweed Family**					
	x	x		*Persicaria*	*virginiana*	Jumpseed	6	0		S4	
		x		*Polygonum*	sp.	Knotweed Species					
		x		*Rumex*	*obtusifolius*	Bitter Dock		-3	-1	SE5	
x				**Portulacaceae**		**Purslane Family**					
x				*Portulaca*	*oleracea*	Purslane	0	1		SE5	
		x	x	**Primulaceae**		**Primrose Family**					
		x		*Lysimachia*	*ciliata*	Fringed Loosestrife	4	-3		S5	
			x	*Lysimachia*	*quadriflora*	Four-flowered Loosestrife	10	-5		S4	
	x	x	x	**Ranunculaceae**		**Buttercup Family**					
	x	x		*Anemone*	*canadensis*	Canada Anemone	3	-3		S5	
		x		*Ranunculus*	*hispidus* var. *caricetorum*	Swamp Buttercup	5	-5		S5	
		x		*Ranunculus*	*recurvatus* var. *recurvatus*	Hooked Buttercup	4	-3		S5	
		x		*Thalictrum*	*dioicum*	Early Meadow-rue	5	2		S5	
x	x	x	x	**Rosaceae**		**Rose Family**					
x	x	x		*Agrimonia*	*gryposepala*	Tall Hairy Agrimony	2	2		S5	
		x		*Agrimonia*	*parviflora*	Many-flowered Agrimony	4	-1		S3S4	
		x		*Geum*	*macrophyllum*	Large-leaved Avens	9	-4		S5	
		x		*Geum*	sp.	Avens Species	10	4		SH	
	x			*Potentilla*	*anserina*	Silverweed	5	-4		S5	
x	x			*Potentilla*	*recta*	Rough-fruited Cinquefoil		5	-2	SE5	
		x		*Potentilla*	*simplex*	Old-field Cinquefoil	3	4		S5	
x		x		*Prunus*	*serotina*	Black Cherry	3	3		S5	
	x	x		*Prunus*	*virginiana*	Choke Cherry	2	1		S5	
		x		*Rosa*	*palustris*	Marsh Rose	7	-5		S5	
		x	x	*Rubus*	*allegheniensis*	Alleghany Blackberry	2	2		S5	
	x			*Rubus*	*flagellaris*	Prickly Raspberry	4	4		S4	
		x	x	*Rubus*	*idaeus* ssp. *strigosus*	Wild Red Raspberry	0	-2		S5	
x	x			*Rubus*	*occidentalis*	Thimble-berry	2	5		S5	
			x	*Spiraea*	*alba*	Narrow-leaved Meadow-sweet	3	-4		S5	
		x	x	**Rubiaceae**		**Madder Family**					
		x		*Cephalanthus*	*occidentalis*	Eastern Buttonbush	7	-5		S5	
	x	x		*Galium*	*aparine*	Cleavers	4	3		S5	
		x		*Galium*	*asprellum*	Rough Bedstraw	6	-5		S5	
		x		*Galium*	*circaezans*	White Wild Licorice	7	4		S5	
		x		*Galium*	*palustre*	Marsh Bedstraw	5	-5		S5	
		x		*Galium*	sp.	Bedstraw Species		5	-1	SE5	
		x	x	**Rutaceae**		**Rue Family**					

List of the vascular plants recorded within the Union Gas Easement, Ojibway Park, Windsor, Ontario

Field Surveyors (survey dates) : Sean Spisani (May 10, June 27 & Aug. 22, 2012), Brian Miller (Aug. 22, 2012)

PROJECT: Union Gas Panhandle Replacement - Ojibway Park (# 160960754)

OJIBWAY PARK SURVEY AREAS				RECORDED VASUCULAR PLANTS			SPECIES STATUS				
COCO PAVING	WINDSOR RACEWAY	PIN OAK WOODS	OJIBWAY PRAIRIE	LATIN NAME		COMMON NAME	C	W	WEEDINESS	PROVINCIAL RANK (S-RANK)	OMNR STATUS
		x		*Zanthoxylum*	*americanum*	American Prickly-ash	3	5		S5	
x	x	x	x	**Salicaceae**		**Willow Family**					
x	x	x		*Populus*	*deltoides* ssp. *deltoides*	Eastern Cottonwood	4	-1		SU	
			x	*Salix*	*eriocephala*	Missouri Willow	4	-3		S5	
x				*Salix*	*interior*	Sandbar Willow	3	-5		S5	
		x	x	**Sapindaceae**		**Maple Family**					
		x		*Acer*	*negundo*	Manitoba Maple	0	-2		S5	
		x		*Acer*	*platanoides*	Norway Maple		5	-3	SE5	
		x		*Acer X*	*freemanii*	Freeman's Maple					
x				**Scrophulariaceae**		**Figwort Family**					
x				*Linaria*	*vulgaris*	Butter-and-eggs		5	-1	SE5	
x			x	*Penstemon*	*digitalis*	Foxglove Beard-tongue	6	1		S4S5	
		x		*Scrophularia*	*cf. marilandica*	Carpenter's-square Figwort	7	4		S4	
x				*Verbascum*	*blattaria*	Moth Mullein		4	-1	SE5	
			x	*Veronica*	sp.	Speedwell species					
x			x	*Veronicastrum*	*virginicum*	Virginia Culver's-root	10	0		S2	
	x			**Simaroubaceae**		**Ailanthus Family**					
	x			*Ailanthus*	*altissima*	Tree-of-heaven		5	-1	SE5	
	x			**Tiliaceae**		**Linden Family**					
	x			*Tilia*	*americana*	American Basswood	4	3		S5	
		x	x	**Ulmaceae**		**Elm Family**					
		x		*Ulmus*	*americana*	White Elm	3	-2		S5	
x				*Ulmus*	*pumila*	Siberian Elm		5	-1	SE3	
		x	x	**Urticaceae**		**Nettle Family**					
		x		*Boehmeria*	*cylindrica*	False Nettle	4	-5		S5	
x		x		**Verbenaceae**		**Vervain Family**					
x		x		*Verbena*	*urticifolia*	White Vervain	4	-1		S5	
		x	x	**Violaceae**		**Violet Family**					
			x	*Viola*	*sororia*	Woolly Blue Violet				S5	
x	x	x	x	**Vitaceae**		**Grape Family**					
x	x	x		*Parthenocissus*	*inserta*	Inserted Virginia-creeper	3	3		S5	
x	x	x		*Vitis*	*riparia*	Riverbank Grape	0	-2		S5	
				MONOCOTYLEDONS		**MONOCOTS**					
		x	x	**Cyperaceae**		**Sedge Family**					
			x	*Carex*	sp.	Sedge species					
		x		*Carex*	*aquatilis*	Aquatic Sedge	7	-5		S5	
			x	*Carex*	*buxbaumii*	Brown Sedge	10	-5		S5	
		x		*Carex*	*rosea*	Stellate Sedge	5	5		S5	
		x		*Scirpus*	*pendulus*	Bulrush	3	-5		S5	
		x	x	**Iridaceae**		**Iris Family**					
		x	x	*Iris*	sp.	Iris Species	5	-5		S5	
			x	*Sisyrinchium*	sp.	Blue-eyed-grass Species					
		x	x	**Juncaceae**		**Rush Family**					
		x		*Juncus*	*articulatus*	Jointed Rush	5	-5		S5	
x		x	x	**Liliaceae**		**Lily Family**					
x				*Asparagus*	*officinalis*	Garden Asparagus		3	-1	SE5	
			x	*Hypoxis*	*hirsuta*	Yellow Star-grass	10	0		S3	
		x		*Lilium*	*michiganense*	Michigan Lily	7	-1		S5	
		x		*Maianthemum*	*stellatum*	Star-flowered Solomon's Seal	6	1		S5	
x		x	x	**Poaceae**		**Grass Family**					
			x	*Agrostis*	sp.	Bent Grass Species					
			x	*Andropogon*	*gerardii*	Big Bluestem	7	1		S4	
x	x			*Bromus*	*inermis*	Awnless Brome		5	-3	SE5	
		x		*Calamagrostis*	*canadensis*	Blue-joint Grass	4	-5			
x				*Cenchrus*	*longispinus*	Field Sandbur	3	5		S4	
x	x	x	x	*Dactylis*	*glomerata*	Orchard Grass		3	-1	SE5	
			x	*Dichanthelium*	*acuminatum*	Acuminate Panic Grass	2	0		S5	
x				*Eragrostis*	*spectabilis*	Purple Love Grass	6	5		S4	
		x		*Glyceria*	*grandis*	Tall Manna Grass	5	-5		S4S5	
		x		*Glyceria*	*striata*	Fowl Meadow Grass	3	-5		S4S5	
x			x	*Panicum*	*virgatum*	Switch Grass	6	-1		S4	
			x	*Panicum*	sp.	Panic Grass Species					
x	x		x	*Phragmites*	*australis* ssp. *australis*	European Reed				SNR	

List of the vascular plants recorded within the Union Gas Easement, Ojibway Park, Windsor, Ontario

Field Surveyors (survey dates) : Sean Spisani (May 10, June 27 & Aug. 22, 2012), Brian Miller (Aug. 22, 2012)

PROJECT: Union Gas Panhandle Replacement - Ojibway Park (# 160960754)

OJIBWAY PARK SURVEY AREAS				RECORDED VASUCULAR PLANTS			SPECIES STATUS				
COCO PAVING	WINDSOR RACEWAY	PIN OAK WOODS	OJIBWAY PRAIRIE	LATIN NAME		COMMON NAME	*C*	*W*	WEEDINESS	PROVINCIAL RANK (S-RANK)	OMNR STATUS
x	x			*Poa*	*compressa*	Canada Blue Grass		2		SE	
	x			*Setaria*	*pumila* ssp. *pumila*	Yellow Foxtail		0	-1	SE5	
			x	*Sorghastrum*	*nutans*	Indian Grass	8	2		S4	
			x	*Spartina*	*pectinata*	Tall Cord Grass	7	-4		S4	
x		x	x	**Smilacaceae**		**Catbrier Family**					
x		x		*Smilax*	*herbacea*	Herbaceous Carrion Flower	5	0		S4	
		x		*Smilax*	*hispida*	Bristly Greenbrier	6	0		S4	

FLORISTIC SUMMARY & ASSESSMENT

Species Diversity		***Total***	
Total Species:		**193**	
Native Species:		**152**	79%
Exotic Species		**41**	21%
S1-S3 Species	*provincially rare*	12	8%
S4 Species	*provincially uncommon*	28	19%
S5 Species	*provincially common*	110	73%
Co-efficient of Conservatism (C) and Floristic Quality Index			
mean C		**4.8**	
C 0 to 3	*lowest sensitivity*	45	30%
C 4 to 6	*moderate sensitivity*	66	44%
C 7 to 8	*high sensitivity*	27	18%
C 9 to 10	*highest sensitivity*	12	8%
Floristic Quality Index (FQI)		**59**	
Presence of Weedy & Invasive Species			
mean weediness		**-1.8**	
weediness = -1	*low potential invasiveness*	18	47%
weediness = -2	*moderate potential invasiveness*	10	26%
weediness = -3	*high potential invasiveness*	10	26%
Presence of Wetland Species			
average wetness value		**0.2**	
upland		34	18%
facultative upland		45	24%
facultative		40	21%
facultative wetland		43	23%
obligate wetland		27	14%

TOTAL ESTIMATED ENVIRONMENTAL COSTS

2013 PANHANDLE REPLACEMENT PROJECT

Pre-Construction			
Environmental Assessment	$	10,000	
Archaeology		5,000	
Hearing Costs (Environmental Consultant)		5,000	
Species at Risk Surveys		50,000	
Permits		15,000	
Total Pre-Construction			**$ 85,000**
Construction			
Environnemental Inspection	$	10,000	
Site Restoration		22,000	
Total Construction			**$ 32,000**
Post Construction			
Site Restoration	$	88,000	
Total Post Construction			**$ 88,000**
Total Estimated Environmental Costs			**$ 205,000**