

March 2, 2015

BY COURIER & RESS

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

**RE: EB-2014-0261 – Union Gas Limited (“Union”) – Dawn Parkway 2016 Expansion Project
Interrogatory Responses – Updates to Exhibit B.GAPLO.14**

Dear Ms. Walli,

Please find attached an updated Exhibit B.GAPLO.14 with attachments which include additional correspondence since Union’s interrogatory responses were filed December 19, 2014. This interrogatory response as well as Exhibit B.GAPLO.2 which was updated and filed in the Board’s RESS on February 23, 2015 have been incorporated into the overall interrogatory response package PDF which has been filed in the Board’s RESS today.

If you have any questions with respect to this submission please contact me at 519-436-5473.

Yours truly,

[original signed by]

Karen Hockin
Manager, Regulatory Initiatives

Encl.

cc: Zora Crnojacki, Board staff
Mark Kitchen, Union Gas
Crawford Smith, Torys
All Intervenors (EB-2014-0261)

December 19, 2014

BY COURIER & RESS

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

**RE: EB-2014-0261 – Union Gas Limited (“Union”) – Dawn Parkway 2016 Expansion Project
Interrogatory Responses**

Dear Ms. Walli,

Please find attached Union’s responses to the interrogatories received in the above case. These will be filed in RESS and copies will be sent to the Board.

Please note, the documents requested in Exhibit B.GAPLO.22 (the Hamilton to Milton Environmental Assessment (dated February 2005) and filed as part of the 2006 Trafalgar Facilities Expansion Program (EB-2005-0201), plus the associated interim and final monitoring reports filed in 2007 and 2008) are not included in this electronic filing due to the file size. They will be filed under separate cover to the Board and labelled accordingly in RESS. Paper copies and a CD containing the Environmental Reports will be sent by courier to the Board and are also be available on Union’s website. The links are provided in the interrogatory response.

If you have any questions with respect to this submission please contact me at 519-436-5473.

Yours truly,

[original signed by]

Karen Hockin
Manager, Regulatory Initiatives

Encl.

cc: Zora Crnojacki, Board staff
Mark Kitchen, Union Gas
Crawford Smith, Torys
All intervenors

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 3, Page 2

Preamble: Union Gas Limited (“Union”) has noted in its application that Enbridge, Gaz Metro and Union will first require the completion of the Enbridge GTA Project Segment A, TransCanada’s King North Connection Pipeline Project and Union’s Brantford to Kirkwall Pipeline and Parkway D Compressor.

What would be the impact on Union’s proposed Dawn-Parkway expansion if TransCanada’s King North Project obtains approval from the National Energy Board in October 2015?

Response:

National Energy Board approval of the King’s North Project in October 2015 would not impact the timing of Union’s proposed 2016 Dawn Parkway System facility expansions.

The National Energy Board has released its Procedural Order with respect to TransCanada’s application for approval of the King’s North Project. That Procedural Order would have final submissions, including argument, complete on or around March 26, 2015. Given this time frame it is likely that a National Energy Board decision would be rendered in second quarter of 2015, well in advance of October 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 3, Page 3. Lines 14-18

Preamble: Union stated in the application that Board's pre-approval of the recovery of cost consequences of "...all facilities associated with the Project..." is sought because "...given the magnitude of the Project, Union is not able to proceed with the development of the Project without reasonable certainty of cost recovery." Union also stated that the Project meets the capital pass-through criteria as determined by the Board in Incentive Regulation Mechanism proceeding EB-2013-0202.

- a) Please discuss the rationale behind Union's statement that it would not be able to proceed with the Project without the Board's pre-approval of cost recovery.
- b) Since there is a regulatory mechanism in place for Union to recover the capital costs through Board approved capital pass-through mechanism for projects that meet the capital pass-through mechanism criteria, why is this pre-approval of cost recovery critical to Union's proceeding with the Project development?

Response:

- a) Union is requesting that the Board determine that the Project qualifies under the capital cost pass-through mechanism contained in Union's current incentive regulation framework. If the Board determines that the Project does not qualify, Union would not proceed with the Project.
- b) As contemplated in section 6.6 of Union's Board-approved incentive regulation framework Settlement Agreement, it is this leave-to-construct proceeding in which the Board is asked to determine if the Project meets the capital cost pass-through mechanism criteria. Accordingly, it is this application in which the pre-approval of the Project cost recovery is determined. There is no other mechanism or forum in which these determinations are or should be made.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 9, Page 3

Preamble: Union has indicated that it has completed a project specific Discounted Cash Flow (“DCF”) analysis. The analysis requires net impact of the gas cost savings and revenue requirement of the Project.

- a) Please confirm whether Union has used 2013 Board-approved rates or the current Board-approved rates for calculating revenues.
 - b) If Union has used 2013 Board-approved rates, please provide reasons for doing so.
-

Response:

- a) and b) Union used a rate which was intended to be the 2014 approved M12 rate plus the approved change for 2016 attributed to the OEB decision for the 2015 Dawn Parkway facilities. These facilities are referred to as Parkway West (EB-2012-0433) and Parkway Growth, also known as Parkway D and Brantford Kirkwall (EB-2013-0074).

This approach is consistent with EBO 134 where approved rates are to be used.

Upon review, Union determined that the rate used in the evidence is the 2014 rate plus the approved change for 2018 attributed to the OEB decision for the 2015 Dawn Parkway facilities. The difference between the 2016 and 2018 adjustment is fairly small, however using the 2018 adjustment overstates the revenue by approximately \$49,000 per year. Attachment 1 is a reconciliation of the rates used and the impact on the NPV.

**Dawn-Parkway 2016 Expansion Projects
Reconciliation of M12 Dawn-Parkway Rates**

Line	(\$/GJ/d/mo)	Gross Dawn-Pkwy M12 (\$/GJ/d/mo) (a)	Dawn Compression (\$/GJ/d/mo) (b)	Net Dawn-Pkwy M12 (\$/GJ/d/mo) (c)
1	As Used in EB-2014-0261 Economics	2.810	0.250	2.560
2	Actual 2014 Rates per EB-2013-0365	2.420	0.271	2.149
3	Add: 2016 Adjustment for Parkway West and PW Growth	0.376	(0.021)	0.398
4	2014 Proxy for 2016 Rates	2.796	0.250	2.546
5	Difference (Line 4 minus Line 1)	-0.014	-0.001	-0.014
6	Difference converted to \$/GJ	(0.0005)	(0.0000)	(0.0004)
Incremental D-P Capacity				270,733
Incremental T-Service Demands				29,115
Total Demands at M12 Dawn-Parkway Rate				299,848
Change in Annual Revenue vs Evidence as Filed (\$ 000's)				(49)
		NPV	PI	
7	As filed	(258,540)	0.380	
8	Corrected	(259,150)	0.380	
9	Difference	610	-	

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 10, Page 4

Preamble: In its application, Union has noted that it has used Union's 2013 Board-approved cost allocation methodology to allocate costs of the Dawn-Parkway system expansion. The cost allocation methodology recognizes that the Dawn to Parkway transmission system is designed to meet easterly design day requirements.

Please confirm that the additional volumes transported as a result of the Dawn to Parkway system expansion in this application will move in an easterly direction on a design day.

Response:

Confirmed.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 10, Page 6

Preamble: Union has indicated that as a result of the allocation of the Dawn-Parkway expansion revenue requirement, the ex-franchise rate classes will experience the largest increase. However, re-allocation of the existing Dawn-Parkway System results in a decrease to the allocation of Dawn-Parkway costs to the M12 rate class.

Please explain the reasons for the divergent shift in the cost allocation with respect to the Dawn-Parkway expansion costs and the existing Dawn-Parkway system costs for the ex-franchise rate classes

Response:

There is a shift of \$2.5 million in existing Dawn to Parkway costs from ex-franchise rate classes to Union North and Union South in-franchise rate classes as a result of the Project-related Dawn Parkway demands.

To determine the impact of the Project demands on existing Dawn to Parkway costs, Union updated the 2013 Board-approved Dawn to Parkway allocation factor (based on distance weighted design day demands) to include the 474,949 GJ/d of Project demands, as shown at Exhibit A, Tab 10, page 5, Table 10-1.

As per Table 10-1, line 8, the increase in distance weighted demand day demands for Union North is 29%, 14% for Union South in-franchise and 6% for ex-franchise customers. As a result, the 2013 Board-approved allocation of Dawn to Parkway costs increased from approximately 16% to 18% for in-franchise rate classes and decreased from 84% to 82% for ex-franchise rate classes. Accordingly, there is a shift in existing Dawn to Parkway costs from ex-franchise to in-franchise rate classes of \$2.5 million.

The total cost allocation impact on ex-franchise rate classes is a rate increase as a result of the increase in Project costs and the shift in indirect costs.

Ex-franchise customers will bear 82% (or \$35.2 million) of the costs directly attributable to the Project, including the shift in indirect costs. These costs are partially offset by the reduction in the allocation of existing costs (\$2.5 million), as described above, and the shift of indirect costs and Project-related taxes (\$0.4 million). Please see Exhibit A, Tab 10, Schedule 2, line 17.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 13, Page 1

Preamble: For the location of the 20 kilometer pipeline which is part of the Project, Union needs 39 hectares of land rights for permanent easement and acquired 27.6 hectares so far. For the pipeline construction and location of top soil, Union requires about 31 hectares of temporary easement. Union stated that the negotiations with landowners are ongoing

- a) Please describe the prospects of acquiring all of the permanent and temporary land rights in time to adhere to the planned construction schedule for the pipeline.
- b) Please provide any updates to the land rights acquisition since filing of the application.

Response:

- a) Union has conducted preliminary meetings with all the landowners for the purpose of obtaining their permission, consent and access to conduct environmental and construction surveys along the pipeline route. Over 90% of the landowners have provided Union with this consent. Based upon these meetings, Union is optimistic it will reach an agreement with all of the directly affected landowners for the required permanent and temporary land rights prior to the planned construction schedule.
- b) Since the filing of the application, Union is in the process of preparing offer and information packages to be presented to all directly affected landowners starting in January 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 14, Page 5

Preamble: Regarding First Nations and Metis Nations consultation, Union described in the pre-filed evidence a number of concerns raised and proposed actions to address these concerns.

Referring to the four items listed in the pre-filed evidence Exhibit A, Tab 14, page 5, lines 11-20, please provide an update on the progress of Union's actions to address the concerns raised by First Nations affected by the proposed project.

Response:

Updates to Union's actions to the concerns raised by First Nations are provided below:

Item 1)

A copy of the Environmental Report was delivered to the Chippewa of the Thames First Nations on June 16, 2014. Chippewa of the Thames First Nations have not provided any comments regarding the Environmental Report

Item 2)

Union reached a tentative Settlement Agreement on November 1, 2014 with the Haudenosaunee Confederacy Chief's Council represented by the Haudenosaunee Development Institute. The agreement language is presently being reviewed by their legal advisor.

Item 3)

Union responded to Alderville First Nations on May 8, 2014 with a copy of the Information sessions material. A copy of the Environmental Report was also delivered to the Alderville First Nations on September 24, 2014.

Item 4)

During the Environmental and Archaeology surveys for the Hamilton to Milton Pipeline Project, contact was made by Stantec (conducted the Environmental survey) and Dana Poulton (conducted the Archaeology survey) to the Six Nations Elected Council (Joanne Thomas), Mississaugas of New Credit (Carolyn King) and the Haudenosaunee Development Institute (Hazel Hill) to provide First Nations monitors for each of the surveys. First Nations monitors were present during the various surveys, as available, to participate.

UNION GAS LIMITED

Answer to Interrogatory from
Board Staff

Reference: Exhibit A, Tab 3, Page 3

Preamble: Union applied for two Board orders for leave to construct facilities-under section 90 and under section 91 of the OEB Act.

Please comment on the attached Board staff proposed draft conditions of approval and for section 91 order. Please note that these conditions are standard conditions and are a draft version subject to additions or changes.

Union Gas Limited
Leave to Construct Application under section 90 and section 91 of
OEB Act
EB-2014-
0261
Board Staff Proposed Draft
Conditions of Approval

1 General Requirements

- 1.1 Union Gas Limited (“Union”) shall construct the facilities and restore the land in accordance with its application and the evidence filed in EB-2014-0261 except as modified by this Order and these Conditions of Approval.
- 1.2 Unless otherwise ordered by the Board, authorization for Leave to Construct shall terminate December 31, 2016, unless construction has commenced prior to that date.
- 1.3 Union shall implement all the recommendations of the Environmental Report filed in the pre-filed evidence, and all the recommendations and directives identified by the Ontario Pipeline Coordinating Committee (“OPCC”) review.
- 1.4 Union shall advise the Board's designated representative of any proposed material change in construction or restoration procedures and, except in an emergency, Union

shall not make such change without prior approval of the Board or its designated representative. In the event of an emergency, the Board shall be informed immediately after the fact.

- 1.5 Within 15 months of the final in-service date, Union shall file with the Board Secretary a Post Construction Financial Report. The Report shall indicate the actual capital costs of the project and an explanation for any significant variances from the estimates filed in this proceeding.

2 Project and Communications Requirements

- 2.1 The Board's designated representative for the purpose of these Conditions of Approval shall be the Manager, Natural Gas Applications.
- 2.2 Union shall designate a person as project engineer and shall provide the name of the individual to the Board's designated representative. The project engineer will be responsible for the fulfillment of the Conditions of Approval on the construction site. Union shall provide a copy of the Order and Conditions of Approval to the project engineer, within seven days of the Board's Order being issued.
- 2.3 Union shall give the Board's designated representative and the Chair of the OPCC ten days written notice in advance of the commencement of the construction.
- 2.4 Union shall furnish the Board's designated representative with all reasonable assistance for ascertaining whether the work is being or has been performed in accordance with the Board's Order.
- 2.5 Union shall file with the Board's designated representative notice of the date on which the installed pipelines were tested, within one month after the final test date.
- 2.6 Union shall furnish the Board's designated representative with five copies of written confirmation of the completion of construction. A copy of the confirmation shall be provided to the Chair of the OPCC.

3 Monitoring and Reporting Requirements

- 3.1 Both during and after construction, Union shall monitor the impacts of construction, and shall file four copies of both an interim and a final monitoring report with the Board. The interim monitoring report shall be filed within six months of the in-service date, and the final monitoring report shall be filed within fifteen months of the in-service date. Union shall attach a log of all complaints that have been received to the interim and final monitoring reports. The log shall record the times of all complaints received, the substance of each complaint, the actions taken in response, and the reasons underlying such actions.
- 3.2 The interim monitoring report shall confirm Union's adherence to Condition 1.1 and shall include a description of the impacts noted during construction and the actions taken or to be taken to prevent or mitigate the long-term effects of the impacts of construction. This report shall describe any outstanding concerns identified during construction.
- 3.3 The final monitoring report shall describe the condition of any rehabilitated land and the effectiveness of any mitigation measures undertaken. The results of the monitoring programs and analysis shall be included and recommendations made as appropriate. Any deficiency in compliance with any of the Conditions of Approval shall be explained.

4 Other Approvals

- 4.1 Union shall obtain all other approvals, permits, licences, and certificates required to construct, operate and maintain the proposed project, and shall provide an affidavit that all such approvals, permits, licences, and certificates have been obtained.

Response:

Union can accept the proposed conditions of approval with the exception of condition 1.2. Union expects to be able to commence construction on the Project by December 31, 2016. However, in the event there is a delay to the Project, Union requests the Leave to Construct termination date be changed from December 31, 2016 to December 31, 2017.

Regarding the affidavit identified in condition 4.1, Union proposes to submit the affidavit as part of the interim monitoring report described in condition 3.1.

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: Exhibit A, Tab 3, page 2

Preamble: Union indicates that certain related transmission projects are required to facilitate flow downstream of the proposed Union expansion project.

- a) Please identify all downstream pipeline projects, including any projects that may be situated in the United States that rely on this expansion project and any estimate of expected flows.
- b) Please provide the status of the commercial readiness of these downstream projects as well as the status of all major approvals that are required.
- c) Please indicate which, if any, of these downstream projects could be delayed, and therefore delay Union's expansion project, as result of either commercial or other major approval requirements.
- d) Please identify all pipeline projects upstream of Union, including projects in the United States that are required to supply gas to the proposed expansion project.
- e) Please provide the status of the commercial readiness of these projects as well as the status of all major approvals that are required.
- f) Please indicate which, if any, of these upstream projects could be delayed, and therefore delay Union's expansion project, as result of either commercial or other major approval requirements.

Response:

a), b) and c)

The following pipeline projects are required to facilitate flow downstream of Union's expansion project for 2016.

Enbridge GTA Project Segment A (Enbridge Albion Line) begins at the Board-approved Parkway West Site and ends at Enbridge's existing Albion station. The Board approved Enbridge's project on January 30, 2014 (EB-2012-0451). As of November 1, 2015, the Enbridge Albion Line will have transmission related capacity of 1.2 PJ/d. In accordance with the Settlement Agreement, it is expected that TransCanada will contract for all of the transmission capacity, through an open season, to facilitate capacity requests on the TransCanada Mainline in 2015, 2016 and beyond. Union has been advised that the Enbridge GTA Project remains on schedule. The timing of the Enbridge Albion Line will not have an impact on Union's 2016 expansion facilities.

TransCanada King's North Project begins at Enbridge's existing Albion station (terminus of the Enbridge GTA Project Segment A) and ends at a point on the TransCanada Mainline in the City of Vaughan. The incremental capacity resulting from the King's North Project is approximately 0.4 PJ/d. Union and Gaz Métro have contracted for capacity from Parkway on the TransCanada Mainline commencing November 1, 2015. TransCanada has submitted its facility approval application to the NEB with the evidentiary and argument portions of the proceeding scheduled to be completed in late March 2015. As discussed by TransCanada at the OEB's 2014 Natural Gas Market Review (EB-2014-0289), the King's North Project appears to be tracking approximately four months behind schedule (first quarter 2016 in-service). It is expected that TransCanada, along with the Eastern LDCs, will request an expedited approval from the NEB to try to minimize the in-service delay.

TransCanada's King's North Project was conditional upon NEB approval of the tolls and tariff amendments associated with the Settlement Agreement (RH-001-2014). The Settlement Tolls included the cost of the King's North Project. On November 28, 2014, the NEB approved TransCanada's tolls and tariffs requested in the RH-001-2014 proceeding. The Reasons for Decision are expected from the NEB on December 18, 2014. All four parties to the Settlement Agreement are expected to approve the terms and conditions of the Settlement Agreement as an "Acceptable Regulatory Approval" as defined in the Settlement Agreement. The timing of TransCanada's King's North Project will not have an impact on Union's 2016 expansion facilities.

TransCanada Vaughan Loop Project begins at the terminus of the King's North Project and ends at a point on the TransCanada Mainline near the Maple Compressor Station in the City of Vaughan. The incremental capacity resulting from the Vaughan Loop Project is approximately 0.4 PJ/d. Union, Gaz Métro and Enbridge have contracted for capacity from Parkway on the TransCanada Mainline commencing November 1, 2016. TransCanada plans to submit its facility application to the NEB for approval in 2015 in enough time to support its planned 2016 construction and planned in-service date of November 1, 2016. The cost of the Vaughan Loop Project was also included in the tolls recently approved by the NEB that were associated with the Settlement Agreement (RH-001-2014).

Construction of Union's 2016 facilities expansion cannot be linked to downstream project completion for the following reasons:

- The market and regulatory environment has changed since Union's 2015 facility expansions were filed for approval in late 2012 and early 2013. Union's 2015 Brantford to Kirkwall expansion was linked to the approval of TransCanada's King's North Project due to the uncertainty of the Settlement Agreement being approved by the NEB. TransCanada's Tolls and Tariff Amendment application, based on the Settlement Agreement, was approved by the NEB on November 28, 2014 (with Reasons for Decision to follow) eliminating that uncertainty. The NEB's approval of that application now allows the market, regulators and shippers an improved understanding of tolls, services and market requirements going forward. Many of the uncertainties that existed in the market prior to the Settlement Agreement have now been addressed; specifically with respect to the market having further access to Dawn and Appalachian production as well as TransCanada having a reasonable opportunity to recover its costs. Union will begin construction of the Brantford to Kirkwall Pipeline this summer in order to place the facilities into service in fall 2015.
- Provincial and federal regulators have different approval processes and timing requirements. Different types of projects also have unique timing requirements (for example, pipeline vs. compression; and agricultural lands vs. urban lands). It is extremely difficult and onerous to link different approval processes and timing to projects that have unique schedule requirements. TransCanada typically would apply for expansions with the NEB such as their 2015 King's North Project and 2016 Vaughan Loop Project much later than Union would apply for its expansion approvals with the OEB.

Union accepted conditions of approval for the Brantford to Kirkwall Pipeline (EB-2013-0074) that are dependent upon regulatory approvals by the NEB given that the pipeline expansion projects of Union and TransCanada would have similar schedule requirements (material order, construction and in-service).

However, asking provincial and federal regulators to adopt similar processes and approval timing is costly, inefficient and would create serious market uncertainty in the ability to meet the market demand for new transportation capacity. As an example, Union applied for approval of its 2015 and 2016 expansion facilities over two years in advance of the required in-service date to accommodate the installation of compression which typically requires a longer construction period and earlier material order than pipeline projects. TransCanada applied for its 2015 expansion facilities (and plans the same for its 2016 expansion facilities) a little more than a year in advance of the required in-service date. For the 2016 expansion facilities, Union ordered the Lobo C Compressor unit in the summer of 2014 and needs to commence construction in the summer of 2015. These activities occur in advance of TransCanada receiving approval from the National Energy Board (and possibly in advance of TransCanada even applying for approval) to construct the Vaughan Loop Project. Linking the start of construction of Union's 2016 expansion

facilities to NEB approval of the 2016 TransCanada expansion facilities would delay the in-service date for Union's 2016 expansion facilities to at least November 1, 2017.

- Finally, at the time the Board conditioned the approval of the Brantford to Kirkwall Pipeline on the NEB approval of TCPL's King's North Project, the Board had not approved the capital pass through mechanism agreed to in Union's 2014-2018 Incentive Rate Mechanism Settlement Agreement. A feature of the capital pass through mechanism is a deferral account that captures revenue requirement variances due to cost changes and timing. The existence of the deferral account negates the requirement for conditioning construction of Union facilities on the approval or construction of downstream facilities because prior to disposition there will be full regulatory review of the balances in the deferral account.
- d) As mentioned in Exhibit A, Tab 4, pgs. 4 and 5, the Dawn Hub is interconnected with numerous pipelines which in turn are connected to most of North America's major supply basins. The Dawn Hub is robust and liquid with many buyers and sellers. During the last major expansion of the Dawn Parkway System in 2006 to 2008, Union added approximately 1 PJ/d of incremental transportation capacity. Union's system expansion was independent of the expansion of any upstream pipeline systems. As expected, the market responded and customers received the supply they needed.

Producers in the Marcellus and Utica are seeking access to a variety of markets across North America, including Dawn, and are reviewing their options to get supply to markets. Dawn is an attractive market to producers given that Dawn provides access to LDCs, power generators, industrials and other end-users, and marketers. The shift of Eastern LDC (Union, Enbridge and Gaz Métro) supply from Empress to Dawn and the resulting requests for incremental Dawn Parkway System capacity has created an opportunity to attract new supply to Dawn from the Marcellus and Utica through projects such as NEXUS, ETP Rover and ANR East. Union highlighted these projects as part of its presentation at the 2014 Natural Gas Market Review (EB-2014-0289). Incremental supply to Dawn from new production basins, and on new pipeline systems, increases the diversity of supply available at Dawn and grows the liquidity and depth of the Dawn Hub; benefiting Ontario consumers that purchase supply at Dawn.

At this time, Union assumes the source of supply for its 2016 expansion capacity is Dawn. However, it is reasonable to expect that one or more of the upstream projects noted above will provide supply to the Dawn Hub as early as 2017, increasing supply options at Dawn. This will be good for Ontario. Union executed a Precedent Agreement with NEXUS for 158,000 GJ/d of firm transportation to Dawn beginning November 1, 2017.

- e) There are no upstream pipeline projects that are required to supply natural gas to Union's 2016 expansion project.

- f) Union's 2016 expansion project would not be impacted if any of the proposed upstream pipeline projects are delayed or not constructed.

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: Exhibit A, Tab 3, page 6

Preamble: Union indicates that the M12 rate will increase from \$0.08/GJ to \$0.102/GJ by 2018 from various expansion projects.

Please provide an annual projection of the M12 rate from 2015 to 2018.

Response:

Please see Attachment 1.

UNION GAS LIMITED
M12/M12-X/C1 Transportation Demand Charges Impacts of 2015 and 2016 Dawn to Parkway Projects (1)

Line No.	Services	2014 EB-2013-0365 (\$/GJ/day) (2) (a)	2015 EB-2014-0271 (\$/GJ/day) (3) (b)	2016 (\$/GJ/day) (c)	2017 (\$/GJ/day) (d)	2018 (\$/GJ/day) (e)
1	M12/C1 Dawn to Kirkwall	0.067	0.072	0.077	0.085	0.086
2	M12/C1 Dawn to Parkway	0.080	0.086	0.092	0.102	0.102
3	M12/C1 Kirkwall to Parkway	0.012	0.014	0.015	0.017	0.017
4	C1 Parkway to Kirkwall	0.019	0.021	0.023	0.026	0.026
5	C1 Parkway to Dawn	0.019	0.021	0.023	0.026	0.026
6	M12-X	0.099	0.107	0.115	0.128	0.128

Notes:

(1) Dawn to Parkway Projects includes Parkway West, Parkway D Compressor, Brantford to Kirkwall and the 2016 Expansion.

(2) EB-2013-0365, Appendix A, Pages 14-16, column (c), effective January 1, 2014.

(3) EB-2014-0271, Appendix A, Pages 14-16, column (c), effective January 1, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario (“APPrO”)

Reference: Exhibit A, Tab 4, page 4

Preamble: Union describes the upstream transmission pipeline systems that presumably will provide the source supply for this expansion project.

Please provide an analysis of the pipeline infrastructure upstream of Union, to illustrate that adequate upstream peak day pipeline capacity currently exists from the various supply basins, or is under development and will be in service by November 2016 and provide the annual flows for each of the past three years for the upstream pipeline by completing the following chart.

Upstream Pipelines	Peak Day Pipeline Capacity			
	2011	2012	2013	2014

Response:

Upstream Pipelines	Peak Day Pipeline Capacity (PJ/d)					
	2011	2012	2013	2014	2015	2016
Vector	1.9	1.9	1.9	1.9	1.9	1.9
PEPL	0.2	0.2	0.2	0.2	0.2	0.2
GLGT	2.0	2.0	2.0	2.0	2.0	2.0
Bluewater	0.3	0.3	0.3	0.3	0.3	0.3
Enbridge	2.7	2.7	2.7	2.7	2.7	2.7
Michcon	0.3	0.3	0.3	0.3	0.3	0.3
Subtotal (Upstream)	7.4	7.4	7.4	7.4	7.4	7.4
Dawn Storage Withdrawals	3.3	3.2	3.2	3.2	3.2	3.1
Subtotal (Dawn – Parkway)	10.7	10.6	10.6	10.6	10.6	10.5
TCPL Niagara/Chippawa	0	0	0.3	0.3	0.3	0.3
Total Peak Capacity	10.7	10.6	10.9	10.9	10.9	10.8

Although the request was only for pipeline capacity upstream of Dawn, it is important to also include Dawn Storage Withdrawals and Kirkwall imports at Niagara/Chippawa as those volumes also act as sources of supply on the Dawn Parkway System.

Please see the responses at Exhibit B.Staff.1 and Exhibit B.APPrO.1d).

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: Exhibit A, Tab 7, Table 7-3

Preamble: At line 3 of Table 7-3 Union has proposed that 60,000 GJ/d of the proposed expansion capacity is intended to replace an existing Dawn-Union CDA transportation.

- a) Please confirm that the Dawn-Union CDA contract is an existing FT contract with TransCanada.
 - b) For this 60,000GJ/d:
 - i. Please provide the TransCanada contract number for this contract.
 - ii. Please confirm that the expiry date of this contract is October 31, 2017.
 - iii. Please explain why Union is developing facilities to replace an existing contract one year prior to the existing contract expiring.
 - iv. Please confirm that Union has ongoing renewal rights under this FT contract and provide the detail and nature of such renewal rights.
 - v. Please confirm that Union also needs additional downstream facilities to transport this volume from Parkway to Burlington and Oakville.
-

Response:

- a) Confirmed.
- b)
 - i. 20259
 - ii. Confirmed
 - iii. Union Gas and TransCanada have agreed to terminate contract 20259 once the Burlington Oakville Pipeline Project is in-service. This allows for the continuation of the original contract for a month or two if there is a delay of in-service of the Burlington Oakville Project.

- iv. Confirmed. TransCanada FT renewal provisions require contract holders to provide TransCanada with two years' notice of their intention to renew and a renewal term of one or more full years.
- v. Confirmed. Union will need the new pipeline as proposed in the Burlington Oakville Project. Union filed the Burlington Oakville Project with the Board on December 12, 2014. This project involves the construction of facilities required to transport these volumes into the Burlington Oakville System. The in-service date is planned to be November 1, 2016.

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: i) Exhibit A, Tab 7, page 23
ii) ICF Report, Exhibit A, Tab 5, Attachment 1, Exhibits 2-11 and 3-3
iii) RH-1-2014 NEB Application

Preamble: In the first reference, Union indicates that there is risk of turnback primarily from Northeast utilities.

In the second reference, ICF forecasts a decline of 197 MMcfd deliveries to the Northeast US via Iroquois and a further 71 MMcfd decline in deliveries to the Northeast via PNGTS.

- a) Please provide a table for all of the shippers exporting on these 2 pipelines that also hold capacity on Union. Please provide the following information:
- i. Customer name
 - ii. Contract Quantity
 - iii. Contract End Date
- b) In light of Union's consultant forecasting a decline in throughput on these systems, and further that shorthaul tolls on the TransCanada system are planned to increase 52% pursuant to the RH-1-2014 application, has Union completed a risk assessment of the likelihood of these shippers not renewing their Union contracts? If so please provide a copy of the assessment. If not, why not.
- c) In ICF's report Exhibit 3-3, ICF forecasts increasing imports into Canada from the US mid-Atlantic. Iroquois pipeline is advocating a south to north (SoNo) project that would see up to 300,000 Dth/d (approximately 316,000 GJ/d) being imported at Waddington to the TransCanada Mainline as early as November 2016.
- i. Did ICF project any mid-Atlantic imports into Canada via Iroquois in this Exhibit? Please explain.
 - ii. What is ICF's opinion on the likelihood of the Northeast utilities, which are shippers on Union and using either the Iroquois or PNGTS system, not renewing their Union transportation contracts over the next 10 years?

- iii. In ICF's opinion if the SoNo project is successful in attracting markets for import into Canada at Waddington, does this increase the likelihood of Northeast LDCs not renewing their Union transportation contracts?
- iv. Does ICF see PNGTS as a potentially viable import point into the Province of Quebec?

Response:

- a) To the best of Union's knowledge, Attachment 1 shows the capacity that current shippers on the Dawn Parkway System hold on PNGTS and Iroquois. Attachment 1 also includes capacity on the Dawn Parkway System that has been assigned to marketers.
- b) This response was provided by ICF International ("ICF").

ICF is forecasting a decline in annual throughput from Canada to the U.S. on Iroquois and PNGTS. ICF is also forecasting a small decline in peak month throughput from Canada to the U.S. on Iroquois and PNGTS. On peak days, however, throughput from Canada to the U.S. is expected to remain strong. Please see page 20 of the 2014 ICF Report filed at Exhibit A, Tab 5, Attachment 1 and response to part c) ii) below.

Union has addressed future potential Dawn Parkway System growth opportunities and risk of turn back on pages 23 and 25 of Exhibit A, Tab 7. Union concluded that the opportunities for incremental Dawn Parkway System growth are greater than the turn back risk. Please see the response to c) ii) below and Exhibit B.APPrO.6 a).

In addition, ICF addressed the future of the Dawn Parkway System, including turn back risk and growth opportunities in pages 27 to 34 of the 2014 ICF Report (Exhibit A, Tab 5, Attachment 1, pg. 27-34).

- c) This response was provided by ICF.
 - i. The ICF Base Case used in this exhibit did not include any mid-Atlantic imports into Canada via Iroquois. Any flows into Canada via Iroquois would occur only during off-peak periods, when pipeline capacity has relatively low value, and so far, ICF has seen insufficient evidence of willingness on the part of producers to pay for pipeline capacity that would be used primarily during off-peak periods to justify inclusion of a reversal of Iroquois in its Base Case.
 - ii. While ICF can foresee circumstances that might lead to some contract turnback on the Iroquois and PNGTS systems, ICF does not see a broad based turnback on capacity as a significant risk. ICF views the capacity on Iroquois and PNGTS into the Northeastern U.S.

as an important part of the peak period supply into the Northeast, and this is unlikely to change. ICF anticipates that the peak period requirements for the Northeast Utilities and other customers on these pipelines will continue to increase over time. At the same time, building pipeline capacity into the markets served by these pipelines will continue to be challenging.

- iii. In ICF's view, the SONO project is not expected to impact the decisions of the Northeast LDC's to renew or not renew their Union transportation contracts. The SONO project is expected to impact flows only during off-peak periods, and will have no impact on the need for peak period capacity.
- iv. ICF views PNGTS as a potential source of natural gas in Quebec during off-peak periods, but does not expect it to provide a viable source of natural gas in Quebec during peak periods without fundamental changes in gas supply in Maritimes Canada. ICF does not include any flows on PNGTS to Quebec in its Base Case.

<u>Customer</u>	<u>Contract #</u>	<u>Path</u>	<u>Start Date</u>	<u>Expiry Date</u>	<u>Quantity</u>
Bay State Gas Company	M12204	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	27,803
Boston Gas Company d/b/a National Grid	M12197	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	9,282
Boston Gas Company d/b/a National Grid	M12199	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	2,158
BP Canada Energy Company	M12087	Dawn to Parkway (TCPL)	1-Nov-06	31-Oct-22	20,000
BP Canada Energy Company	M12162-AS5	Dawn to Kirkwall	1-Apr-14	31-Mar-15	31,746
Brooklyn Union Gas Company d/b/a National Grid NY	M12165	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-17	44,019
Brooklyn Union Gas Company d/b/a National Grid NY	M12193	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	12,953
Brooklyn Union Gas Company d/b/a National Grid NY	M12208	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-18	30,217
Cargill Limited	M12197-AS7	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	9,282
Cargill Limited	M12198-AS7	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	6,475
Cargill Limited	M12199-AS7	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	2,158
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12182	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-16	5,467
Central Hudson Gas & Electric Corporation (a subsidiary of CH Energy Group, Inc.)	M12195	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	10,792
Colonial Gas Company d/b/a National Grid	M12198	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	6,475
Connecticut Natural Gas Corporation	M12166	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-16	6,410
Connecticut Natural Gas Corporation	M12201	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	18,077
Connecticut Natural Gas Corporation	M12206	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-18	9,170
Connecticut Natural Gas Corporation	M12214	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-19	6,489
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12162	Dawn to Kirkwall	1-Nov-11	31-Oct-16	31,746
Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc.	M12171	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-16	21,825
Direct Energy Marketing Ltd (DEML)	M12171-AS7	Dawn to Parkway (TCPL)	1-Nov-14	31-Mar-15	21,825
Direct Energy Marketing Ltd (DEML)	M12200-AS5	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	4,317
DTE Energy Company	C10110	Kirkwall to Dawn	1-Nov-15	31-Oct-17	73,000
Emera Energy Incorporated	C10107	Kirkwall to Dawn	1-Nov-15	31-Oct-20	73,745
Emera Energy Incorporated	C10108	Kirkwall to Dawn	1-Apr-15	31-Mar-20	26,335
Emera Energy Incorporated	M12164-AS3	Dawn to Parkway (TCPL)	1-Nov-13	31-Oct-15	1,081
Emera Energy Incorporated	M12208-AS5	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	30,217
Emera Energy Incorporated	M12221	Kirkwall to Parkway (TCPL)	1-Nov-12	31-Oct-22	36,751
EnergyNorth Natural Gas, Inc. d/b/a National Grid NH	M12200	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	4,317
Freepoint Commodities	M12165-AS5	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	44,019
Freepoint Commodities	M12193-AS5	Dawn to Parkway (TCPL)	1-Nov-14	31-Oct-15	12,953
KeySpan Gas East Corporation	M12116	Dawn to Kirkwall	1-Nov-07	31-Oct-18	138,600
KeySpan Gas East Corporation	M12163	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-17	43,837
KeySpan Gas East Corporation	M12194	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	17,162
KeySpan Gas East Corporation	M12209	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-18	22,772
Niagara Mohawk Power Corporation d/b/a National Grid	M12186	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-17	55,123
Northern Utilities, Inc.	M12205	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	6,333
St. Lawrence Gas Company	M12126	Dawn to Parkway (TCPL)	1-Nov-08	31-Oct-16	10,785
The Narragansett Electric Company d/b/a National Grid	M12164	Dawn to Parkway (TCPL)	1-Nov-11	31-Oct-17	1,081
The Southern Connecticut Gas Company	M12202	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	34,950
The Southern Connecticut Gas Company	M12207	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-18	13,970
The Southern Connecticut Gas Company	M12213	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-19	9,735
TransCanada Power formerly Transcanada Energy Ltd.	M12131	Dawn to Parkway (TCPL)	1-Nov-09	31-Oct-18	132,000
Yankee Gas Services Company	M12203	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-17	43,116
Yankee Gas Services Company	M12210	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-18	20,560
Yankee Gas Services Company	M12212	Dawn to Parkway (TCPL)	1-Nov-10	31-Oct-19	5,380

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: i) Exhibit A, Tab 9
ii) Exhibit A, Tab 7, page 23

Preamble: In the first reference, Union provides the project economics and the project results in a stage 1 Profitability Index (PI) of 0.44. APPrO would like to better understand the need for the current timing.

In the second reference Union describes the risk of contract non-renewal.

- a) For the capacity that is being constructed for Union's customers, and in light of the contract non-renewal risk, is Union precluded from delaying all or a portion of the capacity build to meet its franchise requirements until this risk of non-renewal is better defined?
- b) What is Union's understanding of the timing need for Enbridge and GMi to have this capacity developed now? Is it Union's understanding that either of these parties is precluded from maintaining their existing transportation arrangements on TCPL to serve their franchise needs?

Response:

- a) If Union's customers do not have access to this capacity, incremental gas costs would be \$44 million annually. This would not be prudent given the risk of turnback is outweighed by potential market opportunities.

The majority of the non-renewal risk is with U.S. Northeast utilities, which have highlighted that the Dawn Hub is a valuable market Hub, providing a liquid and diverse market, and access to storage. As well, some U.S. Northeast utility customers have recently indicated a need for additional capacity, and may participate for additional transportation capacity as early as November 1, 2017. Please see the responses at Exhibit B.SEC.3 and Exhibit B.APPrO.5c).

There are opportunities for incremental growth on the Dawn Parkway System in 2017 and beyond, which include the market shifting to Dawn, industrial and power generation growth, organic in-franchise demand growth, connecting new communities and CNG/LNG opportunities. Union is currently conducting an open season for incremental Dawn Parkway

System transportation services beginning in 2017 and 2018. This open season will close on January 30, 2015. Union will also do a reverse open season later in 2015 (co-ordinated with TransCanada's reverse open season) to determine if existing shippers wish to turnback capacity.

Future Dawn Parkway System turnback could be utilized to manage future expansions and/or to reduce the Parkway Delivery Obligation, which on November 1, 2016 is expected to be in the range of 383 TJ/d.

- b) Union, Enbridge and Gaz Métro have executed contracts to commence their capacity in November 2016. The open season allowed for shippers to elect a November 2016 or November 2017 start date. Union understands that Enbridge and Gaz Métro will be requesting firm Dawn Parkway System capacity and firm short haul capacity on the TransCanada Mainline to replace existing firm capacity on the TransCanada Mainline that is non-renewable.

UNION GAS LIMITED

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

Reference: i) Exhibit A, Tab 9, page 11 and Table 9-2
ii) Exhibit A, Tab 9, Schedule 6

Preamble: Union recites the Board's evaluation requirements under EB-2012-0092, but fails to provide the necessary information.

- a) Union indicates that it is not able to evaluate the possible effects of the project on TCPL costs. Did Union approach TCPL and ask them to calculate the effects on Ontario customers? If so please provide the information that was provided by TCPL. If Union did not approach TCPL please explain why not.
- b) Is it Union's intention to provide this information in subsequent facility applications?
- c) For the capacity that is being developed for Union's infranchise customers;
 - i. For the capacity that is currently under contract from TCPL, please estimate the annual avoided cost (AC) from reduced payments to TCPL that will occur as a result of this project.
 - ii. For the capacity that will continue to have some form of contract with TCPL for transportation of the volumes downstream of Parkway, please compute the annual incremental cost (IC).
 - iii. Please calculate the net reduction in revenue (NRR) received by TCPL (i.e. AC-IC).
- d) For that portion of the project serving each of GMi's and Enbridge's franchise area, please complete a similar calculation showing the net reduction in revenue required. If Union does not have sufficient information, then assume that all of the capacity that is being contracted for by GMi and Enbridge is currently under longhaul FT contracts and will be replaced by shorthaul contracts to their respective franchise areas from Parkway.
- e) Please confirm that under the Settlement in RH-001-2014, the parties agreed that TCPL will be allowed to recover its full cost of service.
- f) Using the NRR for each of the 3 franchise areas please estimate how much of this would reasonably be paid for by Ontario customers. If Union does not have a superior methodology

to prepare such an estimate, then as a proxy assume that all of the NRR is picked up by Ontario, Quebec and Northeast US shippers and the proportion that Ontario would pick up is the following ratio:

(The aggregate Contract Demand all FT contracts with an Ontario Delivery Point)
(The aggregate Contract Demand of all FT contracts with an Ontario, Quebec or US Northeast Export Delivery Point)

- g) Please recalculate the project NPV (Exhibit A Tab 9 Schedule 5) including Ontario's share of the total NRR as calculated above.
- h) It appears that this project results in a $PI > 1.0$ at Stage 3 after the GDP and related benefits of the project have been included (Exhibit A Tab 9 Schedule 6). Many existing Ontario natural gas consumers including power generators will not receive any direct benefit from this project but will incur higher tolls on both TCPL and Union. This in turn will reduce economic benefits including income taxes payable. Has Union considered any of the negative economic consequences of the expansion project? Explain.

Response:

- a) Please see the response to c) below.
- b) Union has complied with the EBO 134 filing requirements. In subsequent facility applications Union will provide similar information.
- c) As discussed in Exhibit A, Tab 5 of the pre-filed evidence, North America is going through a transition based on the rapid development of shale gas, especially in the Marcellus and Utica areas. This was also discussed at length in Exhibit A, Section 4 of Union's Parkway West Project and Exhibit A, Section 4 of Union's Brantford-Kirkwall/Parkway D Compressor applications (EB-2012-0433 and EB-2013-0074, respectively).

In 2015, Union plans to convert TransCanada Empress to Union EDA (Eastern Ontario) long haul transportation capacity to TransCanada Parkway Belt to Union EDA short haul transportation capacity. Union's expansion facilities supporting this shift in contracting were approved by the Board on January 30, 2014 (EB-2013-0074 Decision and Order). For the continuation of the transition in 2016, Union is converting TransCanada Empress to Union NDA (Northern Ontario) long haul transportation capacity to TransCanada Parkway Belt to Union NDA short haul transportation capacity.

Prior to the Settlement Agreement, TransCanada would not construct the facilities required to support this shift from long haul transportation and Empress supply to short haul

transportation and Dawn supply. Union, along with Gaz Métro and Enbridge, entered into the October 31, 2013 Settlement Agreement with TransCanada to provide balance in the natural gas market – TransCanada would support further access to Dawn and Appalachian production for eastern customers and would have a reasonable opportunity to recover its costs. The Settlement Agreement was discussed at length in EB-2012-0433/EB-2013-0074, and was recognized by the Board as “...an important development in the evolution of the pipeline transportation network in Ontario¹”. The shift by Eastern LDCs from long haul transportation to short haul transportation in both 2015 and 2016 was contemplated in the Settlement Agreement and included in the resulting toll calculations.

The Settlement Agreement was filed by TransCanada with the NEB in December 2013. The NEB reviewed the application for approval as a tolls and tariff application. A hearing was held by the NEB in September 2014 and the NEB issued their Decision (without reasons) on November 28, 2014, approving the key principles and parameters of the Settlement Agreement. Union’s 2016 expansion facilities represent the continuation of the evolution of the Ontario natural gas market as was contemplated in the Settlement Agreement as Ontario and other eastern North American customers are able to increase their access to Dawn and Appalachian production.

d) Please see response to c) above.

e) The Settlement provides TransCanada a reasonable opportunity to recover its cost of service. One of the purposes of the Settlement Agreement (section 2.2d) is as follows:

To provide a reasonable opportunity for TransCanada to recover its existing and future cost of service on the entire Mainline System while providing just and reasonable tolls for Mainline Shippers.

The TransCanada application to amend its tolls and tariff based on the Settlement Agreement was approved by the NEB on November 28, 2014. The Settlement Tolls include adjustments to transportation contracting on the TransCanada Mainline in 2015 (EB-2013-0074) and 2016 (EB-2014-0261) as a result of changing North American natural gas supply dynamics. The Settlement Tolls consider billing determinant changes as well as incremental capital costs for Mainline expansion facilities (2015 and 2016). The NEB fundamentally approved the tolling and cost allocation methodology of the Settlement Agreement.

f)-g) Since the shift by Eastern LDCs from long haul transportation to short haul transportation in both 2015 and 2016 was contemplated in the Settlement Agreement and included in the resulting toll calculations, Union is unable to answer part f) or g).

h) To clarify, the PI metric is not applicable when Stage 3 is included. The PI is derived as Union’s Cash Inflows divided by Union’s Cash Outflows (the NPV of each). The appropriate

¹ EB-2013-0074, Decision and Order, January 30, 2014, page 4.

metric when Stage 3 is included is the NPV. As noted at Exhibit A, Tab 9, Table 9-1, the Stage 1 NPV plus the Stage 3 benefits result in an NPV of approximately \$119.0 million. Notwithstanding this clarification, Stage 3 is an assessment from the perspective of society as a whole which is not intended to, nor is Union able to, quantify impacts of specific individuals.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters (“CME”)

Reference: Exhibit A, Tab 3, pages 3 and 4

To what extent are the proposed incremental facilities to serve incremental demands of 519 Tjs/day at an estimated project cost of \$415M being constructed to meet incremental demands of Union’s transportation customers?

Response:

The proposed facilities will serve incremental demands of Union’s transportation customers of 351,242 GJ/d.

Please see Exhibit A, Tab 7, Table 7-2 which shows the Dawn to Parkway capacity allocated in the open season.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 3, page 2, lines 3 to 5; page 3, lines 10 and 11; page 8, lines 8 to 11

In the Board's EB-2012-0451, EB-2012-0433 and EB-2013-0074 Decision and Order dated January 13, 2014, the Board found that distribution customers should not automatically be responsible for incremental capacity added to serve transportation customers which turns out to be unutilized. In this connection, please provide the following information:

- a) Explain how Union proposes to ensure that the incremental demands of 519 Tjs/day remain committed to the system over the long term.
- b) Explain how Union proposes to ensure that the costs of incremental capacity added to serve transportation customers are not recovered from its distribution customers if those facilities turn out to be unutilized.
- c) What are the implications of Union's request for "pre-approval" of costs if it turns out that it builds facilities which are not utilized?
- d) What change, if any, will Union make to its construction schedule if the Board declines to grant the requested pre-approval?

Response:

- a) Union has signed firm transportation agreements with its ex-franchise customers (Enbridge, Gaz Métro and TransCanada) for 351 TJ/d. This includes 70 TJ/d of Dawn to Parkway capacity that Enbridge elected to commence November 1, 2016 (election was made December 15, 2014). The capacity with ex-franchise customers is for a 15-year term (primary term), commencing the earlier of November 1, 2016 or the in-service date of Union's 2016 expansion facilities. After the primary term, these firm transportation agreements are renewable on a year-over-year basis until the shipper provides two years advance written notice to terminate. In addition, Union reserved 168 TJ/d of Dawn to Parkway capacity to transport natural gas from Dawn to its Union South and Union North customers. The total incremental demands on the Dawn Parkway System for 2016 total 519 TJ/d.

Union believes that a robust and attractive Dawn Hub will keep customers looking to source supply at Dawn and utilize the Dawn to Parkway transportation path. The Dawn Hub is one of North America's most liquid physical natural gas trading hubs, with over 100 customers actively trading on an annual basis. It offers customers such as power generators, Canadian and U.S LDCs, pipeline companies and energy marketers an important link between natural

gas from key supply basins in western Canada, mid-continent, the Gulf of Mexico, Marcellus and Utica to markets in Ontario, Quebec, U.S. Midwest and the U.S. Northeast. Please see the response at Exhibit B.APPrO.6 a) for a discussion on Dawn Parkway capacity turn back risk.

With increased Dawn demand and incremental takeaway facilities, producers and numerous large pipeline projects are proposing to move incremental gas to Dawn (such as Spectra Energy's – Nexus Project, Energy Transfer Partners'-Rover Project, and ANR Pipeline's-ANR East Project), and to bring incremental supply through Niagara and Chippawa. These projects will continue to bring diverse sources of supply and new market participants while strengthening the need to continually enhance the Dawn to Parkway takeaway capacity to both domestic and export markets.

- b) The incremental capacity is not being used to serve 'transportation' customers only. As described at Exhibit A, Tab 7, the capacity associated with the Project will serve ex-franchise transportation customers (TransCanada, Enbridge and Gaz Metro), and distribution customers; specifically, Union South sales service customers and Union North sales service and Direct Purchase customers.

The Project is underpinned by long-term commitments by both ex-franchise customers as well as Union on behalf of its distribution customers. The proposed facilities are not expected to be unutilized. Please see the responses at Exhibit B.APPrO.6 a) for a discussion on capacity turnback risk and response to a) above.

As described at Exhibit A, Tab 10, the costs of the Project have been allocated to Union South and Union North in-franchise rate classes and ex-franchise rate classes based on their distance weighted design day demands on the Dawn Parkway System. The distance weighted design day demands include the incremental Project demands, which are based on the new Dawn Parkway System demands described at Exhibit A, Tab 7.

In the future, should there be turnback of the Dawn to Parkway capacity associated with the Project and Union is unable to repurpose that capacity, Dawn Parkway System costs will continue to be allocated to both in-franchise and ex-franchise rate classes based on their distance weighted design day demands. This approach best reflects cost causality.

- c) As stated at Exhibit A, Tab 10, p.1, Union's request for pre-approval of costs is consistent with the capital pass-through mechanism ("CPM") as determined from its 2014-2018 incentive regulation mechanism ("IRM") proceeding (EB-2013-0202). The intent of the CPM is to adjust rates during the IRM term to reflect the associated impacts of significant capital investments made throughout the IRM term. Such investments, deemed "not business as usual", refer to capital expenditures that are significant and cannot be managed within Union's Board-approved capital budget.

The risk of any implications resulting from Union constructing facilities that are not utilized is

mitigated by the fact Union's proposed facilities are fully subscribed with long term commitments.

d) Please see the response to c) above.

UNION GAS LIMITED

Answer to Interrogatory from
Canadian Manufacturers & Exporters (“CME”)

Reference: Exhibit A, Tab 9, Schedule 3

In the calculation of incremental Dawn-Parkway transportation revenues at Exhibit A, Tab 9, Schedule 3, the monthly demand charge revenue at line 1 is derived from a M12 Dawn to Parkway rate from which Dawn compression charges are deducted as shown in Footnote 1. Please provide the following information with respect to this evidence:

- a) A detailed explanation of why Dawn compression revenues are deducted when determining incremental revenues in the economic feasibility analysis.
- b) Has the Board ever specifically addressed the appropriateness of this deduction in any prior decisions? If so, please provide excerpts from such decisions pertaining to this matter.
- c) Are there any incremental Dawn compression costs associated with this project?
- d) How are revenues related to other compressors on Union’s transmission system treated in the economic feasibility analysis?
- e) How does the National Energy Board determine incremental revenues associated with a pipeline expansion which does not cause a need for incremental compression?

Response:

- a) The Dawn compression revenue is not deducted in the DCF, it is excluded from the DCF analysis. A fundamental principle of the DCF is to match relevant costs with relevant revenues. There is no incremental Dawn compression facilities required for this application. As a result, no Dawn compression revenue attributed to Project economics. This application is for an additional section of NPS 48 Dawn Parkway pipeline and an additional compressor and associated facilities at the Lobo Compressor Station.

The incremental costs for the Lobo C compressor and the Hamilton to Milton pipeline, and the incremental revenue from the transmission portion of the M12 rate is used. The “Dawn compression margin” is the portion of the M12 rate that is attributed to the Dawn facilities.

The Dawn Parkway pipelines, including compression downstream of Dawn, provide the transmission services whereas the Dawn transmission compressors are primarily used to provide the required pressure into the Dawn Parkway System.

The expansion of the Dawn Parkway System and the expansion of the Dawn facilities do not necessarily occur at the same time. More specifically, a compressor addition at Dawn is sized to accommodate a longer term view of Dawn Parkway compression demands. Such addition will typically accommodate multiple Dawn Parkway facility additions due to the sizing and economics of a Dawn compressor addition.

Since the Dawn Parkway capacity additions and the Dawn compression additions occur in different time periods, it would be double counting the revenues if the Dawn compression margin is included with the Dawn Parkway facility additions. Union excludes the Dawn compression margin from the Dawn Parkway economics and attributes the Dawn compression margin to the Dawn compression facilities as they are constructed.

The segmented margin approach has been used for as long as Union can recall and is the proper approach. By way of further illustration, if the Dawn Parkway facilities were for incremental in-franchise distribution growth it would be inappropriate to include the entire in-franchise revenue at the time the Dawn Parkway facilities were built. To do so would double count the revenue - once when Dawn Parkway facilities are constructed and again when distribution facilities are built. Segmenting the M12 margin as Union has been doing is a transparent means to ensure appropriate matching of facility cost and revenues.

- b) Union is not aware if the Board has specifically addressed the process of this deduction in any prior decisions, however in Decisions as recent as EB-2013-0074 (dated January 30, 2014) the Board accepted the economic evaluation based on filed schedules which clearly identified that the M12 transportation revenue used in economics excludes Dawn compression. Please see Attachment 1.
- c) Please see the response to a) above.
- d) Compression facilities at Lobo, Bright and Parkway are treated the same as pipeline capacity for purposes of DCF economics. For ex-franchise demands the M12 rate net of the Dawn compression margin is used.
- e) Different NEB regulated pipelines have different NEB approved tolls and tariffs. In general, applicants before the NEB use the following calculation to determine incremental revenue from a service:

Billing determinants multiplied by applicable revenue from service. If the applicant proposes a specific surcharge for a service, the applicant will apply for approval of the specific surcharge and those revenues would also be included in the rate calculation. Most new additions on TransCanada do not involve compression surcharges and the revenue is based on just the FT Service.

For a TransCanada Mainline expansion facilities application, the determination of revenue derived from the sale of a service is independent of the nature (compression or pipeline) of the facilities required to provide the service.

UNION GAS LIMITEDAnswer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref: EB-2013-0074, Application Schedule 9 – 3A, page 1 and 2; and b) EB-2013-0074, Application Schedule 11-5, column (a)

- a) Please confirm if the amount of \$28,200,000 indicated at the line labeled "Gas Supply Cost Savings" of the document at reference a) is the amount calculated at reference b), if not please confirm the source of the amount of \$28,200,000.
- b) Please explain why the amount of \$28,200,000 indicated at the line labeled "Gas Supply Cost Savings" of reference a) decreases to \$1,775,000 for the years 11 to 30 of the analysis.
- c) Please provide the calculation and assumptions in support of the amount of \$1,775,000 indicated for the years 11 to 30 of the analysis.

Response:

a) Confirmed

- b) & c) The gas supply savings have not been forecasted beyond the initial term of 10 years. After year 10 the Discounted Cash Flow (DCF) assumes the 70 TJ of Dawn-Parkway capacity would be utilized by either a) other gas supply contracts, or b) M12 service. In the case of other gas supply contracts it is assumed the gas savings using this route would be at least equal to the M12 toll. No specific gas costs savings are attributed to the DCF beyond 10 years other than the equivalent of the M12 toll. For the years 1-10 the gas supply savings inherently include the M12 toll because the savings are the difference between the landed costs of gas using Dawn and WCSB sources.

The figure \$1.775 million is derived from $\$2.113 \times 70 \times 12 = \1.775 million.

Where:

- \$2.113 (\$/GJ/month) is the M12 toll excluding the Dawn Compression
- 70 TJ is the gas supply contract capacity
- 12 is the number of months in a year

Evidence Sources:

- Schedule 9-5 (middle of page) references Years 11-20 M12 margin applied = \$1.8 million per year (the rounded figure of \$1.775 million above)
- Schedule 9-4 –Describes (\$2.113 \$/GJ/month)

UNION GAS LIMITEDAnswer to Interrogatory from
TransCanada Energy Ltd. ("TCE")

Ref:

- a) EB-2013-0074, Application Schedule 9 – 3A, page 1;
- b) EB-2013-0074, Application Schedule 9 – 3B, page 1; and c) EB-2013-0074, Application Schedule 9 – 4, page 1

Preamble: Schedule 9 – 4 shows the amount of \$9,204,000 indicated at the line "Revenue" of reference a), and Schedule 9-3B shows an amount of \$10,979,000 at the line "Revenue".

- a) Please provide detail calculations of the amount of \$10,979,000 indicated at the line "Revenue" of reference b).
- b) Please explain why the amounts indicated at the line "Revenue" of reference a) and b) are not the same and the assumptions and reasoning for their difference.

Response:

- a) The figure \$10.979 million is derived from $\$2.113 \times 433 \times 12 = \10.979 million.

- \$2.113 \$/GJ/month is the M12 toll excluding the Dawn Compression
- 433 TJ is the incremental Dawn-Parkway capacity
- 12 is the number of months in a year

Evidence Sources:

- Schedule 9-4 –Describes \$2.113 \$/GJ/month, and the 433 TJ

- b) The revenue in Schedule 9-3A is \$9.204 million ($\$2.113 \times 363 \times 12 = \9.204 million) and the revenue in Schedule 9-3B is \$10.979 million. The difference between the two schedules is \$1.775 million, which is the M12 margin attributed to the 70 TJ for the gas supply contracts. Schedule 9-3A has 70 TJ of capacity for the gas supply contracts and 363 TJ for M12 service (total 433 TJ). Schedule 9-3B is based a scenario with no gas supply contracts. In this later case all 433 TJ of capacity would be attributed to M12 service.

UNION GAS LIMITED
2015 DAWN-PARKWAY FACILITIES EXPANSION PROGRAM
Calculation of Incremental M12 Transportation Revenues

<u>Particulars</u>	<u>Reference</u>	<u>W2015/16</u>
Rates Approved per EB-2011-0210		
<u>Effective January 1, 2013</u>		
Rate M12 Transportation Service (\$/GJ/d/mo.):		
Monthly Demand Charges		
Without Dawn Compression		
- Dawn-Parkway		\$ 2.113
 <u>Incremental Design Day Demands</u>		
	Section 8 Evidence	
M12 Transportation Service At Parkway (TJ/d)	Refer to Note 1	<u>363</u>
 <u>Incremental Annual Revenues</u>		
M12 Transportation At Parkway (\$000's)		<u>\$ 9,204</u>

Note:

- (1) Represents that portion of total incremental demands that can be served by the 2015 proposed facilities calculated as follows (TJ/d):

Total incremental system design day capacity	Section 8	433
Total Union requirements to serve EDA/NDA markets	Section 8	<u>70</u>
Balance incremental capacity available to meet increased M12 market demands		<u>363</u>

UNION GAS LIMITED

Answer to Interrogatory from
Canadian National Railway Company ("CN")

Reference: Exhibit A, Tab 2, Page 1

Given that the proposed pipeline will cross a railway line operated by CN in the Town of Milton CN wishes to clarify that Union Gas Limited will be contacting CN with a view to entering into an agreement covering the terms and conditions associated with the above noted pipeline crossing including CN review and approval of engineering drawings.

Response:

Yes.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 8, page 1 of 13, Facilities Planning

Preamble: Union Gas Limited states that the "evidence assumes the Board-approved Brantford to Kirkwall Pipeline and Parkway D Compressor located in the Parkway West Compressor Station, will be completed for a November 1, 2015 in service date."

- a) What is the status of the acquisition of required land rights for the Brantford to Kirkwall Pipeline?
- b) What is the status of construction of the Brantford to Kirkwall pipeline?
- c) Is the Brantford to Kirkwall pipeline project on schedule with respect to construction? Please explain.
- d) What effect will a delay or postponement of the November 1, 2015 in service date have on the Dawn Parkway 2016 System Expansion project?

Response:

- a) All permanent and temporary land rights have been acquired except from one landowner.
- b) Construction of the Brantford to Kirkwall pipeline has not started.
- c) The Brantford to Kirkwall project is on schedule with respect to construction. Union has secured a Pipeline Contractor and the Project is on schedule to obtain the necessary materials, permits and approvals in order to place the facilities into service in the fall of 2015.
- d) There will be no impact.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, page 6 of 15, Engineering and Construction
Stantec EA Report, Section 4.1.2, page 4.3

Preamble: Union Gas Limited states: "Minimum depth of cover required will be 1.0 metre from top of pipe to final grade. Where necessary, additional cover will be used to accommodate planned or existing underground facilities, and road, railway and watercourse crossings. In agricultural areas the minimum depth of cover will be 1.2 metres, except where bedrock is encountered at a depth less than 1.2 metres, in which case the pipe will be installed with the same cover as the bedrock, but not less than 1.0 metres below grade."

The EA Report states that operational activities for the pipeline will include "completing depth of cover surveys, so that the amount of soil cover over the pipeline is maintained."

- a) Please provide a copy of Union Gas Limited's depth of cover monitoring program documents.
- b) What is the depth of cover monitoring program proposed for the proposed pipeline?
- c) What is the minimum depth of cover that will be maintained by Union Gas Limited over the proposed pipeline following construction (i.e. during operation)?
- d) Please provide details of all locations in the existing easements in the section where Union has identified insufficient depth of cover of less than 24 inches and all identified locations in agricultural lands with less than the minimum depth of cover proposed and/or required at the time leave to construct was granted.
- e) With respect to those locations where depth of cover is insufficient, what steps, if any, has Union Gas Limited taken to establish sufficient depth of cover? Provide details of any such operations including a copy of any report prepared.
- f) Are there locations on the Dawn to Parkway system where Union Gas Limited, due to the presence of insufficient cover or other factors, has indicated to landowners that they should exercise extra caution when carrying out activities, including farming operations, above the pipeline? Please provide details of any such communications made to landowners including: location affected, copies of correspondence, records of responses from landowners.

- g) Are there any locations on the Dawn to Parkway System where Union Gas Limited has restricted land use above the pipeline due to insufficient depth of cover or the condition of the pipe itself? Provide details of the location, the nature of the deficiency (depth of cover, etc.), and the nature of the restriction imposed on land use.
 - h) How does Union Gas Limited monitor nearby houses, buildings and facilities for possible damage from blasting and/or excavation of bedrock during construction? Please explain.
-

Response:

- a) Please see Attachment 1 for a copy of Union's Standard Operating Practice for depth of cover.
- b) The depth of cover program on the proposed pipeline will meet or exceed current code and regulation requirements. Please see response to a) above.
- c) Ontario Regulations require that pipelines are installed and operated to meet the requirements of the CSA Z662 Standard. The standard has separate requirements for the design, installation, and operation of the pipelines. Union installs pipelines at elevations that provide cover in excess of the minimum Standard requirements and operates such pipelines to comply with the depth of cover requirements of the Standard and TSSA for operating pipelines.
- d-g) Union complies with current TSSA requirements for depth of cover surveys. When locations are found that do not meet minimum requirements, the pipeline is lowered, fill is placed over the pipeline, or the land is taken out of agricultural production and isolated with fencing. In all cases, compensation is paid to the landowner. The work is done to maintain existing pipeline integrity in compliance with regulations. There are currently no locations on this section of pipe that have been identified as having insufficient depth of cover.
- h) Union does not anticipate the need for blasting near houses, buildings and facilities during construction of the Project. For the excavation of bedrock during construction, Union would retain an expert (blasting, structural) to design and monitor a plan specific to the structure in question. This could involve, pre-construction, during construction and post-construction monitoring, if required.

Depth of Cover - Practice

Intention

To provide a standard practice to define the frequency of inspections on all pipelines operating over 30% of SMYS, to provide for the priority level by degree of hazard, and to establish the maximum time to perform mitigation.

References

- [C&M Manual Section 16.6, "Asbuilt Records"](#)

Act Reference

- Technical Standards and Safety Act, 2000

Code or Regulation Reference

**Ontario Regulation 210/01, Oil and Gas Pipeline Systems
Code Adoption Document, November 2012**

Clause 10.6.5.5 Operating companies shall develop written procedures for periodically determining the depth of cover for pipelines operated over 30% of SMYS. Such written procedures shall include a rationale for the frequency selected for such depth determinations. Where the depth of cover is found to be less than 60 cm in lands being used for agriculture, an engineering assessment shall be done in accordance with clause 3.3 of Z662-11 and a suitable mitigation plan shall be developed and implemented to ensure the pipeline is adequately protected from hazards.

CSA Z662-11, Oil and Gas Pipeline Systems

10 Operating, maintenance, and upgrading
10.6 Right-of-way inspection and maintenance
10.6.1 Pipeline patrolling
10.6.1.1

Operating companies shall periodically patrol their pipelines in order to observe conditions and activities on and adjacent to their rights-of-way that can affect the safety and operation of the pipelines. Particular attention shall be given to the following:

- (a) construction activity;
- (b) dredging operations;
- (c) erosion;
- (d) ice effects;
- (e) scour;
- (f) seismic activity;
- (g) soil slides;
- (h) subsidence;
- (i) loss of cover; and
- (j) evidence of leaks.

Standard Operating Practices

Filed: 2015-02-23

EB-2014-0261

Exhibit B.GAPLO.2

Attachment 1

Note: Where pipeline patrolling reveals conditions that can lead to failure of the pipeline, see Clause 10.3.1.

10.6.1.2

The frequency of pipeline patrolling shall be determined by considering such factors as:

- (a) operating pressure;
- (b) pipeline size;
- (c) population density;
- (d) service fluid;
- (e) terrain;
- (f) weather; and
- (g) agricultural and other land use.

10.6.4 Crossings

10.6.4.2

Underwater crossings shall be inspected periodically for adequacy of cover, accumulation of debris, and other conditions that can affect the safety or integrity of the crossing.

10.3.1 Integrity of Existing Pipeline Systems

10.3.1.1

Where the operating company becomes aware of conditions that can lead to failures in its pipeline systems, it shall conduct an engineering assessment to determine which portions can be susceptible to failures and whether such portions are suitable for continued service.

10.3.1.3

Where the engineering assessment indicates that portions of the pipeline system are susceptible to failures, the operating company shall either implement measures preventing such failures or operate the system under conditions that are determined by an engineering assessment to be acceptable.

Note: Clause N.10 provides options that may be used to reduce the frequency of failure and damage incidents

N.10 Options for Reducing Frequency and Consequences of Failure or Damage Incidents

N10.2 External Interference

The options that may be used to reduce the frequency of failure and damage incidents associated with external interference include the following as applicable:

- (a) Participations in one-call utility location organizations
- (b) Measures to improve public awareness of and education about the pipeline system
- (c) Vegetation control to improve right of way visibility
- (d) Supplemental markers and signs to identify the presence of pipeline systems
- (e) Increased frequency of right of way inspections and patrols
- (f) Enhancement of procedures for pipeline system location and excavation
- (g) Installation of structures or materials (e.g., concrete slabs, steel plates, or casings)
- (h) Increase depth of cover
- (i) Increased pipe wall thickness

Standard Operating Practices

Filed: 2015-02-23

EB-2014-0261

Exhibit B.GAPLO.2

Attachment 1

Compliance

The Manager of Pipeline Engineering is responsible to ensure that the program is executed on and adhered to.

Definitions

Agricultural Lands are those lands that are currently being worked with mechanical farm equipment for the production of crops or grazing farm animals. Pasturelands are considered agricultural since such lands may be periodically worked with similar equipment to croplands.

Depth of Cover is the required depth of the pipe, from the top of the pipe to the ground surface. Any structure, such as weights or casings, connected to the pipe through mechanical means is considered part of the pipe and must meet the required depth of cover.

Specific Requirements

General Depth of Cover Survey Frequency

All targeted pipelines will be surveyed for depth of cover in accordance with approved locating and surveying procedures, at the frequencies shown in Table 15.1.

Table 15.1: General Depth of Cover Survey Frequency

Location	Survey Frequency
Sections of pipeline with less than 60 cm of cover	Annual until mitigation completed
Sections of pipeline through Agricultural Lands with 60 cm to 75 cm of cover	5 years
All other pipelines operating above 30% SMYS in Agricultural Lands	10 years
All other pipelines operating above 30% SMYS	20 years

Standard Operating Practices

Author(s): Bryden Berkvens
Approver: Shawn Khoshaien
Owner: Engineering, Construction and STO

Issue Date: 2015-02
Supersedes: New
Page 3 of 4

Corrective Action or Notification Requirements

Filed: 2015-02-23
EB-2014-0261
Exhibit B.GAPLO.2
Attachment 1

Mitigation of Shallow Areas

Any location on a pipeline with a depth of cover of 60 cm or less requires a response to ensure the pipeline is adequately protected from hazards. A large amount of the depth of cover survey will occur on private agricultural property. If a shallow area is found on private property, the Lands department shall contact the landowner before initiating any mitigation to protect the pipeline.

All locations found with depth less than 60 cm shall have a Direct Current Voltage Gradient (DCVG) survey completed within 1 year of discovery and prior to any mitigation to identify any coating damage in the area. Temporary protection shall be implemented within 60 days of identification to prevent further damage to the pipeline.

Mitigation measures shall be implemented to limit any further damage to the pipeline. Mitigation methods may include adding suitable fill material over the pipeline, fencing off the shallow area with fencing suitable to keep machinery from putting loading stress on or causing damage to the pipeline, placing protection such as concrete slabs over the pipeline, or lowering the pipeline to a suitable depth.

Retention of Records

Survey results shall be stored in the pipeline directory in the survey folder for each pipeline section surveyed. A minimum of three consecutive surveys shall be kept for each pipeline segment.

Standard Operating Practices

Author(s): Bryden Berkvens
Approver: Shawn Khoshaian
Owner: Engineering, Construction and STO

Issue Date: 2015-02
Supersedes: New
Page 4 of 4

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, page 4 of 15, Engineering and Construction

Preamble: Pipe to be installed in Class 3 locations will have a thickness of 15.6 mm; pipe to be installed in Class 1 and 2 locations will have a thickness of 11.7 mm (25% thinner than in Class 3 locations).

- a) Will the use of 11.7 mm thick pipe through Class 1 and Class 2 lands have an effect on the types of remedies available to address insufficient depth of cover as compared with the remedies available for 15.6 mm thick pipe?
- b) Will the minimum depth of cover permitted by Union Gas Limited following construction (i.e. during operation) differ as between sections of the pipe with 11.7 mm thickness and 15.6 mm thickness? Please explain.
- c) Which thickness of pipe provides better protection for farmers and landowners conduct agricultural and other activities over the proposed pipeline – 11.7 mm or 15.6 mm? Please explain.
- d) What would be the incremental increases in the cost of the project (broken down into materials and other costs) if 15.6 mm pipe was used for the entire project?

Response:

- a) No.
- b) No. Depth of cover requirements are independent of wall thickness.
- c) The pipeline is designed in accordance with the CSA Z662-11 Oil and Gas Pipeline code as adopted by the Ontario Technical Standards and Safety Authority in accordance with Ontario Regulation 210/01 using a combination of factors such as class location, grade of pipe and wall thickness. This design meets or exceeds the requirements of the CSA Z662-11 to ensure the entire pipeline is safe for both wall thickness designs.
- d) The materials cost of the Project would increase by approximately \$1.4 million if 15.6 mm pipe was used for the entire project.

Union estimates a further \$1.2 million in other costs associated with using 15.6 mm pipe. These costs are based on the need for additional welding, increased equipment costs, plus more time required for pipe bending.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, page 7 of 15, Engineering and Construction

Preamble: Union Gas Limited states: "Union also anticipates no problem in obtaining a contractor to complete the proposed construction."

- a) Has the construction contract been tendered?
- b) If so, please provide a copy of the tender.
- c) If not, please provide a copy of the proposed tender.
- d) Has a construction contractor been selected and, if so, who is the contractor?
- e) Please provide a copy of the construction contract or, if applicable, the proposed construction contract.

Response:

- a) Yes.
- b) Please see Attachment 1 for a copy of the table of contents for the tender document.
- c) Please see the response to a) above.
- d) Yes. Banister Pipelines Corp.
- e) The construction contract is in the process of being negotiated. A proposed construction contract is not yet completed.

Tender Document Table of Contents – Hamilton to Milton (tendered in February 2014)

Schedule 1 –General Conditions (Facilities Agreement)

Section A - Definition of Terms

Section B – Intention and Scope of Contract

Section C – Contractor Preparation for the Work

Section D – Relationship of Parties

Section E - Scope of the Work

Section F - Tools, Equipment and Materials

Section G - Insurance

Section H – The Time element (starting, Carrying Out, Suspending, Terminating, Completing and Extending the Work

Section I – Compensation for the Contractor

Section J – Inspection, Rectification and Acceptance of the Work

Section K – Contractor’s Duties of Performance and Care

Section L – Right-of-Way and Permits

Section M – Indemnity, Bonding and Insurance

Section N – Miscellaneous Provisions

Schedule2- General Requirements and Information

Section A – Construction Specifications and Typical Drawings

Pipeline Construction Specifications and Standard Drawings

Station Construction Specifications and Standard Drawings

Section B – Wet Soil Shutdown Practices

Section C – Forms

Change Notice Forms

Workplace Safety Observation Form (templates)

Welding Record Forms

Section D – Miscellaneous Specifications

Ontario Provincial Standard Specification 401

Ontario Provincial Standard Specification 421

Ontario Provincial Standard Specification 501

Schedule 3 – Project Specific Requirements

Section A – Special Instructions

Section B – Drawings and Lists

Section C – Bills of Materials and Lists

Section D – Material Vendor Information

Section E – Studies (to be provided)

Section F – Environmental Construction Plan

Section G – Permit List

Section H – Landowner Special Requirements

Section I – Tile Reconstruction Plans

Section J – Carlile Golf Course

Section K – Islay Lake

Section L – Pressure Test Data Sheet

Section M – Welding Requirements

Section N - Addenda

Addenda No. 1

Addenda No. 2

Schedule 4 – Contractor Information and Pricing

Section A – Contractor Developed Plans

Section B – Construction Safety Information

Section C – Contractor Information

Section D – Project Construction Schedule

Section E – Price Component Schedule

Section F – Crew Plans and Loading Schedules

Section G – Additional Information

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, page 9 of 15, Engineering and Construction

Preamble: Union Gas Limited states: "Union will provide inspection staff to ensure that contractual obligations between Union and the Pipeline Contractor, Provincial Ministries, Municipal Government and Landowners are complied with."

Will Union Gas Limited agree to the appointment of an Independent Construction Monitor by landowners, Union Gas Limited and the OEB to be on site continuously to monitor construction with respect to all issues of concern to landowners, to be available to landowners and to Union Gas Limited at all times, and to file interim and final reports with the OEB? If not, please explain why not.

Response:

Union will not agree to the appointment of an Independent Construction Monitor. Attachment 1 is a copy of Union's response to the Cordner Science ("Cordner") report from the Strathroy to Lobo Pipeline Project (EB-2005-0550), the last project where an Independent Construction Monitor was used. The Cordner report did not identify any significant issues with Union's construction practices.



uniongas

A Spectra Energy Company

Filed: 2014-12-19
EB-2014-0261
Exhibit B.GAPLO.5
Attachment 1

May 11th, 2009

BY RESS & COURIER

Ms. Zora Crnojacki, Project Advisor
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, Ontario
M4P 1E4

Dear Ms. Crnojacki:

Re: Union Gas Limited
TFEP 2007 – Strathroy to Lobo Pipeline Project
EB-2005-0550

This letter is in response to the final report prepared by Cordner Science (“Cordner”) for Construction Monitoring services for the NPS 48 Strathroy Lobo Pipeline project.

Union’s understanding of the primary role that Cordner was to undertake during construction of the Strathroy Lobo pipeline was that of a compliance monitor. As well the Monitor was to observe and report on pipeline construction activities for the 2007 Union Gas Limited (Union) 48” pipeline from Strathroy to Lobo. Observation was to be limited to impacts of construction on the land, including right-of-way preparation, trenching, backfill and clean-up operations as well as Wet Soil Shutdown (WSS) events. The monitor was also to review construction activities for compliance with the Ontario Energy Board (OEB) Conditions of Approval, Letters of Understanding (LOU) agreed to between landowners and Union and all specific construction commitments included in Union’s construction contract.

After construction the Monitor was to prepare a final report generally summarizing all reports completed during construction and this was to be provided at the end of the contract term to all parties. The report was to contain at a minimum, recommendations in respect to the following: Communications with landowners and the Committee, Potential construction activity improvements, and reporting requirements.

Union is pleased to note that Cordner did not identify any significant compliance issues. Union believes that the report is a true reflection of the efforts that are undertaken by Union to implement the OEB’s conditions of approval, the recommendations in the Environmental Assessment, the commitments identified in the Letter of Understanding and Union’s construction specifications.

In reviewing Cordner's report the recommendations relate more to general issues and potential improvements in communication and process issues rather than detailed compliance issues. Union has addressed the recommendations in the attached document.

For the Board's information the total invoices submitted by Cordner to date are \$172,000.

Based on Cordner's final report Union does not believe that a Construction Monitor will be required for the next Dawn Trafalgar loops.

Yours truly,



Bill Wachsmuth
Senior Administrator, Regulatory Projects
Encl.
:mjp

cc: Neil McKay, Manager, Facilities Applications
G. Mallette

Union's Response to
Recommendation by Cordner Science

Final Report
Construction Monitoring
NPS 48 Strathroy Lobo Project

In the final report prepared by Cordner Science for Construction Monitoring of the Strathroy Lob pipeline project 39 recommendations were identified. A number of these recommendations can be incorporated into five groups of issues, which are identified below. The recommendations that are more stand alone have been addressed individually.

The following is Union's response to Cordner's recommendations:

Communications and Actions of the Monitor

Recommendations 2, 3, 4, 5, 6, 7, 21, and 39

These recommendations discuss the interaction and communication between the Monitor Union, the Construction Monitor Committee, Landowners, and the Joint Committee. As it has been over 15 years since this type of monitor was used on a construction project there was a learning curve that occurred between all of the interested parties to understand their respective roles and responsibilities. Union understands the issues that Cordner is raising in these recommendations, and will provide these recommendations to any future monitors to assist them in the communications and understanding roles and responsibilities.

Lands Relation Agent

Recommendations 9 and 10

Union agrees with these recommendations, and the value in having only one Land Relations Agent for both the construction and post-construction clean up work for the project. Union had planned to have the same agent who was on site during construction continue with the project for the year after clean up, however due to an unforeseen long-term illness this was not possible. Union will implement the Monitor's suggestion that all future lands agent have access to e mail.

Education of Landowners

Recommendations 16, 17, 18, 19, 26, 24, 27, 32, and 33

Union understands that these recommendations result from discussions between the Monitor and various parties regarding construction practices including the options that a landowner has regarding construction on their properties and concerns regarding their understanding of the options available to them. These recommendations are most likely

as a result of the above noted Communications recommendations in that Cordner is likely not aware and did not participate in any of the pre-construction negotiations between Union and the various landowner negotiating committees (GAPLO-Strathroy/Lobo and Bartlett Group)during which these matters were discussed. As well Union has suggested to landowners that if they have any questions regarding any of the terms of the Letter of Understanding or construction practices that they should seek the advice of GAPLO or other experts that are available to them. Union does not believe that Cordner knows or understands the knowledge of construction practices that GAPLO has developed. All of the areas where Cordner suggests that a fact sheet would be useful have been subject to extensive negotiations between Union and GAPLO. Union believes there is an adequate knowledge base in the landowner community, including available information from other landowners if they have questions. As well, Union does not believe that fact sheets developed by Union would be acceptable to GAPLO

Schedule

Recommendations 29, 34, 35, 36

The construction schedule is always a concern to both Union and the Landowners. Union attempts to schedule work so that it can be completed at the optimal time. However, this is not always possible. Union is aware of the issues raised by Cordner, and will work with the Pipeline Contractor and the landowners to ensure that construction and restoration are completed in an efficient and timely manner

Union Documents

Recommendations 11, 12, 13, 14, 15, 22, 23

Union will consider these recommendations. Union recognizes that Cordner being new to pipeline construction can provide a fresh set of eyes and provides opinions which can be used to develop and improve Union existing practices. Union reviews and updates its forms and documents on a regular basis, and will consider Cordner's suggestions during future reviews.

Scientific Studies

Recommendations 37, 38

Cordner has suggested that more scientific rigor should be incorporated into wet soils determination and soil restoration practices (compaction removal). These issues have been brought forward a number of times in the past. Union's current practices are the result of these reviews. The report acknowledges that the CMT supported wet soil decisions made during construction and does not identify any circumstances when visual assessment was not possible. Soil conditions are evaluated on the amount of rainfall, visual assessment, soil consistency, friability and depth rainfall has penetrated. The importance of these factors varies by soil type and is accurately and quickly assessed in the field without detailed instrumented, calculated and documented measurements, which may result in construction delays. Penetrometer data are obtained off-easement as well as on-easement. Union already has a scientific and statistical method available to assess the

agronomic effectiveness of rehabilitation procedures. The soil and crop monitoring program developed by Stantec for Union Gas is a statistically sound method to assess the effectiveness of the soil rehabilitation procedures. Union and Stantec (who provide Union with independent soil experts) continuously review and monitor these areas and make changes when they are appropriate.

Separate Phases for Pipeline Construction

Recommendation 1

In this recommendation Cordner suggests that pipeline construction should be separated into two distinct operations: construction of the pipeline, and restoration and clean up. While Union can understand why Cordner believes this would be an improvement on current construction practices. Union does not believe the implementation of this recommendation will result in significant efficiencies.

Union sees the following issues in trying to implement this recommendation:

- Currently there are no companies in southern Ontario whose expertise is land restoration after pipeline construction.
- There are contractor, labour union, labour law, and administrative issues with having two separate contractors on the same work site.
- Having two contractors working on the same project often leads to communication issues, construction inefficiencies and missed deadlines.

Union believes the biggest benefit in having the one contractor complete the entire project is that the entity that is responsible for constructing the pipeline is the same entity responsible for restoration. A contractor that knows it will have to restore the site will normally take more care in the construction phase knowing that before they will receive full payment for the project they have to restore the site to pre construction conditions. This coupled with Union's commitment to have the same Lands Relations Agent for both construction and clean-up should address any landowner questions.

Landowner Survey

Recommendation 8

Union has completed this type of survey in the past. Union does not believe it is necessary to complete this type of survey on every loop of the Dawn Trafalgar system. Unions expect to complete landowner satisfaction surveys on future loops.

Compensation

Recommendation 20

Union does not understand this recommendation. Financial compensation was negotiated before the OEB facilities hearing. This was almost a year ahead of construction and Union does not understand how this could have distracted the parties from construction

and remediation issues. If this recommendation means waiting to negotiate compensation until after construction, Union doubts that would be acceptable to the landowners

Wash Stations

Recommendation 25

Union accepts this recommendation, and will work with the Pipeline Contractor, OMAFRA, and the Soils and Environmental consultants to improve the effectiveness and efficiency of the wash stations

Stone Picking

Recommendation 28

Union agrees with Cordner regarding this recommendation. Union's preferred practice in relation to stone picking is to pick stones to the size and quantity as found in the remainder of the field. However, this issue is important to landowners and the size of stones is something that was negotiated in the LOU.

Depth of Cover

Recommendation 30, 31

Union accepts this recommendation. The depth of cover over the pipe is important to both Union and the Landowners. Union encourages the landowners to report any situations where cover is reduced over the pipeline. Union will inform the landowner when it becomes aware of any issues in relation to depth of cover on a landowners property.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: *OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011*, Section 5.1.2, page 64, Restoration Plans

Preamble: The *OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011* include the following guidelines with respect to the rehabilitation of the easement post-construction:

"The landowner must be consulted and any reasonable request regarding rehabilitation of the easement complied with. Planting of soil-building cover crops should be considered. ... It is recommended that a professional agronomist/agrologist be retained to review the proposed restoration technique and its application with the contractor and the landowner, in order to ensure that optimal results are achieved."

- a) Has Union Gas retained a professional agronomist and/or agrologist for this project?
- b) If so, please provide his or her most recent resume or CV.
- c) If not, when will a professional agronomist and/or agrologist be retained by Union Gas, and in what capacity?

Response:

a)-c) At this time, Union has not retained an agronomist or agrologist for the construction of this Project. A team of qualified inspection personnel, including a soils/agricultural specialist, will be retained by Union prior to construction.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, page 1 of 4, Land Matters

Preamble: Union Gas Limited states: "Union has initiated meetings with the landowners from whom either permanent or temporary land rights are required and will continue to meet with them to acquire options to acquire all the necessary lands."

Please provide the form or forms of options acquired or proposed by Union Gas Limited.

Response:

Please see Attachments 1 and 2 for options forms for permanent land rights and temporary land rights.



OPTION FOR EASEMENT

(the "Option")

Between **OT**
 OT
 (hereinafter called the "Transferor")

and

UNION GAS LIMITED
(hereinafter called the "Transferee")

WHEREAS the Transferor is the registered owner in fee simple of the lands hereinafter referred to as PIN:
Legal Description: , which lands are required by the Transferee;

1. In consideration of the sum of -----00/100 Dollars (\$) (hereinafter called the "Option Price") now paid to the Transferor, the receipt of which is hereby acknowledged, the Transferor HEREBY Grants to UNION GAS LIMITED ("the Transferee") an irrevocable option to purchase, an unencumbered easement ("Easement") in perpetuity for itself, its successors and assigns, to construct, maintain, replace and operate one natural gas pipeline, on, over, in, under and/or through a tract of land metres in width outlined on the sketch attached hereto as **Appendix "A"** across the lands of the Transferor (hereinafter called the "Lands of Transferor") described in the attached **Appendix "B"** together with the right to construct, maintain and operate the necessary sub-surface appliances, equipment and appurtenant facilities, all in accordance with the specimen Easement Agreement ("Easement") attached hereto, and marked **Appendix "C"**.
2. The consideration to be paid for the Easement shall be -----00/100 Dollars (\$), subject to adjustment at the rate of -----00/100 Dollars (\$) per acre of the Easement, the area of which shall be calculated by a plan of survey prepared by an Ontario Land Surveyor at the Transferee's expense. The final adjustment will be made on the Closing Date, (as hereinafter defined) in accordance with the area set out in the Plan of Survey and such determined Easement purchase price shall be set out in Appendix "C". The consideration shall be paid by cash or cheque of lawful money of Canada as follows:
 - (a) -----00/100 (\$) Dollars now paid as the Option Price which is a non-refundable deposit on account of the Easement purchase price, the receipt of which is hereby acknowledged by the Transferor;
 - (b) a further deposit of (\$) Dollars to be paid on account of the Easement purchase price by the Transferee upon delivery of the notice referred to in Clause 6 of this Option, and;
 - (c) the balance of the Easement purchase price shall be paid by the Transferee on the Closing Date.

For greater clarity, the consideration outlined in this Section 2 shall also be known as "the Consideration" in Clause 1 of Appendix "C."

3. The Transferor hereby authorizes the Transferee to prepare and register a reference plan of survey of the Easement. The Transferor and the Transferee agree that if and when such survey has been prepared such legal description based on such survey shall conclusively be deemed to constitute the full, true and accurate description of the Easement and such description will be substituted for the description or the sketch of the Easement contained in this Agreement and Appendix "C".

4. The Transferor hereby agrees that the Transferee's surveyors, engineers, consultants and servants may enter on the Lands of the Transferor forthwith and at any time while this Option remains in effect for the purpose of performing soil tests, surveys, and archaeological investigations. The Transferor further hereby agrees that immediately following the giving by the Transferee of the notice referred to in Clause 6 hereof, that the Transferee shall have the immediate right in accordance with the Easement Agreement to enter and bring its equipment and equipment of its servants, agents and contractors upon the Easement to construct, maintain and operate its pipeline. It is understood and agreed that the Transferee shall be responsible for any physical damages caused to the Transferor's Lands, including but not limited to, crops, pasture, land, livestock or other property as a direct result of the exercise of the rights granted herein.
5. The option contained in this Agreement shall be exercisable by the Transferee on or before midnight on the day of 20 (hereinafter called the "Expiry Date").
6. (a) This Option may be exercised by the Transferee by letter addressed to the Transferor at which letter may be delivered to the Transferor by hand or forwarded by registered mail or delivered by courier at any time on or before, but not after the Expiry Date;

(b) The Option will be deemed exercised on the date ("Exercise Date") such notice is personally served on the Transferor, deposited in the post office, or delivered by courier.

(c) The closing Date shall be no later than 60 days following the Exercise Date ("Closing Date").
7. On the Closing Date, this Option shall, without further act or formality, operate as a grant, conveyance, sale, assignment and transfer to the Transferee as of the Closing Date of the Easement and of all of the rights and interest therein intended to be conveyed hereby all without the necessity of any further action, notice, or documentation. Transferor covenants with the Transferee that the Transferor will execute such further and other assurances and documents of title in respect of the Easement as may be reasonably required by the Transferee.
8. The Transferor covenants, represents and warrants that title to the Easement will, on the Closing Date, be good and free from all encumbrances. If prior to the Closing Date, any valid objection to title or to the fact that the proposed use of the Easement by the Transferee may not lawfully be undertaken is made in writing to the Transferor and which the Transferor is unable to remove, remedy or satisfy and which the Transferee will not waive, all monies to be paid pursuant to Clause 2(c) shall be held back by the Transferee and the Transferor shall not receive said payment until title to the Easement is transferred to the Transferee by a registered transfer of Easement free and clear of all encumbrances.
9. The Transferor covenants with the Transferee that he has the right to convey the Easement to the Transferee notwithstanding any act of the Transferor and that the Transferee shall have quiet possession of the Easement free from all encumbrances from and after the Closing Date.
10. If the Transferor is not at the date hereof the sole owner of the Lands of Transferor this Option shall nevertheless bind the Transferor to the full extent of the Transferor's interest therein and if the Transferor shall later acquire a greater or the entire interest in the Lands of Transferor, this Option shall likewise bind all such after-acquired interests.
11. The Transferor shall deliver on Closing registrable evidence of compliance of this transaction with the Family Law Act (Ontario).
12. This Option, including all the covenants and conditions herein contained, shall extend to, be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of the undersigned and the Transferee respectively; and wherever the singular or masculine is used, it shall be construed as if the plural or the feminine or the neuter, as the case may be, had been used, where the context or the party or parties hereto so require and the rest of the sentence shall be construed as if the grammatical and terminological changes thereby rendered necessary had been made.
13. (a) The Transferee represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.

(b) The Transferee covenants to deliver a Statutory Declaration, Undertaking and Indemnity confirming its HST registration number, which shall be conclusive evidence of such HST registration, and shall preclude the Transferor from collection of HST from the Transferee.

(c) The Transferee shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.

(d) The Transferee shall indemnify and save harmless the Transferor from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Option. The Transferee’s obligations under this Clause shall survive this Option.

14. It is further agreed that the Transferee shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Option or anything done or maintained by the Transferee hereunder or intended so to be and the Transferee shall at all times indemnify and save harmless the Transferor from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Transferee shall not be liable under the Clause to the extent to which such loss, damage or injury is caused or contributed to by the gross negligence or wilful misconduct of the Transferor.

DATED this day of 20

Signature (Transferor)
*
Print Name(s) (and position held if applicable)
*
*
Address (Transferor)

Signature (Transferor)
OT
Print Name(s) (and position held if applicable)
OT
Address (Transferor)

UNION GAS LIMITED

Signature (Transferee)
OT, OT
Name & Title (Union Gas Limited)
I have authority to bind the Corporation.
OT
Telephone Number (Union Gas Limited)

Additional Information: (if applicable)

Landowner Solicitor:

Telephone: _____

Tenant Farmer Information: (if applicable)

Name: _____

Address: _____

Filed: 2014-12-19
EB-2014-0261
Exhibit B.GAPLO.7
Attachment 1

Telephone: _____

APPENDIX "A"
SKETCH

APPENDIX "B"

LEGAL DESCRIPTION OF TRANSFERORS LANDS

APPENDIX "C"
PIPELINE EASEMENT



PIPELINE EASEMENT

(the "Easement")

Between OT
*
(hereinafter called the "Transferor")

and

UNION GAS LIMITED
(hereinafter 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: (LT) Legal Description: (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, 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 Part of the PIN: : Legal Description: (hereinafter called the "Lands") to survey, lay, construct, maintain, brush, clear trees and vegetation, inspect, patrol, alter, remove, replace, reconstruct, repair, move, keep, use and/or operate one pipeline for the transmission of Pipeline quality natural gas as defined in The Ontario Energy Board Act S.O. 1998 (hereinafter called 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 -----00/100 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, the 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 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. 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. It is further agreed that the Transferee shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Easement or anything done or maintained by the Transferee hereunder or intended so to be and the Transferee shall at all times indemnify and save harmless the Transferor from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Transferee shall not be liable under the clause to the extent to which such loss, damage or injury is caused or contributed to by 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 Clauses 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 Clause 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 Easement 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 Manager, Land Services 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 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 registrable 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:

OT

and to the Transferee at: Union Gas Limited
P.O. Box 2001
50 Keil Drive North
Chatham, Ontario N7M 5M1
Attention: Manager, Land Services

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 Transferor’s Land and this Easement, including all the covenants and conditions herein contained, shall extend to, be binding upon and inure 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. (a) The Transferee represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called “HST”) in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called “Excise Tax Act”), as amended.
- (b) The Transferee covenants to deliver a Statutory Declaration, Undertaking and Indemnity confirming its HST registration number, which shall be conclusive evidence of such HST registration, and shall preclude the Transferor from collection of HST from the Transferee.
- (c) The Transferee shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.
- (d) The Transferee shall indemnify and save harmless the Transferor from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Easement. The Transferee’s obligations under this Clause shall survive this Easement.

17. The Transferor hereby acknowledges that this Easement will be registered electronically.

DATED this day of 20

Signature (Transferor)
*

Print Name(s) (and position held if applicable)
OT

*

Address (Transferor)

Signature (Transferor)
OT

Print Name(s) (and position held if applicable)

OT

Address (Transferor)

UNION GAS LIMITED

Signature (Transferee)
OT, OT

Name & Title (Union Gas Limited)
I have authority to bind the Corporation.

OT

Telephone Number (Union Gas Limited)

Additional Information: (if applicable):

Property Address: OT
HST Registration Number: -

Municipality of Chatham-Kent

Province of Ontario

DECLARATION REQUIRED UNDER
SECTION 50 (3) OF THE PLANNING
ACT, R.S.O. 1990, as amended

I, _____, of the Municipality of Chatham-Kent, in the Province of Ontario.

DO SOLEMNLY DECLARE THAT

1. I am a OT, 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 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 _____ 20____

A Commissioner, etc.



OPTION FOR TEMPORARY LAND USE

(the "Option")

Between OT
(hereinafter called the "Owner")

and

UNION GAS LIMITED
(hereinafter called the "Company")

WHEREAS the Owner is the registered owner in fee simple of the lands hereinafter referred to as
PIN: Legal Description: , a portion of which are temporarily
required by the Company for the purpose of construction of one natural gas pipeline;
AND WHEREAS the Owner has agreed to grant the Company option to acquire a portion of the land for this
purpose in accordance with the specimen Temporary Land Use Agreement attached hereto as
Appendix "A" ("TLU Agreement")

1. Now therefore in consideration of the sum of ----- Dollars (\$) paid to the Owner within
Thirty (30) days of the signing of this Option by the Owner, the Owner HEREBY Grants to the
Company, its servants, agents, employees, contractors and sub-contractors and those engaged in its
and their business, an irrevocable option to acquire for itself, its successors and assigns, , the right on
foot and/or with vehicles, supplies, machinery and equipment at any time and from time to time
during the term of the TLU Agreement to enter upon, use and occupy a parcel of land (the "TLU
Lands") more particularly described on the Sketch attached hereto as **Appendix "B"** and forming
part of this Option for any purpose incidental to, or that the Company may require in conjunction with,
the construction by or on behalf of the Company of a proposed natural gas pipeline and
appurtenances adjacent to the TLU Lands.

2. The consideration to be paid for the TLU Agreement shall be ----- 00/100 Dollars (\$).
The consideration shall be paid by cheque of lawful money of Canada upon delivery of the notice
referred to in Clause 5 of this Option, and detailed as per attached **Appendix "C"**;

For greater clarity, the consideration outlined in this Section 2 shall also be known as "the
Consideration" for the TLU Agreement.

3. The Owner hereby agrees that the Company's surveyors, engineers, consultants and servants may
enter on the TLU Lands forthwith and at any time while this Option remains in effect for the purpose of
performing soil tests, surveys, archaeological investigations and any other pre-construction activities
which the Company deems necessary. The Owner further hereby agrees that immediately following the
giving by the Company of the notice referred to in Clause 5 hereof, that the Company shall have the
immediate right in accordance with the TLU Agreement to enter and bring its equipment and equipment
of its servants, agents and contractors upon the TLU Lands to construct, maintain and operate its
pipeline. It is understood and agreed that the Company shall be responsible for any physical damages
caused to the Owner's Lands, including but not limited to, crops, pasture, land, livestock or other
property as a direct result of the exercise of the rights granted herein.

4. The option contained in this agreement shall be exercisable by the Company on or before 11:59 p.m.
on the day of (hereinafter called the "Expiry Date").

5. This Option may be exercised by the Company upon delivery notice of the to the Owner at any time on
or before the Expiry Date;

6. Upon payment of the amount in clause 2, the TLU Agreement shall be in full force and effect without the necessity of any further action, notice, or documentation.
7. If the Owner is not at the date hereof the sole owner of the TLU Lands of Owner this Option shall nevertheless bind the Owner to the full extent of the Owner's interest therein and if the Owner shall later acquire a greater or the entire interest in the TLU Lands of Owner, this Option shall likewise bind all such after-acquired interests.
8. (a) The Company represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.

(b) The Company's HST registration number is 119465367RT0001.

(c) The Company shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.

(d) The Company shall indemnify and save harmless the Owner from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Option. The Company's obligations under this Clause shall survive this Option.
9. It is further agreed that the Company shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Option or anything done or maintained by the Company hereunder or intended so to be and the Company shall at all times indemnify and save harmless the Owner from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Company shall not be liable under the Clause to the extent to which such loss, damage or injury is caused or contributed to by the gross negligence or wilful misconduct of the Owner.
10. All notices required or permitted to be given hereunder shall be in writing and delivered in person or by prepaid registered mail or courier in case of the Company to:

Union Gas Limited,
50 Keil Drive North,
Chatham, ON N7M 5M1
Attn: Lands Department

and in the case of the Owner to

or to such other address as the Company and the Owner respectively may from time to time designate in writing and any such notice shall be deemed to have been given and received by the addressee on the date on which it was delivered or if mailed shall be deemed to have been given to and received by the addressee on the fifth business day following the date on which it was deposited in the mail, except in the event of interruption of mail service after mailing, in which event it shall be deemed to have been given when actually received. Where notice is given by registered mail, notice thereof shall be conclusively presumed to have occurred within 3 days of the actual date and time of mailing in the post office.
11. The Owner hereby acknowledges that Notice of this Agreement (herein called the "Notice") may be registered electronically on title by the Company and the Owner hereby authorizes the Company to complete this registration, at its expense. The Company hereby agrees and acknowledges that upon termination of these rights, a release will be prepared and registered to surrender this Notice, at its expense.

DATED this day of 20

Signature (Owner)

Print Name(s) (and position held if applicable)
OT

Address (Owner)

Signature (Owner)

Print Name(s) (and position held if applicable)

Address (Owner)

UNION GAS LIMITED

Signature (Company)

Name & Title (Union Gas Limited)

I have authority to bind the Corporation.

Telephone Number (Union Gas Limited)

Additional Information: (if applicable)

Owner Solicitor: _____

Address: _____

Telephone: _____

Tenant Farmer Information: (if applicable)

Name:

Address:

Telephone:



TEMPORARY LAND USE AGREEMENT

(the "Agreement")

Between OT
(hereinafter called the "Owner")

and

UNION GAS LIMITED
(hereinafter called the "Company")

In consideration of Dollars (\$), the Owner of PIN:

Legal Description: hereby grants to Union Gas Limited (the "Company"), its servants, agents, employees, contractors and sub-contractors and those engaged in its and their business, the right on foot and/or with vehicles, supplies, machinery and equipment at any time and from time to time during the term of this Agreement to enter upon, use and occupy a parcel of land (hereinafter called the "Lands") more particularly described on the Sketch attached hereto and forming part of this Agreement, for any purpose incidental to, or that the Company may require in conjunction with, the construction by or on behalf of the Company of a proposed natural gas pipeline and appurtenances adjacent to the Lands

1. This Agreement is granted upon the following understandings:
 - a) The rights hereby granted terminate on the day of , 20
 - b) The Company shall make to the person entitled thereto due compensation for any damages resulting from the exercise of the right hereby granted and if the compensation is not agreed upon it shall be determined in the manner prescribed by section 100 of The Ontario Energy Board Act, R.S.O. 1998 S. O. 1998, c.15 Schedule B, as amended or any Act passed in amendment thereof or substitution there of;
 - c) As soon as reasonably possible after the construction, the Company at its own expense will level the Lands, remove all debris therefrom and in all respects, restore the Lands to their former state so far as is reasonably possible, save and except for items in respect of which compensation is due under paragraph (b) and the Company will also restore any gates and fences interfered with around, (*if applicable*) the Lands as closely and as reasonably possible to the condition in which they existed immediately prior to such interference by the Company.
 - d) It is further agreed that the Company shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Agreement or anything done or maintained by the Company hereunder or intended so to be and the Company shall at all times indemnify and save harmless the Owner from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Company shall not be liable under the Clause to the extent to which such loss, damage or injury is caused or contributed to by the gross negligence or wilful misconduct of the Owner.
2.
 - a) The Company represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.
 - b) The Company's HST registration number is 119465367RT0001.
 - c) The Company shall undertake to self-assess the HST payable in respect of this transaction

pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.

- d) The Company shall indemnify and save harmless the Owner from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Agreement. The Company's obligations under this Clause shall survive this Agreement.

The Company and the Owner agree to perform the covenants on its part herein contained.

DATED this day of , 20

Signature (Owner)

Print Name(s) (and position held if applicable)
OT

Address (Owner)

Signature (Owner)

Print Name(s) (and position held if applicable)
OT

Address (Owner)

UNION GAS LIMITED

Signature (Company)

OT, OT

Name & Title (Union Gas Limited)

I have authority to bind the Corporation.

OT

Telephone Number (Union Gas Limited)

Additional Information: (if applicable)

Owner Solicitor: _____

Address: _____

Telephone: _____

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, page 1 of 4, Land Matters

Preamble: Union Gas Limited will require approximately 39 hectares (95 acres) of permanent easement of which it has already acquired 27.6 hectares (68.2 acres). Union Gas Limited will also require approximately 31 hectares (76 acres) of temporary working space.

- a) Please provide any update on the status of land rights acquisition by Union Gas Limited.
 - b) Please provide a copy of any real estate appraisal obtained by Union Gas Limited with respect to lands along the proposed route.
-

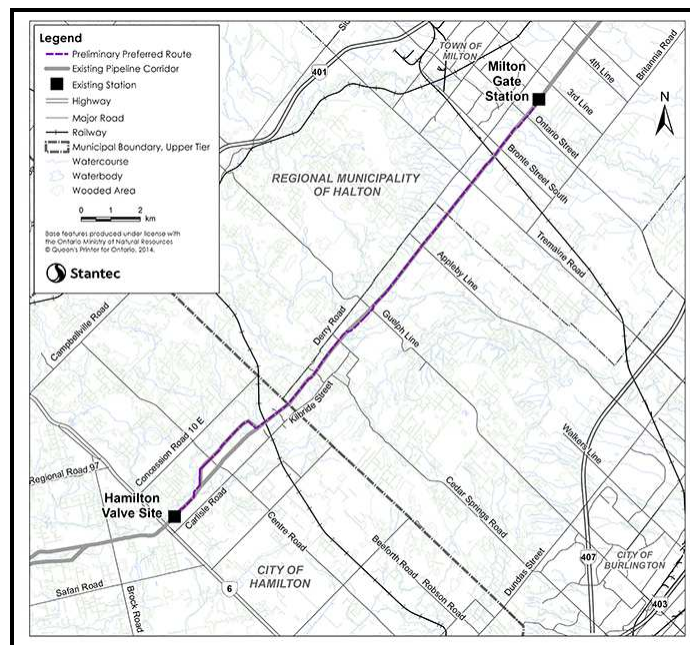
Response:

- a) Please see the response at Exhibit B.Staff.6.
- b) Please see Attachments 1 and 2 for the baseline real estate appraisals obtained by Union specific to lands along the proposed route.

SHORT NARRATIVE APPRAISAL REPORT

of the

BENCHMARK RESIDENTIAL LOT VALUES
PROPOSED HAMILTON-MILTON NPS 48 PIPELINE PROJECT
Extending from
Highway 6 at Carlisle Road, City of Hamilton (East Flamborough)
to
South of Derry Road, west of Third Line, Town of Milton



Effective Date: September 16, 2014

Prepared For
Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Prepared By
LARRY BEDFORD & ASSOCIATES LTD.
Larry W. Bedford, AACI, MAI, SRA, PLE

LARRY BEDFORD & ASSOCIATES LTD.
REAL ESTATE APPRAISERS & CONSULTANTS

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Larry@Lbedford.com

September 17, 2014

Our File No. 2659B

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Re: Short Narrative Appraisal Report
Benchmark Residential Lot Values
Proposed Hamilton-Milton NPS 48 Pipeline Project
Highway 6 to Twiss Road, Cities of Hamilton (East Flamborough) & Burlington

Dear Sir:

In accordance with your request, I have inspected various properties (from the roadside only) within the proposed route of an existing gas pipeline to extend from the Union Gas Hamilton Valve Site located near Highway 6 at Carlisle Road, in the City of Hamilton (East Flamborough), to the existing Union Gas Milton Gate Station located south of Derry Road between Ontario Street and Third Line, in the Town of Milton, in the Province of Ontario. Furthermore, I have conducted the required investigation, gathered the necessary data and made certain analyses that have enabled me to express an opinion of the market value(s) of the fee simple interest of a typical benchmark residential lot of varying size, as if vacant and unimproved, and as of the *5th day of August, 2014*, the effective date of valuation.

The proposed area of this benchmark analysis extends from Highway 6 in the west to Twiss Road in the east.

This appraisal report was prepared as a "Short Narrative Appraisal Report" in accordance with the *Canadian Uniform Standards of Professional Appraisal Practice (CUSPAP)* for the Appraisal Institute of Canada. This report discusses the data, reasoning and analysis upon which the appraiser's opinion of value is based; however, some of the supporting documentation remains on file. Various extraordinary assumptions and limiting conditions are set out in Section 2.4 of this report.

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited

September 17, 2014

Based upon an inspection of various properties and the investigation and analysis undertaken, I have formed an opinion of the market value(s) of the fee simple interest of a typical benchmark residential lot in the size classification of 0-1 acres; 1-3 acres and 3-5 acres, as if vacant and unimproved, and as of the *16th day of September, 2014*.

Subject to the assumptions and limiting conditions set out in the body of this report, the estimated market value(s) of a typical benchmark residential lot of varying size, as stated in Canadian dollars, and in terms of cash, or in terms of financial arrangements equivalent to cash, is as follows:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Typical Site Features	Topography	Land Use Designation	Benchmark Value \$
Up to 1 acre	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000
1 to 3 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000 to \$300,000
3 to 5 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$300,000 to \$350,000

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited

September 17, 2014

The following report plus addenda sets forth the identification of the property, the assumptions and limiting conditions, pertinent facts about the area and the subject property, comparable data, the results of the investigation and analysis, and the reasoning leading to the conclusions. This report is not valid unless an original signature is evident and I have enclosed one (1) original copy and one (1) electronic copy addressed to Mr. Merv Weishar, Senior Land Agent, Union Gas Limited, for their use in establishing a budget for the proposed pipeline project.

To the best to my knowledge all information is correct, subject to the limiting conditions set out in this report.

Yours truly,

LARRY BEDFORD & ASSOCIATES LTD.

A handwritten signature in cursive script, appearing to read "Larry Bedford".

Per:

Larry W. Bedford, AACI, MAI, SRA, PLE

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1.0 EXECUTIVE SUMMARY

Report Format:	Short Narrative Appraisal Report
Purpose & Intended Use:	To derive a benchmark value for a typical residential lot having a lot size from 0 to 5 acres, <i>as if vacant and unimproved</i>, along the proposed route of the Union Gas utility project. The intended use of this valuation is to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.
Effective Date:	This valuation applies as of the <i>16th day of September, 2014</i> , the date on which the subject area was most recently physically inspected.
Properties Appraised:	The benchmark determination applies to various properties extending from Highway 6 in the west to Twiss Road in the east.
PIN's:	Various (as provided)
Property Owners:	Various (as provided)
Land Use Designations:	The various properties along the proposed route of the Union Gas utility project are located, in part, within the <i>Greenbelt Plan</i>, in part, within the <i>Niagara Escarpment Plan</i> and, in part, within the <i>Town of Milton Official Plan</i> and are designated as follows: - <u>Greenbelt Plan</u> Protected Countryside with Natural Heritage System overlay - <u>Niagara Escarpment Plan</u> Escarpment Rural Area; Escarpment Protection Area; Escarpment Natural Area - <u>Town of Milton Official Plan</u> Agricultural Area

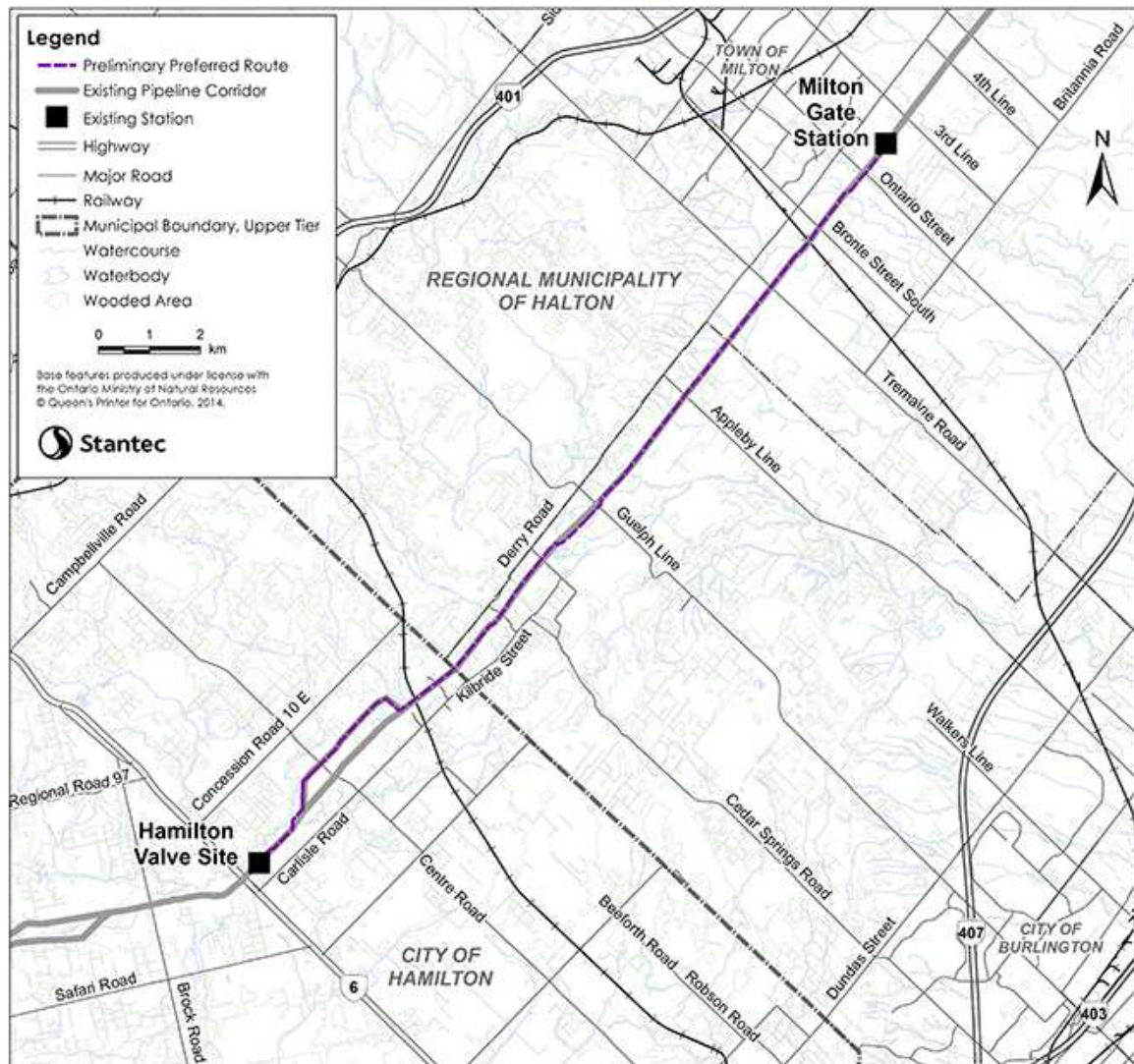
1.0 EXECUTIVE SUMMARY

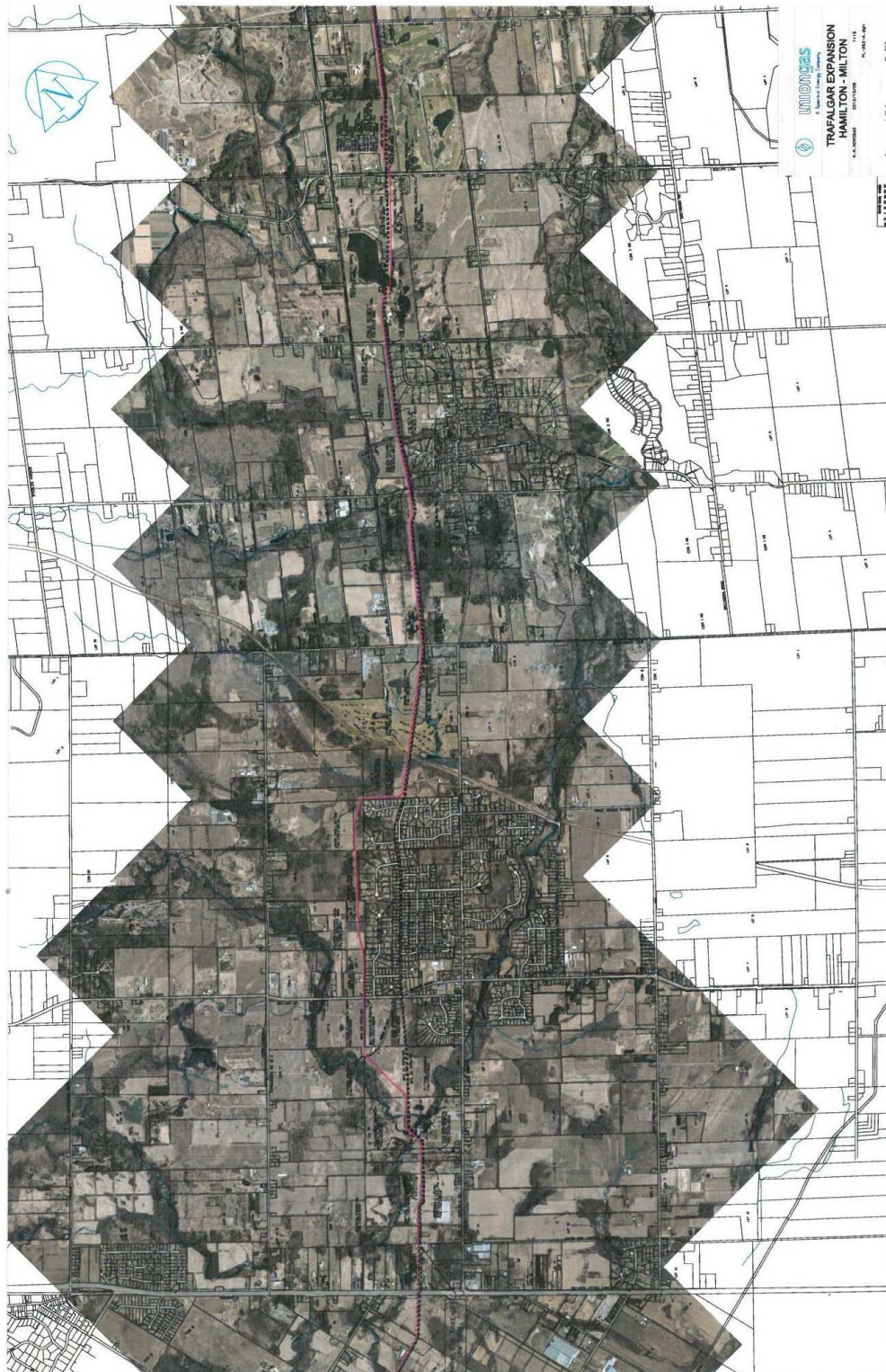
Description of Improvements: The benchmark site was valued as though vacant and unimproved.

Highest and Best Use Estimate: Single family residential re-development

Final Benchmark Value Estimate(s):

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Typical Site Features	Topography	Land Use Designation	Benchmark Value \$
Up to 1 acre	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000
1 to 3 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000 to \$300,000
3 to 5 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$300,000 to \$350,000





2.0 INTRODUCTION

2.1 Purpose and Intended Use of Appraisal

The purpose of this appraisal is to derive a benchmark value for a typical residential lot of varying size, *as if vacant and unimproved*, along the proposed route of the Union Gas utility project.

The intended use of this valuation is to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.

The proposed route of the pipeline is between the existing Union Gas Hamilton Valve Site at Highway 6 and Carlisle Road, in the City of Hamilton (East Flamborough) and the existing Union Gas Milton Gate Station located south of Derry Road between Ontario Street and Third Line, in the Town of Milton.

2.2 Property Rights Appraised

The property rights appraised are the real properties, in fee simple, apart from any existing financing, yet subject to the usual statutory powers of the various levels of government. The benchmark determination applies to various properties within the route extending from Highway 6 in the west to Twiss Road in the east.

2.3 Terms of Reference

I have been asked to provide a "base line" appraisal (defined in this report as "benchmark" value) in a Short Narrative Report to derive a benchmark value for a typical residential lot along the route of the proposed Union Gas project as if vacant and unimproved.

2.0 INTRODUCTION

2.4 Extraordinary Assumptions and Limiting Conditions

The purpose of this appraisal is to derive a benchmark value for a typical residential lot of varying size, *as if vacant and unimproved*, along the proposed route of the Union Gas utility project.

It is assumed that the benchmark site has characteristics which are typical among the properties being considered. The typical lot is level, rectangular and moderately treed. It is further assumed that no other conditions exist that would affect the concluded value(s) other than those stated in this report. The conclusions are general and do not apply to any specific property in the rural district.

The benchmark value does not include development charges or site services and outlines the benchmark lot value only.

2.5 Scope of Investigation

In order to complete this appraisal in accordance with the *Canadian Uniform Standards of Professional Appraisal Practice*, I have undertaken a level of investigation that is appropriate for the complexity and significance of the appraisal problem and the intended use of the appraisal. The extent of the process undertaken is deemed necessary to complete this appraisal assignment and is as follows:

- The subject area was inspected on various occasions; initially on the *5th day of August, 2014*, and most recently on the *16th day of September, 2014*.
- Various information sources were examined in search of comparable sales. The sales selected as relevant from Registry Office (Teraview) data, Geowarehouse and the Hamilton Real Estate Board (MLS) have been examined and inspected. I have also reviewed various information sources available by subscription. Where possible, the circumstances surrounding these sales were confirmed with at least one party to the transaction.
- The Greenbelt Plan, the Niagara Escarpment Plan and the Milton Official Plan were reviewed to determine the land use designations for the various properties within the proposed route of the Union Gas utility project, as well as the comparable sales researched.
- The characteristics of a typical benchmark site were determined.

2.0 INTRODUCTION

2.5 Scope of Investigation - Continued:

- Discussions were held with various realtors knowledgeable in the area to supplement our comprehensive data bank on sales data.
- Development trends, economic and real estate market conditions (in relation to the subject parcels) existing as of the effective date were reviewed.
- The physical, functional and economic characteristics of the subject parcels were considered.
- The specific sales deemed relevant were analyzed.
- The real estate market and specific sales and listings of properties located in the subject area were discussed with certain realtors.
- A review of published market data and other public information (as contained in our files) as it relates to the real estate market in which the subject area is situated was conducted.
- All of the data was then reconciled into an estimate of market value for a typical benchmark site being appraised.
- In estimating the Highest and Best Use for the subject area, an analysis was made of data compiled in the steps noted above.
- A review and analysis of the appraisal methodologies and procedures employed in processing, collecting and analyzing market data into an indication of market value for the subject benchmark site, as of the effective date of the appraisal, was conducted.
- After assembling and analyzing the data defined in this scope of the appraisal, a final estimate of market value was concluded for a typical benchmark site.

2.0 INTRODUCTION

2.6 Effective Date

The value(s) and analysis reported herein are effective as of the *16th day of September, 2014*, the date on which the subject area was most recently physically inspected.

2.7 Definition of Market Value

For the purpose of this valuation, market value is defined as follows:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- 1) buyer and seller are typically motivated;*
- 2) both parties are well informed or well advised, and acting in what they consider their best interests;*
- 3) a reasonable time is allowed for exposure in the open market;*
- 4) payment is made in terms of cash in Canadian dollars, or in terms of financial arrangements comparable thereto; and*
- 5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

2.8 Reasonable Exposure Time

The definition of market value assumes that the property has been exposed to the market for sale or lease for a reasonable period of time, estimated to be *3 weeks to 6 months* as of the effective date of valuation. This marketing time is the estimated period the property would have been exposed to the market prior to the hypothetical completion of an arm's length sale or lease. It precedes the effective date of valuation, which is the *16th day of September, 2014*, and is primarily based on the consideration of past market events and analysis of trends relevant to the type of real property being appraised.

3.0 SITE AND IMPROVEMENT DESCRIPTION

3.1 Site Description

For the purpose of this report, it is assumed that the benchmark site has characteristics which are typical among the properties being considered. The typical lot is level, rectangular, moderately treed, with well and septic in place and with development charges not owing.

3.2 Municipal Services & Utilities

Rural services and utilities only are available to this rural district. The utilities include hydro, telephone, paved roads, street lighting, while the services include police and fire protection, etc. Each of the properties is served by on-site private water and wastewater utilities.

3.3 Site Access

The typical property has full, fee simple, access to a 2-lane paved municipal roadway.

3.4 Land Use Controls

The Province has assigned much of the planning process to the Regional Municipalities and individual constituent municipalities; apart, however, from overall Provincial planning mandates such as Conservation Authority plans and the Parkway Belt West Plan.

The various properties along the proposed route of the Union Gas utility project are located, in part, within the *Greenbelt Plan*, in part, within the *Niagara Escarpment Plan* and, in part, within the *Town of Milton Official Plan* and are designated as follows:

- Greenbelt Plan
Protected Countryside with Natural Heritage System overlay
- Niagara Escarpment Plan
Escarpment Rural Area; Escarpment Protection Area; Escarpment Natural Area
- Town of Milton Official Plan
Agricultural Area

3.0 SITE AND IMPROVEMENT DESCRIPTION

3.4 Land Use Controls - Continued:

The *Greenbelt Plan* was established under Section 3 of the *Greenbelt Act, 2005*, to take effect on December 16, 2004; approved by the Lieutenant Governor in Council on February 28, 2005.

The **Protected Countryside** designation covers the entire Greenbelt area. The **Natural Heritage System** includes areas of the Protected Countryside with the highest concentration of the most sensitive and/or significant natural features and functions. For lands within the Natural Heritage System of the Protected Countryside, *the full range of existing and new agricultural, agricultural-related and secondary uses and normal farm practices* are permitted, subject to policies set out in the Greenbelt Plan.

The *Niagara Escarpment Plan* was approved by the Lieutenant Governor on June 1, 2005, and consolidated as of June 12, 2014.

Permitted uses within the **Escarpment Rural Area** and **Escarpment Protection Area** include agricultural operations; existing uses; single dwellings; mobile or portable dwelling unit(s) accessory to an agricultural operation; accessory buildings, structures and facilities (e.g. a garage or farm pond) and the site modifications required to accommodate them; small scale commercial uses accessory to agricultural operations; home occupations, cottage industries and home industries. All permitted uses are subject to the development criteria outlined in Part 2 of the *Niagara Escarpment Plan*.

Escarpment features which are in a relatively natural state, and associated stream valleys, wetlands and forests which are relatively undisturbed are included within the **Escarpment Natural Area**.

The **Agricultural Area** designation in the *Town of Milton Official Plan* permits one single family residential dwelling, agricultural and various other related uses.

3.5 Description of Improvements

For the purpose of this report, it is assumed that the benchmark site is vacant and unimproved.

4.0 HIGHEST AND BEST USE

Fundamental to the concept of value is the principle of Highest and Best Use, which may be defined as:

"that use of property which will most likely produce the greatest net return to the land over a given period of time".

A proper interpretation of the foregoing includes the realization that in addition to a property being physically adaptable for a specific use, there must be a demand for it, and such use must be legally permitted by zoning ordinances, by-laws, etc., or at least be potentially permissible. Therefore, the highest and best use analysis should reflect the three practical tests of physical possibility, financial feasibility and legal permissibility.

In estimating the highest and best use of the subject property, I have considered the following criteria.

- 1) The use must be legal and in compliance with zoning and building restrictions.
- 2) The use must be within the realm of probability, a likely one, not speculative or conjectural.
- 3) A demand for such a use must exist.
- 4) The use must be profitable.
- 5) The use must provide the highest net return to the land for the longest possible time.

The utilization of land generally tends to flow to the "highest and best use". The actual use at any given time does not necessarily represent its "highest and best use"; however, the value of the land is not affected by the reluctance, indifference or ignorance of an owner to utilize the land so as to produce the greatest net return.

In estimating the highest and best use for which a property is adaptable and in demand (or likely to be in demand) an appraiser must consider the extent the prospect of such use affects the market value of the land. Elements which affect the timing of the realization of the property's potential should be given weight only in relation to the extent that a typical prudent and informed purchaser would reflect these elements in the price he would be prepared to pay.

4.0 HIGHEST AND BEST USE

4.1 Highest and Best Use - Benchmark Property

The purpose of this appraisal is to estimate the market value of a benchmark vacant residential lot based upon various criteria.

The majority of the area that is under consideration in this report is developed with agricultural or rural residential development, and hydro and gas line utility uses. Development tends to be century farm house buildings interspersed with newer residential buildings on smaller lots.

Given the nature of the district, the "highest and best use" of the benchmark lands "as vacant and unimproved" is considered to be for re-development with a single family residence.

5.0 VALUATION THEORY

The valuation process is the orderly programme in which data used to estimate the value of the subject property is acquired, classified, analyzed and presented.

5.1 Approaches to Value

There are three accepted methods of valuing real property:

- 1) Direct Comparison Approach
- 2) Cost Approach, and
- 3) Income Approach

The selection of a relevant methodology depends upon the nature and characteristics of the real estate under appraisal.

The **Direct Comparison Approach** is based upon the "Principle of Substitution" which implies that a prudent purchaser will not pay more to buy or rent a property than what it will cost him to buy or rent a comparable substitute property. This approach to value recognizes that the typical buyer will compare properties which constitute the market for a given type and class.

The Direct Comparison Approach is used to estimate the value of the land as though vacant and/or the property as improved. The appraiser gathers data on sales and listings of comparable properties and analyzes the nature and conditions of each sale or listing, making logical adjustments for dissimilar characteristics. Typically, a common denominator is found. For land value, the unit of comparison is usually price per square foot or price per acre; for improved properties, it may be price per square foot, price per unit, or a gross rent multiplier. The Direct Comparison Approach produces a good indication of value when sales of similar properties are available.

The **Cost Approach** is based upon the principle that a prudent purchaser will not pay more for a property than the cost to reproduce it, provided it can be reproduced without costly delay.

In this approach, the value of the major components of the property, building, building services and yard improvements are calculated separately. The land value is estimated from available market data, while the reproduction cost new of the improvements, as of the effective valuation date, is estimated from reliable cost indices.

Depreciation from all sources is then deducted from the reproduction cost and the resultant depreciated cost is added to the land value. The value obtained from the sum of these values is the estimated current market value.

5.0 VALUATION THEORY

5.1 Approaches to Value - Continued:

The **Income Approach**, or capitalization method of valuation, is an approach whereby the estimated annual net income produced by a property is capitalized at an appropriate rate established by the market, into an indication of the property's capital value.

Capitalization, in the appraisal of real estate, may be defined as the process of converting into a present worth a series of anticipated future installments of income(s) by the application of a factor, referred to either as a capitalization rate or a yield rate depending upon the process used. More than one rate may be embodied in the factor; a rate providing for interest on the investment, as well as one providing for the recapture of invested capital.

5.2 Valuation Methods Employed

In this valuation, I have relied exclusively upon the Direct Comparison Approach in the estimate of value concluded herein.

Neither the Cost Approach nor the Income Approach is appropriate in estimating the value of the typical subject property as vacant and unimproved.

Valuation

Direct Comparison Approach

6.0 DIRECT COMPARISON APPROACH

6.1 Description of Sales

The sales which have been researched and which form the basis of the Direct Comparison Approach are described on a benchmark comparable sales chart found on Page 24 of this report. I have analyzed comparable properties ranging from 0.345 to some 42.60 acres in size. Each of the comparable sales researched is identified on the comparable sales map found on Page 25 of this report.

Based upon this summary analysis, I have concluded a value as if vacant and unimproved for the benchmark residential lot. I have inspected and photographed each of the comparable sales with one photograph of each included in the Addenda of this report as *Schedule No. 1* and (where available) I have also included MLS feature sheets of the comparable sales.

In comparing sales of properties having physical differences, it is important to find a common unit of value. For the purpose of this report, I have considered the overall sale price as the most germane common unit of value.

Each of the sales must be adjusted to allow for differences between the subject property and the comparable sales. The sales are initially adjusted for property rights, financing, conditions of sale, and then for market conditions (time). The adjustment for market conditions (time) is based upon property sales and re-sales as shown on the chart found on Page 23 of this report. I have reviewed the sale and re-sale price trend of various comparable sales and have concluded that a typical trend for appreciation of sales price for vacant parcels throughout the study area is 6.30% per annum.

After a market conditions (time) adjustment is made, the market factored value is then further adjusted for various other physical, locational and statutory differences.

Elements of comparison are the characteristics of properties and transactions that cause the prices paid for real estate to vary. The appraiser considers and compares all reasonable differences between the comparable properties and the subject property that could affect their values. Market evidence should be tested to identify the variable elements to which property values are especially sensitive. Adjustments for differences are made to the price of each comparable property to make the comparables equal to the subject on the effective date of the value estimate.

6.0 DIRECT COMPARISON APPROACH

6.1 Description of Sales - Continued:

When making adjustments, a certain order must be followed. This is necessary because some adjustments can be calculated on a lump sum or dollar basis, and others will be done on a percentage basis. The question arises as to whether the percentage amount should be taken on the original price or on the adjusted price, where lump sum adjustments are made.

The following sequence of adjustments should be used:

Original Sale Price
(Compounded Adjustments)
Real Property Rights Conveyed
Financing Terms
Conditions of Sale
Market Conditions
Interim Adjusted Sale Price

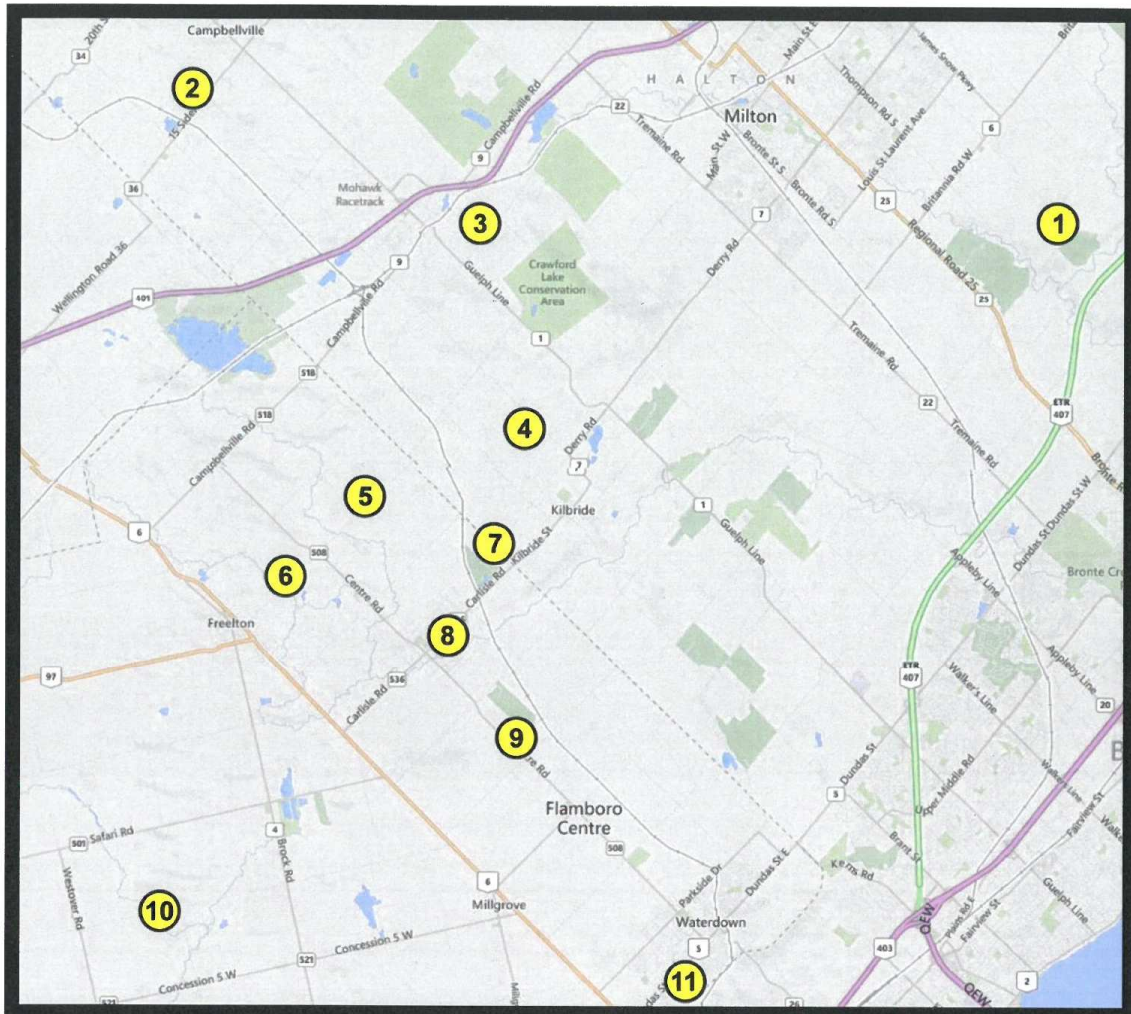
(Cumulative Physical Adjustments)
Location
Physical Characteristics
Economic Characteristics
Use
Non-Realty Components of Value
Final Adjusted Sale Price

By doing this, the appraiser calculates the selling prices at various stages and then applies the next set of adjustments to the previously adjusted selling price.

Analysis of Sales & Re-Sales			
Address	Sale Date Sale Price	Re-Sale Date Re-Sale Price	Rate of Annual Property Appreciation
Pt Lot 13, Tremaine Rd Milton	16-Apr-2008 \$1,687,400	8-Aug-2012 \$2,191,102	6.25%
7244 Twiss Rd Milton	10-Sep-2007 \$1,400,000	11-Jan-2013 \$2,000,000	6.91%
1180 Third Sideroad Milton	9-Feb-2012 \$780,000	15-Nov-2012 \$860,000	13.58%
437 6th Con Rd E Flamborough	21-Feb-2007 \$930,000	8-Aug-2013 \$1,300,000	5.32%
77 Campbellville Rd Flamborough	30-Oct-1997 \$450,000	20-Sep-2013 \$1,240,000	6.59%
156 Puslinch Line Hamilton	30-May-1994 \$377,500	4-Apr-2013 \$855,000	4.43%
1122 #97 Regional Rd Flamborough	30-Jul-2003 \$475,000	23-Aug-2012 \$840,000	6.49%
992 #97 Regional Rd Flamborough	22-Mar-2005 \$250,000	6-Mar-2013 \$850,000	16.63%
65 7th Con Rd E Hamilton	26-Jun-2001 \$402,000	16-Apr-2012 \$760,000	6.07%
11415 Sixth Line Milton	24-Jul-1998 \$180,000	30-May-2014 \$715,000	9.09%
2373 2nd Con Rd W Flamborough	29-Sep-2006 \$450,000	23-Jan-2014 \$545,000	2.65%
449 Binbrook Rd E Hamilton	10-Sep-1985 \$125,000	29-Aug-2013 \$951,000	7.52%
12364 Second Line Milton	26-Sep-1997 \$393,500	31-Jul-2013 \$936,500	5.62%
1778 Hwy 5 W Flamborough	15-Oct-1993 \$225,000	10-Oct-2012 \$569,000	5.01%
5615 Campbellville Rd Milton	29-Oct-1999 \$600,000	27-Sep-2012 \$1,400,000	6.78%
13670 Britannia Rd E Milton	27-Apr-2006 \$1,625,000	31-Jul-2012 \$2,650,000	8.12%
Overall Mean = 6.48% (excl. upper & lower outliers) * / Since 2000: Mean = 6.21% (excl. upper & lower outliers) *			
Overall Median = 6.49% (excl. upper & lower outliers) * / Since 2000: Median = 6.25% (excl. upper & lower outliers) *			
6.30% compounded annual rate of appreciation concluded			

BENCHMARK COMPARABLE SALES - RESIDENTIAL LOTS											
Sale No.	Address	Sale Date	Sale Price Time Adj. \$	Lot Size (Acres)	Land Use Designation	Adjustments				Adjusted Lot Value Range From/To \$	Comments
						Location	Improvements	Dev. Charges	Site Features		
11	117 Rockcliffe Rd Flamborough	1-Dec-2012	\$475,000 \$529,854	0.345	Greenbelt Towns & Villages	-	-	Ø	Ø	\$210,000 \$220,000	75' x 205' lot with view of escarpment. Treed at rear. Located south of Dundas St in Watertown. Now improved with stone/brick dwelling.
6	71 11th Con Rd E Flamborough	12-May-2014	\$235,000 \$239,957	0.998	Greenbelt Protected Countryside (NHS overlay)	Ø	+	Ø	+	\$215,000 \$325,000	Near 1 acre lot with abandoned house (damaged by fire) located east of Hwy 6.
1	5084 Fourth Line Milton	22-Jul-2014	\$515,000 \$519,653	1.00	Agricultural Area	-	+	Ø	Ø	\$280,000 \$290,000	200' x 218' lot close to Angels View golf course on west side of Fourth Line, north of Lower Base Line. Land value only. House sold "as is". Surrounded by corn field. Treeless, featureless lot.
5	11th Con Rd E Flamborough	14-Feb-2014	\$214,000 \$221,802	1.037	Greenbelt Protected Countryside (NHS overlay)	Ø	Ø	+	+	\$210,000 \$220,000	150' x 300' lot located east of Centre Rd and west of Milborough Line. Lot slopes down from street. Across from estate residence, beside horse farm.
2	11036 Second Line Milton	17-Jan-2013	\$319,000 \$353,072	1.622	Greenbelt Protected Countryside (Village Residential Zone)	Ø	Ø	+	+	\$280,000 \$290,000	147' x 479' lot with rural setting on west side of Second Line, one lot north of 15 Sideroad. Near Campbellville. Large dwelling currently being constructed.
4	7244 Twiss Rd Milton	3-Apr-2014	\$450,000 \$462,543	2.06	Niagara Escarpment Plan Escarpment Rural Area	-	Ø	Ø	+	\$340,000 \$350,000	Scenic 2.06 acre lot in Kilbride area. Located on quiet country road in area of estate homes. Panoramic view.
9	1130 Centre Rd Flamborough	16-Sep-2013	\$376,000 \$399,619	3.14	Greenbelt Protected Countryside	+	+	Ø	+	\$380,000 \$390,000	199' x 653' lot on east side of Centre Rd, west of Milborough Line. According to listing, house sold "as is". Treed lot with large dwelling currently being constructed.
10	1174 6th Con Rd W Flamborough	23-Aug-2012	\$405,000 \$459,347	5.367	Greenbelt Protected Countryside (NHS overlay)	-	Ø	Ø	+	\$360,000 \$370,000	Irregular shaped lot south of Safari Rd, between Middletown Rd & Westover Rd. Improved with century dwelling. Surrounded by open fields, forested area & stream.
8	348 Carlisle Rd Flamborough	30-May-2014	\$800,000 \$814,383	5.96	Greenbelt Protected Countryside	-	Ø	+	Ø	\$560,000 \$570,000	"L" shaped lot on south side of Carlisle Rd, adjacent to the corner of Creekview Crt. Estate lot surrounded by other estate type homes. Fenced lot, backs onto conservation land.
7	1521 Milborough Line Flamborough	9-May-2014 (Reg'd)	\$1,699,000 \$1,735,720	10.753	Greenbelt Protected Countryside	Ø	Ø	+	Ø	\$1,300,000 \$1,400,000	"L" shaped lot on west side of Milborough Line, across from Derry Rd. Currently a vegetable farm.
3	3123 Limestone Rd Milton	5-Jun-2012 (Reg'd)	\$1,500,000 \$1,723,953	42.60	Niagara Escarpment Plan Escarpment Protection & Escarpment Natural Area	-	Ø	+	Ø	\$1,500,000 \$1,600,000	"L" shaped lot located on north side of Limestone Rd, east of Guelph Line, some 2.2 km south & east from the interchange of Hwy 401 & Guelph Line (Main St). Village of Campbellville to north. Majority of site is mature deciduous forest with small pond and 2 clearings at the end of a long driveway from Limestone Rd.

Comparable Sales Map - Residential Lots



- | | | |
|-----------------------------|----------------------------------|-------------------------------|
| ① 5084 Fourth Line, Milton | ⑤ 11th Con Rd E, Flamboro | ⑨ 1130 Centre Rd, Flamboro |
| ② 11036 Second Line, Milton | ⑥ 71 11th Con Rd E, Flamboro | ⑩ 1174 6th Con Rd W, Flamboro |
| ③ 3123 Limestone Rd, Milton | ⑦ 1521 Milborough Line, Flamboro | ⑪ 117 Rockcliffe Rd, Flamboro |
| ④ 7244 Twiss Rd, Milton | ⑧ 348 Carlisle Rd, Flamboro | |

6.0 DIRECT COMPARISON APPROACH

6.2 Analysis

I have considered various residential lot sales in the former Town of Flamborough and neighbouring Town of Milton. These sales offer some guidance as to the value of a typical subject property.

Based upon the sales researched and summarized on the previous chart, I have conducted an analysis to determine the market value of a typical benchmark rural residential lot of varying size, as if vacant and unimproved. Any difference in unit price can be attributed to various physical differences, as well as man-made improvements to the site.

6.3 Conclusions

The relevant sales once adjusted for market conditions and for various other physical features result in adjusted values ranging from **\$210,000 to \$1,600,000**. Based upon this information, I have concluded my benchmark value estimates of the fee simple interest of a typical residential lot, as if vacant and unimproved, as estimated by the Direct Comparison Approach, and as of the *16th day of September, 2014*, as illustrated on the following chart:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Typical Site Features	Topography	Land Use Designation	Benchmark Value \$
Up to 1 acre	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000
1 to 3 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000 to \$300,000
3 to 5 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$300,000 to \$350,000

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- 1) This report has been prepared by *Larry Bedford & Associates Ltd.*, at the request of the *Union Gas Limited (Mr. Merv Weishar)* for the purpose of *deriving a benchmark value for a typical residential lot of varying size, as if vacant and unimproved, to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.* It is not reasonable for any person other than those addressed in this report to rely upon this appraisal without first obtaining written authorization from the *Union Gas Limited* and *Larry Bedford & Associates Ltd.* There may be qualifications, assumptions or limiting conditions in addition to those set out below relevant to that person's identity or intended use. This report is prepared on the assumption that no other person will rely on it for any other function and that all liability to all such persons is denied.
- 2) This appraisal is subject to revision upon the presentation of data, which might be later made available, that is undisclosed or unavailable at the completion date of this report.
- 3) Possession of this report, or a copy thereof, does not carry with it the right to reproduction or publication in any manner, in whole or in part, nor may it be disclosed, quoted from or referred to in any manner, in whole or in part, without prior written consent and approval of *Larry Bedford & Associates Ltd.*, as to the purpose, form and content of any such disclosure, quotation or reference.
- 4) The estimated market value of the real estate which is the object of this appraisal pertains to the value of the fee simple interest in the real property. The property rights appraised herein exclude mineral rights, if any.
- 5) The concept of market value presumes reasonable exposure. The exposure period is the estimated length of time the asset being valued would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of valuation. The overall concept of reasonable exposure encompassed not only adequate, sufficient and reasonable time, but also adequate, sufficient and reasonable effort. The reasonable exposure period is a function not only of time and effort, but will depend on the type of asset being valued, the state of the market at the date of valuation, and the level at which the asset is priced.
- 6) The estimate(s) of value contained in this report is founded upon a thorough and diligent examination and analysis of information gathered and obtained from numerous sources. Certain information has been accepted at face value; especially if there was no reason to doubt its accuracy. Other empirical data required interpretative analysis pursuant to the objective of this appraisal. Certain inquiries were outside the scope of this mandate. For these reasons, the analyses, opinions and conclusions contained in this report are subject to the following conditions:

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- (a) The property has been valued on the basis that title to the real estate herein appraised is good and marketable.
- (b) The author of this report cannot accept responsibility for legal matters, questions of survey, opinions of title, hidden or unapparent conditions of the property, toxic wastes or contaminated material, soil or sub-soil conditions, environmental, engineering or other technical matters which might render this property more or less valuable than as stated herein. If it came to our attention as the result of our investigation that certain problems may exist, a cautionary note has been entered in the body of this report.
- (c) The legal description of the property and the area of the site were obtained from the Land Registry Office. Further, the plans and sketches contained in this report are included solely to aid the recipient in visualizing the location of the property, the configuration and boundaries of the site, and the relative position of the improvements on the said lands.
- (d) The property has been valued on the basis that the real estate is free and clear of all value influencing encumbrances, encroachments, restrictions or covenants except as may be noted in this report, and that there are no pledges, charges, liens or special assessments outstanding against the property other than as described herein.
- (e) The property has been valued on the basis that there are no outstanding liabilities except expressly noted herein, pursuant to any agreement with a municipal or other governmental authority, or to any contract or agreement pertaining to the ownership and operation of the real estate or to any lease or agreement to lease, which may affect the stated value or saleability of the subject property or any portion thereof.
- (f) The property has been appraised on the basis that the real estate complies in all material respects with all restrictive covenants affecting the site and has been built, is occupied and is being operated, in all material respects, in full compliance with all requirements of the law, including zoning, land use classification, building, planning, fire and health by-laws, rules, regulations, orders and codes of all federal, provincial, regional and municipal governmental authorities having jurisdiction with respect thereto.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- (g) Investigations have been undertaken in respect of matters which regulate the use of land. However, no inquiries have been placed with the fire department, the building inspector, the health department or any other government regulatory agency, unless such investigations are expressly represented to have been made in this report. The subject property must comply with such regulations and if it does not comply, its non-compliance may affect the market value of this property. To be certain of such compliance, further investigations may be necessary.
 - (h) The property has been valued on the basis that there is no action, suit, proceeding or investigation pending or threatening against the real estate or affecting the titular owner of the property, at law or in equity, or before or by any federal, provincial or municipal department, commission, board, bureau, agency or instrumentality which may adversely influence the value of the real estate herein appraised.
 - (i) The data and statistical information contained herein were gathered from reliable sources and are believed to be correct. However, this data is not guaranteed for accuracy, even though every attempt has been made to verify the authenticity of this information as much as possible.
- 7) The estimated market value of the property does not necessarily represent the value of the underlying shares, if the asset is so held, as the value of the shares could be affected by other considerations. Further, the estimated market value does not include consideration of any extraordinary financing, rental or income guarantees, special tax considerations or any other typical benefits which may influence the ordinary market value of the property, unless the effects of such special conditions and the extent of any special value that may arise therefrom, have been described and measured in this report.
- 8) Should the title to the real estate presently be held (or changed to a holding) by a partnership, in a joint venture, through a co-tenancy arrangement or by any other form of divisional ownership, the value of any fractional interest associated therewith may be more or less than the percentage of ownership appearing in the contractual agreement pertaining to the structure of such divisional ownership.
- 9) The estimated market value of the property referred to herein is predicated upon the condition that it would be sold on a cash basis to the vendor and subject to any contractual agreements and encumbrances as noted in this report. Other financial arrangements, good or cumbersome, may affect the price at which this property might sell in the open market.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- 10) Should the author of this report be required to give testimony or appear in court or at any administrative proceeding relating to this report, prior arrangements shall be made thereof, including provisions for additional compensation to permit adequate time for preparation and for any appearances which may be required. However, neither this nor any other of the contingent and limiting conditions is an attempt to limit the use that might be made of this report should it properly become evidence in a judicial or quasi-judicial proceeding. In such a case, it is acknowledged that it is the adjudicating body which will decide the use of this report which best serves the administration of justice.
- 11) Because market conditions, including economic, social and political factors change rapidly and, on occasion, without warning or notice, the estimate of market value expressed herein cannot be relied upon as of any date other than the effective date of this appraisal, without subsequent advice of the author of this report.
- 12) The distribution or allocation of the appraisal value between land, buildings and other improvements, or between any other classification of tangible or intangible assets, applies only in regard to the purpose and function of this appraisal, as outlined in the body of this report.
- 13) It is assumed that there is no environmental contamination of the soil; that the sewage disposal systems meet current Ministry of the Environment standards; and that none of the buildings contain any environmentally hazardous substances, such as UFFI. No environmental audit of the site or buildings was conducted by the appraiser or made available to the appraiser. If any soil or any of the buildings are contaminated, it would have an adverse effect on the market value.
- 14) The appraiser is not qualified to comment on environmental issues that may affect the market value of the property appraised, including but not limited to pollution or contamination of land, buildings, water, groundwater or air. Unless expressly stated, the property is assumed to be free and clear of pollutants and contaminants, including but not limited to moulds or mildews or the conditions that might give rise to either, and in compliance with all regulatory environmental requirements, government or otherwise, and free of any environmental condition, past, present or future, that might affect the market value of the property appraised. If the party relying on this report requires information about environmental issues then that party is cautioned to retain an expert qualified in such issues. We expressly deny any legal liability relating to the effect of environmental issues on the market value of the property appraised.
- 15) The value(s) expressed herein are in Canadian dollars.

8.0 FINAL ESTIMATES

After carefully weighing and analyzing all available data, it is my opinion that the estimated market value(s) of the fee simple interest of a typical benchmark residential lot of varying size, as if vacant and unimproved, and as of the *16th day of September, 2014*, is as follows:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Typical Site Features	Topography	Land Use Designation	Benchmark Value \$
Up to 1 acre	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000
1 to 3 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$220,000 to \$300,000
3 to 5 acres	Generally Rectangular	Moderately Treed	Level to Rolling	Greenbelt / NEC	\$300,000 to \$350,000

9.0 CERTIFICATION

**Re: Benchmark Residential Lot Values
Proposed Hamilton-Milton NPS Pipeline Project
Highway 6 to Twiss Road, Cities of Hamilton (East Flamborough) & Burlington**

I certify that, except as otherwise noted in the preceding analysis, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal impartial, and unbiased professional analyses, opinions and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- My engagement in and compensation for this assignment were not contingent upon developing or reporting pre-determined results, the amount of the value estimate, or a conclusion favouring the client.
- The reported analyses, opinions and conclusions were developed, and this report has been prepared in conformity with the requirements of the Code of Professional Ethics and the Canadian Uniform Standards of Professional Appraisal Practice of the Appraisal Institute.
- I have the knowledge and experience to complete the assignment competently.
- No one provided significant professional assistance to the person signing this report.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, the undersigned has completed the requirements of the Appraisal Institute of Canada Mandatory Recertification Program for designated members, and has also completed the requirements of the continuing education program of the American Appraisal Institute.

9.0 CERTIFICATION

**Re: Benchmark Residential Lot Values
Proposed Hamilton-Milton NPS Pipeline Project
Highway 6 to Twiss Road, Cities of Hamilton (East Flamborough) & Burlington**

- A personal inspection of the subject area that is the subject of this report was completed by the undersigned on various occasions; most recently on the *16th day of September, 2014*.
- Based upon the data, analysis and conclusions contained herein, the market value(s) of the fee simple interest of a typical benchmark residential lot of varying size, as if vacant and unimproved, and as of the *16th day of September, 2014*, is estimated at **\$220,000 (up to 1 acre); \$220,000 to \$300,000 (1 to 3 acres); & \$300,000 to \$350,000 (3 to 5 acres)** (*as set out on the preceding chart*).

LARRY BEDFORD & ASSOCIATES LTD.



Per: _____
Larry W. Bedford, AACI, MAI, SRA, PLE

Date: November 7, 2014

ADDENDA

Schedule No. 1: Photographs / Feature Sheets - Comparable Sales

Schedule No. 2: Curriculum Vitae - Larry W. Bedford

SCHEDULE NO. 1

Photographs / Feature Sheets - Comparable Sales

Sale No. 1
5084 Fourth Line, Milton

5084 Fourth Line Line South , Milton, L9T2X8		List Price: \$529,900
MLS@: 2074021	Status: Sold	Prev Price: \$529,900
District: RU Rural	Sub-District: TR Rural Trafalgar	Sold Price: \$515,000
		Deposit: AMAP
		Sale/Lease: For Sale Only



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Lat: **43.48856** Long: **-79.78981**



4th Line and Lower Base

Comm Dt: 06/27/2014	Exp Dt: 10/12/2014	Sold Dt: 07/22/2014	Close Dt: 09/04/2014
Possession: Angelo Minato, Guiseppini Maria Minato, Gioachinnio Del Ben, Emma Cecilia DHoldover:	Sign: Y	Prvsn: None	DOM: 25

General Property Information			
Wtr Sply: Drilled Well	Side/Road: West	Soil: Clay	Tax Year: 2014
Acres: 1	Levies Paid: Yes	Survey: Y	Tax Amnt: \$3,800
Restrictions: None	Zoning: AGRI	Tpgrphy: Flat Site, Recreat	
Legal Des: PT LT 1 CON 4 TRAFALGAR NEW SURVEY		Lot Size: 200 x 218 ft.	
Sewer: Septic Installed		Acreage: 1 - 3 Acres	

Remarks	
Brokerage Remarks:	
1 Acre building lot close to Angels View golf course. Seller and agent make no representations or warranties as to condition of current house, being sold as land value only. House sold 'as is' in regards to conditions.	

Financial	
C.B. Commission: 2%	Mrtg: N

Contact Information	
Listing SP: VANDEBREGGEN, JACOB	E-Mail: jacob@royallepage.ca
Direct: Royal LePage Real Estate Services Ltd., Brokerage	Fax: 905-845-2052
Listing Brk: Royal LePage Real Estate Services Ltd., Brokerage	Phone: 905-845-4267
Appntmnts: VANDEBREGGEN, JACOB	E-Mail: jacob@royallepage.ca
Selling SP: Royal LePage Real Estate Services Ltd., Brokerage	Phone: 905-845-4267
Selling Brk: Royal LePage Real Estate Services Ltd., Brokerage	



Sale No. 1
5084 Fourth Line, Milton

Sale No. 2
11036 Second Line, Milton

Prepared by: LARRY WAYNE BEDFORD, Salesperson
ROYAL LEPAGE REAL ESTATE SERVICES LTD., BROKERAGE
280 North Service Rd W #102, Oakville, ON L6M2S2
905-338-6550
09/23/2014 11:28:48 AM

	11036 Second Line Milton Ontario L0P1B0 Milton Campbellville Halton Taxes: \$0.00 / 2011 SPIS: N Last Status: Sld Pt Lt 16, Pt2, 20R15515, Con 2 Nass:		Sold: \$319,000 List: \$329,000 For: Sale %Dir: 97 DOM: 262													
	Vacant Land Fronting On: W Acreage: .50-1.99 Irreg: 45 x 145.91 Metres Rms: Bedrooms: Washrms: 0 Dir/Cross St: Guelph Line N Of 401 To 15 Sdr															
MLS#: W2351632 PIN#: Holdover: 90		Seller: Cindy Lou Adeline Mott ARN#:		Occupancy: Vacant Contact After Exp: N												
Kitchens: Pan Rm: Basement: Fireplace/Stv: Heat: A/C: None Central Vac: Apx Age: Apx Sqft: Assessment: Laundry lev:	Exterior: Drive: Garage: Park Spaces: UFFI: Pool: Prop Feat: Rolling, Wooded/Treed	Zoning: Cable TV: N Hydro: N Gas: A Phone: N Water: Well Water Supply: Sewer: None Waterfront: None Retirement: Farm/Agr: Oth Struct: Spec Desig: Unknown														
<table border="1"> <thead> <tr> <th>#</th> <th>Room</th> <th>Level</th> <th>Length</th> <th>Width</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td colspan="6"> Client Remks: Nicely Proportioned 1.6 Ac Lot Close To Campbellville.Rural Setting Among Fine New-Builds On Big Lots.This Lot Is One From A Private Parcel Of 4 Lots In The Hamlet Of Moffat.Drilled Well,Survey&Natural Gas Availability.Hst Incl In Price. Buyer Responsible For Any Municipal Devel Charges Payable On Build Permit.Gentle Sloping Land Lends Itself To Lower Level W/O.Lightly Treed,Previously Cultivated Top Soil Over Silt/Sand/Clay/Paved Rd.Go Access,401 Toronto Extras: Buyer Resp For Any Municipal Devel Charges.Lightly Treed,Layer Of Previously Cultivated Top Soil Over Silt/Sand/Clay Mix.Good Location, Paved Rd. Mins To Hwy 401.Suit Retirees,Commuters& Families Wishing To Live In Touch With Nature Brkage Remks: 1.6 Ac Lot Nr Campbellville. Rural Setting Among Fine New-Builds On Big Lots. Drilled Well, Survey, Nat Gas Available. Hst Incl In Price. Nicely Graded For A Lower Level W/O. Guelph Line N Of 401, Left On 15 5 Rd, N On Second Line, 2nd Property On Left </td> </tr> </tbody> </table>					#	Room	Level	Length	Width	Description	Client Remks: Nicely Proportioned 1.6 Ac Lot Close To Campbellville.Rural Setting Among Fine New-Builds On Big Lots.This Lot Is One From A Private Parcel Of 4 Lots In The Hamlet Of Moffat.Drilled Well,Survey&Natural Gas Availability.Hst Incl In Price. Buyer Responsible For Any Municipal Devel Charges Payable On Build Permit.Gentle Sloping Land Lends Itself To Lower Level W/O.Lightly Treed,Previously Cultivated Top Soil Over Silt/Sand/Clay/Paved Rd.Go Access,401 Toronto Extras: Buyer Resp For Any Municipal Devel Charges.Lightly Treed,Layer Of Previously Cultivated Top Soil Over Silt/Sand/Clay Mix.Good Location, Paved Rd. Mins To Hwy 401.Suit Retirees,Commuters& Families Wishing To Live In Touch With Nature Brkage Remks: 1.6 Ac Lot Nr Campbellville. Rural Setting Among Fine New-Builds On Big Lots. Drilled Well, Survey, Nat Gas Available. Hst Incl In Price. Nicely Graded For A Lower Level W/O. Guelph Line N Of 401, Left On 15 5 Rd, N On Second Line, 2nd Property On Left					
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List: ROYAL LEPAGE REAL ESTATE SERVICES LTD., BROKERAGE Ph: 905-845-4267 Fax: 905-845-2052 GILLIAN COCKCROFT, Salesperson 416-464-3144 Co-Op: CENTURY 21 MILLER REAL ESTATE LTD., BROKERAGE Brad Miller, Salesperson Donald G. Goodale, Salesperson Contract Date: 4/30/2012 Sold Date: 1/17/2013 Expiry Date: 4/30/2013 Closing Date: 3/28/2013 Last Update: 1/17/2013 CB Comm: 2.5					Leased Terms: Original: \$329,000											

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Sale No. 2
11036 Second Line, Milton



Sale No. 3
3123 Limestone Road, Milton

Sale No. 4
7244 Twiss Road, Milton

0 Twiss Road , MILTON, LOP 1B0		List Price: \$459,990
MLS@: 2068374	Status: Sold	Prev Price: \$459,990
District: RU Rural	Sub-District: NE Rural Nelson	Sold Price: \$450,000
		Deposit: 40000
		Sale/Lease: For Sale Only
		Lat: 43.472008 Long: -79.987175



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TWISS RD NORTH OF DERRY RD, WEST SIDE

Comm Dt: 03/14/2014	Exp Dt: 09/14/2014	Sold Dt: 04/03/2014	Close Dt: 05/02/2014
Possession: TBA	Sign: Y	Prvsn: None	DOM: 20
Sllrs/Lssrs: PAUL MONAGHAN AND ELIZABETH MONAGHAN			Holdover:
Appntmnts: TLBO			

General Property Information			
Wtr Sply: Drilled Well	Side/Road: West	Soil: Loam, Sandy	Tax Year: 2013
Acre: 2.06	Levies Paid: No	Survey: Y	Tax Amnt: \$150
Restrictions: Niag.Esc.Com.	Zoning: NEC	Tpgrphy: Paved Road, Rec	
Legal Des: PART LOT 12, CON 2 NNS, PART 1, RP 20R10517	Lot Size: 1 - 3 Acres		
Sewer: None			

Remarks

Brokerage Remarks:
Kilbride area, scenic one of a kind, 2.06 acre lot suitable for estate home. Offering 300' frontage & breathtaking panoramic view. Super GTA location, convenient to Burlington, Milton, major highways, recreation nearby including golf courses. Quiet country road in area of estate homes.

Financial	
C.B. Commission: 2.5%	Mrtg: Treat As Clear C Exp: N

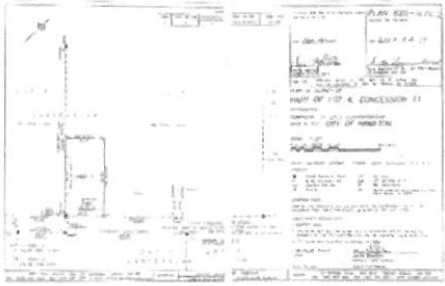
Contact Information	
Listing SP: WINTHER, INGE	E-Mail: ingewinther@royallepage.ca
Direct:	Fax: 905-878-8188
Listing Brk: Royal LePage Meadowtowne Realty Inc., Broker	Phone: 905-878-8101
Appntmnts: TLBO	
Selling SP: OOB	E-Mail:
Selling Brk:	Phone:
Co-S SP: SONJA VEERMAN/KELLER WILLIAMS EDGE REALTY	E-Mail:



Sale No. 4
7244 Twiss Road, Milton

Sale No. 5
11th Concession Road East, Flamborough

11th Conc Road East, FLAMBOROUGH, LOR 1K0		List Price: \$235,000
MLS®: 2063400	Status: Sold	Prev Price: \$235,000
District: FL Flamborough	Sub-District: 44 Flamborough	Sold Price: \$214,000
		Deposit: 15000
		Sale/Lease: For Sale Only
Lat: 43.424244		Long: -80.001501

	
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1 / 1

Centre Rd - 11th Conc- Right ~ 1.2 km from Centre Rd-Between 353 & 385

Comm Dt: 10/01/2013	Exp Dt: 05/31/2014	Sold Dt: 02/14/2014	Close Dt: 03/27/2014
Possession: IMMED	Sign: Y	Prvsn: None	DOM: 136
Sllrs/Lssrs: BERTUCCI:ROCCO & CLAIRE/SCHMED:KARL & GLORIA			Holdover:
Apptmnts: DIRECT			

General Property Information			
Wtr Sply: None	Side/Road: North	Soil: Sandy	Tax Year: 2013
Acres: 1	Levies Paid: No	Survey: Y	Tax Amnt: \$2,265
Restrictions: Conservation	Zoning: RES	Tpgrphy: Bush, Paved Road	
Legal Des: PT LT 4,CONC11 EAST FLAMBOROUGH,PART 1 ON 62R16062	Lot Size: 150' X 300' IMP		
Sewer: None	Acreage: 1 - 3 Acres		

Remarks

Brokerage Remarks:
ATTACH SCHED "B" OFFER TO BE EMAILED/FAXED WITH MINIMUM 24HR IRREV. Outstanding opportunity to build your Custom Dream Home on this 1 acre lot with 150' frontage. Commuter friendly East Flamborough location close to major centers. Sellers may consider holding short term financing with a minimum of 30% down. Buyer is responsible for all Development Charges. Site is approx 1KM East of Centre Rd.

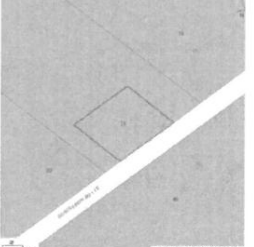
Financial		Contact Information	
C.B. Commission: 2.5% +APPLIC TAXE	Mrtg: Clear	C Exp: N	
Listing SP: VEEVERS, ROBERT	E-Mail: bob@bobveevers.com		
Direct: 905-320-8767	Fax: 905-333-3616		
Listing Brk: RE/MAX Garden City Realty Inc., Brokerage	Phone: 905-827-6454		
Apptmnts: DIRECT			
Selling SP: Steve Bailey/RE/Max R.E. Centre Inc.	E-Mail:		
Selling Brk:	Phone:		



Sale No. 5
11th Concession Road East, Flamborough

Sale No. 6
71 11th Concession Road East, Flamborough

MLS# H3120590		Sold		Vacant Land	
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		71 11TH CONC Road E		List Price: \$ 259,900	
		Flamborough, LOR 1K0		Lease Rate:	
Type: Residential Bldg Lts		District: Flamborough		Previous Price: \$279,900	
Sub-Area: Flamborough (44) / Flamborough (440)		Acreage: 1.00		Side of Road: North	
Near: HWY 6 N		Legal: PT LT 11, CON 11 E FLAM		Zoning: RES	
Curr.Use:		Sale/Lease: For Sale Only		#Images: 1	

Property Details			
Taxes: \$ 4,729 / 2013	Lot Size: 220.14 x 1 ACRE APVD [Imperial]	Survey Avail.:	
Mortgage: Purchaser to Arrange	Property Size: .6 - 1.99 Acres	Soil Type: Rocky	
Registry Pin#:	Develpmnt \$ Paid:	Contaminants: No	
Roll#:	Env.Assessment: None	Sewer Type:	
Restrictions: Conservation		Waterfront: N	
Services: Drilled Well, Septic			
Influences: Cleared, Easy Access			
Virtual Tour: http://www.venturehomes.ca/VirtualTour.asp?tourid=32781			

Directions	
HWY 6 N TO 11TH CONC RD E	

REALTOR(R) Remarks	
Nice setting on Apx 1 Acre lot. Build dream home (existing home on lot irrecoverably damaged by fire). Fab east Flam location where building lots are rarely offrd. Purchaser to verify lot levies & other chrgs & to due on due diligence re building permits. Crmnt taxes reflect former dwelling. RSA. Attch Sch B.	

Primary/Sec:	Tx Appl: Unknown	Sign: Yes	Spcl Provisn: None	Possession: TBA
Deposit Req: AMAP	Key:	Lockbx:	SPIS: Waiv	Bkr Perm Adv: No
Sellers: IRENE HILL				Consent after EX: N
Appointmnt: GO DIRECT				Brokerage Trust Acct: IB
Brokerage 1: RE/MAX Escarpment Realty Inc. Ph:905-639-7676 Fax:905-681-9908				
Sisprsn/Brkr 1: Drew Woolcott- Ph:905-639-7676 drewandjayne@woolcott.ca				
Sisprsn/Brkr 2: Jayne Woolcott- Ph: 905-639-7676 drewandjayne@woolcott.ca				
Brokerage 2: RE/MAX Escarpment Realty Inc. Ph:905-639-7676 F:905-681-9908				
SB Comm: 2.5%				
Sell Brokerage: Coldwell Banker-Burnhill Realty				
Sell Sisprsn/Brkr 1: Michael Griffith				
Sell Sisprsn/Brkr 2:				
Selling Brokerage 2:				
Sell Commnts:				
Comm. Date: 10/18/13				
Expiry Date: 06/18/14				
CSale Date:				
Selling Date: 05/12/14				
Closing Date: 08/27/14				
Selling Price: \$ 235,000				
Sell Lse Rte:				
DOM: 206 dys				

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Sale No. 6
71 11th Concession Road East, Flamborough



Sale No. 7
1521 Milborough Line, Flamborough

Sale No. 8
348 Carlisle Road, Flamborough

MLS# H3116254	Sold	Vacant Land
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348 CARLISLE Road

List Price: \$ 899,900

Carlisle, LOR 1H0

Lease Rate:

Type: Residential Subdivin

District: Flamborough

Sub-Area: Flamborough (44) / Flamborough (440)

Near: CENTRE RD & CARLISLE RD

Legal: CON 8 PT LOT 6 FE FLM RP 62R11477 PT 1

Previous Price:

Acreage: 5.94

Side of Road: South

Zoning:

Curr.Use: BUILDING LOT

Sale/Lease: For Sale Only

Images: 1

Property Details			
Taxes: \$ 4,349 / 2013	Lot Size: 331.25 X 665.24 (5.94 AC) [Imperial]		
Mortgage: Purchaser to Arrange	Property Size: 4 - 5.99 Acres	Survey Avail.: - 10/24/90	
Registry Pin#:	Develpmnt \$ Paid:	Soil Type: Loam, Sandy	
Roll #:	Env.Assessment:	Contaminants: No	
Restrictions: Conservation		Sewer Type: Septic Installed	
Services: Drilled Well, Hydro, Natural Gas, Septic, Street Lights, Telephone		Waterfront: N	
Influences: Bush, Cleared Part, Easy Access, Fenced, Golf Nearby, Rolling Site, Treed Site, Wetlands			
Virtual Tour:			
Directions			
CENTRE RD NORTH FROM WATERDOWN, EAST ON CARLISLE ROAD SITE IS ON RIGHT SOUTH SIDE AT TOP OF HILL			
REALTOR(R) Remarks			
PARTIAL CLEARED RLLING CNTRY LOT APRX 6 AC,331 FRONT FULLY FNCD BCKS ONTO BRONTE CREEK&CNSRVTN LAND. ESTATE LOT IN HRT OF CARLISLE SURROUNDED BY OTHR ESTATE TYPE HMES.FRAME ON PRPRTY.NO VALUE REMAINS FOR FUTURE EASE OF NEW HOME DVLPMNT.APPRVAL IN PLACE FOR RES BLDG LOT.GREAT OPPRTNTY FOR PERSONAL BLDG PLANS.CLOSE TO AMENITIES.			
Primary/Sec: Primary	Tx Appl: Not Applic	Sign: Yes	Spcl Provisn: None
Deposit Req: 25000	Key:	Lockbx:	SPIS: Waiv
Sellers: SILVANA SIMIONI			Bkr Perm Adv: No
Appointmnt: LBO			Consent after EX: N
			Brokerage Trust Acct: NIB
Brokerage 1: Royal LePage Burloak Real Estate Services Ph:905-634-7755 Fax:905-639-1683 www.royallepageburlington.ca			
Slsprsn/Brkr 1: Thomas Hamilton- Ph:905-634-7755 tomhamilton@royallepage.ca			
Slsprsn/Brkr 2:			
Brokerage 2:			
SB Comm: 2.5% + APPLICABLE TAXES		CSale Date:	
		Selling Date: 05/30/14	
Sell Brokerage: Royal LePage Burloak Real Estate Services		Closing Date: 06/06/14	
Sell Slsprsn/Brkr 1: Thomas Hamilton		Selling Price: \$ 800,000	
Sell Slsprsn/Brkr 2:		Sell Lse Rte:	
Selling Brokerage 2:		DOM: 290 dys	
Sell Commnts:			

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Sale No. 8
348 Carlisle Road, Flamborough

Sale No. 9
1130 Centre Road, Flamborough

MLS# H3114059	Sold	Vacant Land
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1130 CENTRE Road

List Price: \$ 399,900

Flamborough, LSN 2Z7

Lease Rate:

Type: Other

District: Flamborough

Previous Price: \$425,000

Sub-Area: Flamborough (44) / Flamborough (440)

Acreage: 3.14

Near: NORTH OF CON 7

Side of Road: East

Legal: CON 7, PART LOT 7, FE FLM IRREG

Zoning:

Curr.Use:

Sale/Lease: For Sale Only

#Images: 9

Property Details			
Taxes:	\$ 3,693 / 2013	Lot Size:	199.16 FT X 653.00 FT IRREG [Imperial]
Mortgage:	Purchaser to Arrange	Property Size:	Survey Avail.: N
Registry Pin#:		Develpmnt \$ Paid:	Soil Type:
Roll#:		Env.Assessment:	Contaminants:
Restrictions:			Sewer Type:
Services:	Drilled Well, Septic		Waterfront:
Influences:			
Virtual Tour:			

Directions	
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REALTOR(R) Remarks	
3.14 ACRES WITH A WIDE FRONTAGE, NICE MIX OF TREES AND LAWN FOR PRIVACY. APPROX 20 VALUABLE MATURE WALNUT TREES. HOUSE IS BEING SOLD "AS IS , WHERE IS." BEST OF RURAL BUT STILL CLOSE TO AMENITIES. MAKE APPT TO WALK PROPERTY, DON'T DISTURB SELLER WITHOUT APPT. BUILD OR RENOVATE. INSPECTION WAS COMPLETED. CLEANUP IN PROGRESS.	

Primary/Sec:	Primary	Tx Appl:	Sign: Yes	Spcl Provisn:	None	Possession:	TBA 60/90	
Deposit Req:	10000	Key:	Lockbx:	SPIS:	Waiv	Bkr Perm Adv:		
Sellers:	KENNETH JOHN BURNS					Consent after EX:	N	
Appointmnt:	LBO					Brokerage Trust Acct:	NIB	
Brokerage 1:	Sutton Group About Town Realty Inc. Ph:905-681-7900 Fax:905-681-8121 www.suttonabouttown.com							
Slsprsn/Brkr 1:	Tracy Compton- Ph:905-681-7900 tracy@sutton.com						Comm. Date:	07/10/13
Slsprsn/Brkr 2:	Wayne Vogl- Ph: 905-689-1717 waynevogl@remax.net						Expiry Date:	11/29/13
Brokerage 2:	RE/MAX Garden City Realty Inc. Ph:905-689-1717 F:905-689-8997 www.remax-gc.com							
SB Comm:	2.5%							
Sell Brokerage:	Sutton Group - Summit Realty I							
Sell Slsprsn/Brkr 1:	Nicole Werkman							
Sell Slsprsn/Brkr 2:								
Selling Brokerage 2:								
Sell Commnts:								
DOM:	68 dys							

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Sale No. 9
1130 Centre Road, Flamborough

Sale No. 10
1174 6th Concession Road West, Flamborough

MLS# H3090292	Sold	Vacant Land
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1174 6TH CONC Road W

List Price: \$ 425,000

Flamborough, LOR 1V0

Lease Rate:

Type: Residential Bldg Lts

District: Flamborough

Sub-Area: Flamborough (45) / 045

Near: WEST OF MIDDLETOWN

Legal: PART LOT 35 CONC 5 BEVERLY

Previous Price:

Acreeage: 6.00

Side of Road: South

Zoning: RES/AG

Curr.Use: RESIDENTIAL

#Images: 5

Sale/Lease: For Sale Only

Property Details			
Taxes: \$ 3,545 / 2012	Lot Size: 400' X 841' IRREG APRD [Imperial]		
Mortgage: Purchaser to Arrange	Property Size: 6 - 10.99 Acres	Survey Avail.: Y - 10/27/11	
Registry Pin#:	Develpmnt \$ Paid: No	Soil Type: Loam, Rocky	
Roll#:	Env.Assessment: None	Contaminants: Unkown	
Restrictions: Borders Within Legis Greenbelt, Conservation		Sewer Type: Septic Installed	
Services: Hydro, Septic, Telephone, Dug Well		Waterfront: N	
Influences: Bush, Cleared Part, Creek Thru, Easy Access, Paved Road, Treed Site, Wetlands, Wooded Area			
Virtual Tour:			
Directions			
HWY 6-6TH WEST-W OF MIDDLETOWN & EAST OF WESTOVER RD			
REALTOR(R) Remarks			
SCHEDULE B TO ACCOMPANY OFFERS. Century home in need of up-dating or build your new home on this picturesque 6 acre site. Surrounded by open fields, forested area & meandering stream. Tranquil setting. Heavily influenced by Hamilton Conservation Authority. 2011 Survey available			

Primary/Sec:	Tx Appl: Not Applic	Sign: Yes	Spcl Provisn: None	Possession: 30/ARR
Deposit Req: 10000	Key:	Lockbx:	SPIS: Waiv	Bkr Perm Adv: No
Sellers: LAVIGNE: GLENN ALBERT & MARGARET ANNE				Consent after EX: N
Appointmnt: 905-689-1717				Brokerage Trust Acct: IB
Brokerage 1: RE/MAX Garden City Realty Inc. Ph:905-689-1717 Fax:905-689-8997 www.remax-gc.com				
Slsprsn/Brkr 1: Robert Veevers- Ph:905-689-1717 bob@bobveevers.com				
Slsprsn/Brkr 2: Sheree Veevers- Ph: 905-689-1717 bob@bobveevers.com				
Brokerage 2: RE/MAX Garden City Realty Inc. Ph:905-689-1717 F:905-689-8997 www.remax-gc.com				
SB Comm: 2.5%+HST				
Sell Brokerage: RE/MAX Garden City Realty Inc.				
Sell Slsprsn/Brkr 1: Robert Veevers				
Sell Slsprsn/Brkr 2: Sheree Veevers				
Selling Brokerage 2: RE/MAX Garden City Realty Inc.				
Sell Commnts:				
	Comm. Date: 06/21/12			
	Expiry Date: 11/30/12			
	CSale Date:			
	Selling Date: 08/23/12			
	Closing Date: 12/04/12			
	Selling Price: \$ 405,000			
	Sell Lse Rte:			
	DOM: 63 dys			

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Sale No. 10
1174 6th Concession Road West

Sale No. 11
117 Rockcliffe Road, Flamborough

MLS# H3096251		Sold		Vacant Land	
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	117 ROCKCLIFFE Road				List Price: \$ 499,000
	Waterdown, L9H 7H6				Lease Rate:
	Type: Residential Bldg Lts				Previous Price:
	District: Waterdown				Acreage:
	Sub-Area: Waterdown / Waterdown West (460)				Side of Road: South
	Near: BAYVIEW/DUNDAS				Zoning:
	Legal: PT LOT 48 BEING PT 1 62R19308				
	Curr.Use:				#Images: 1
	Sale/Lease: For Sale Only				

Property Details					
Taxes:	\$ 6,188 / 2012	Lot Size:	75 X 205 IRREG [Imperial]	Survey Avail.:	Y - 04/26/12
Mortgage:	Purchaser to Arrange	Property Size:	.5 or Less	Soil Type:	Rocky
Registry Pin#:		Develpmnt \$ Paid:	No	Contaminants:	No
Roll#:		Env.Assessment:	None	Sewer Type:	Sewer to Lot Line
Restrictions:	Borders Within Legis Greenbelt, Conservation			Waterfront:	N
Services:	Municipal to Lot Ln				
Influences:	Easy Access, Flat Site, Ravine Lot, View				
Virtual Tour:					

Directions	
HWY 5 TO BAYVIEW - ROCKCLIFFE	

REALTOR(R) Remarks	
BUILD YOUR DREAMHOME!A TREED 75x205 LOT ON ESCARPMENT OVERLOOKING CITY,BRUCE TRAIL SOUTH OF DUNDAS,WATRDOWN ON QUIET ST.READY FOR BLDNG PERMIT.CITY WTR/SEWER TO LOT LINE.BLDNG ENVELOPE:2 STRY-4000SF;1 STRY-2000SF OR BUNGALOF W/MAIN FLR-2000SF.BUYER RESPONSIBLE FOR ALL BLDNG PERMIT FEES,LOT LEVIES,DEVELOP CHARGES/GRADING DEPOSIT	

Primary/Sec:		Tx Appl: Applic	Sign: Yes	Spcl Provisn: None	Possession: IMMED
Deposit Req:	25000	Key:	Lockbx:	SPIS: Waiv	Bkr Perm Adv: No
Sellers:	NELSON DA SILVA				Consent after EX: N
Appointmnt:	LBO				Brokerage Trust Acct: NIB
Brokerage 1:	Royal LePage Burloak Real Estate Services Ph:905-634-7755 Fax:905-639-1683 www.royalpageburloak.com				
Slsprsn/Brkr 1:	Barbara Beers- Ph:905-634-7755	barbara@barbarabeers.com		Comm. Date:	09/26/12
Slsprsn/Brkr 2:				Expiry Date:	02/28/13
Brokerage 2:					
SB Comm:	2.25%			CSale Date:	
				Selling Date:	12/01/12
Sell Brokerage:	Royal LePage Burloak Real Estate Services				Closing Date: 01/18/13
Sell Slsprsn/Brkr 1:	Barbara Beers				Selling Price: \$ 475,000
Sell Slsprsn/Brkr 2:					Sell Lse Rte:
Selling Brokerage 2:					DOM: 66 dys
Sell Commnts:					

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Sale No. 11
117 Rockcliffe Road, Flamborough

SCHEDULE NO. 2

Curriculum Vitae - Larry W. Bedford

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

MEMBER OF:

APPRAISAL INSTITUTE OF CANADA

Accredited Member AACI (Certificate #1894)

Education Chairman & Course Director

Credit Valley Chapter A.I.C. 1977-78

Chairman Experience Rating Committee

Credit Valley Chapter A.I.C. 1978-79

Education Chairman & Course Director 1982-83

Chapter Vice-Chairman 1982-83

Chapter Chairman 1983-84

Chapter Co-Chairman and Immediate Past Chairman 1984-85

Provincial Faculty Certification Committee 1988-89

Certified Lecturer A.I.C.

APPRAISAL INSTITUTE (U.S.)

MAI

Vice-President Western New York/Ontario International Chapter 2001

ASSOCIATION OF ONTARIO LAND ECONOMISTS

Professional Land Economist PLE (Certificate #662)

VOCATIONAL BACKGROUND:

<i>March 1971</i>	<i>Cooper Appraisals Limited of Toronto</i>
<i>August 1975</i>	<i>Strung Real Estate Limited of Toronto</i>
<i>June 1979</i>	<i>Independent Fee Appraiser</i>

EXPERIENCE:

Employed in construction business as Field Engineer on a number of major projects including Manu Life Tower, National Life Building, Welland Canal project and others.

Completed market value appraisals of commercial, industrial, residential and agricultural properties across the Province of Ontario, in other Provinces in Canada and several of the United States, for financing, purchasing, expropriation, assessment appeal, litigation and insurance purposes.

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

BACKGROUND - EXPERT WITNESS:

I have appeared before the Ontario Municipal Board and have also appeared in court on numerous occasions as an expert witness in a variety of disputed property matters (arbitration and mediation).

- *Prepared retrospective appraisal and attended Board of Negotiations hearing for partial expropriation by MTO to accommodate the construction and use of the West Durham Link of Phase I of the Highway 407 extension (MTO vs. Cho)*
- *Prepared retrospective appraisal and attended Board of Negotiations hearing for entire property expropriated by the Region of York to accommodate the widening and reconstruction of Davis Drive, in the Town of Newmarket (Region of York vs. Moon)*
- *Prepared retrospective appraisal and attended Board of Negotiations hearing for partial expropriation by the Town of Bradford West Gwillimbury for the Eighth Line road widening (Town of Bradford West Gwillimbury vs. Moore)*
- *Prepared retrospective appraisal and attended Mediation hearing for partial expropriation by MTO to accommodate the construction of a link and transitway between Highway 407 & Highway 401 in the Municipality of Clarington (MTO vs. Dzikewicz)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for property expropriated on North Service Road in Oakville (MTO vs. Fraculj)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for expropriation involving re-construction of Torbram Road in Brampton and bridge construction (City of Brampton vs. Argiro)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for expropriation involving construction of George Bolton Parkway in Caledon (Bolton) (Town of Caledon vs. Nicolini)*
- *Prepared appraisal and gave evidence at benchmark OMB hearing of loss in market value due to easement taking in Toronto (DDS vs. City of Toronto)*
- *Prepared appraisal and gave evidence at benchmark OMB hearing of loss in market value due to MTO acquisition in Innisfil (Gillespie vs. MTO)*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

BACKGROUND - EXPERT WITNESS:

- *Prepared appraisal and gave evidence at OMB hearing for benchmark determination of lands expropriated for Highway 407 (Shypka vs. Ontario Realty Corporation)*
- *Prepared appraisal and gave evidence at OMB hearing for expropriation for Halton Landfill Site (Region of Halton)*
- *Prepared appraisal and gave evidence at OMB hearing for expropriation of Halton Separate School site (Halton Catholic District School Board)*
- *Prepared appraisal and gave evidence at OMB hearing for City of Toronto road expropriation (Masae Limited vs. City of Toronto)*
- *Prepared appraisal and gave evidence at one of the Province's largest OMB expropriation matter hearing some 20 years after 1977 taking for Highway 427 (Hullmark vs. MTO)*
- *Prepared expropriation appraisal report for OMB hearing for Mississauga Road/ QEW intersection (settlement reached)*
- *Testified as expert witness in OPP real estate fraud*
- *Prepared appraisal and testified as expert witness at hearing for improvident sale of 100 acre mixed use site*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

APPRAISAL ASSIGNMENTS CARRIED OUT FOR:

Public Agencies

- *Canada Mortgage and Housing Corporation*
- *City of Brampton*
- *City of Burlington*
- *City of Hamilton*
- *City of Mississauga*
- *City of Scarborough*
- *City of Toronto*
- *Dufferin-Peel Catholic District School Board*
- *GO Transit*
- *Halton Board of Education*
- *Halton Catholic District School Board*
- *Halton District School Board*
- *Halton Non-Profit Housing*
- *Halton Region Conservation Authority*
- *Metropolitan Toronto & Region Conservation Authority*
- *Ministry of the Attorney General*
- *Ministry of Government Services*
- *Ministry of Transportation (on retainer for 2 years 2006-2008)*
- *Municipality of Metropolitan Toronto*
- *Ontario Hydro*
- *Ontario Ministry of Housing*
- *Ontario Realty Corporation*
- *Peel District School Board*
- *Public Works Canada*
- *Regional Municipality of Halton*
- *Regional Municipality of Peel*
- *Town of Ajax*
- *Town of Caledon*
- *Town of Milton*
- *Town of Oakville*
- *Town of Richmond Hill*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

APPRAISAL ASSIGNMENTS CARRIED OUT FOR:

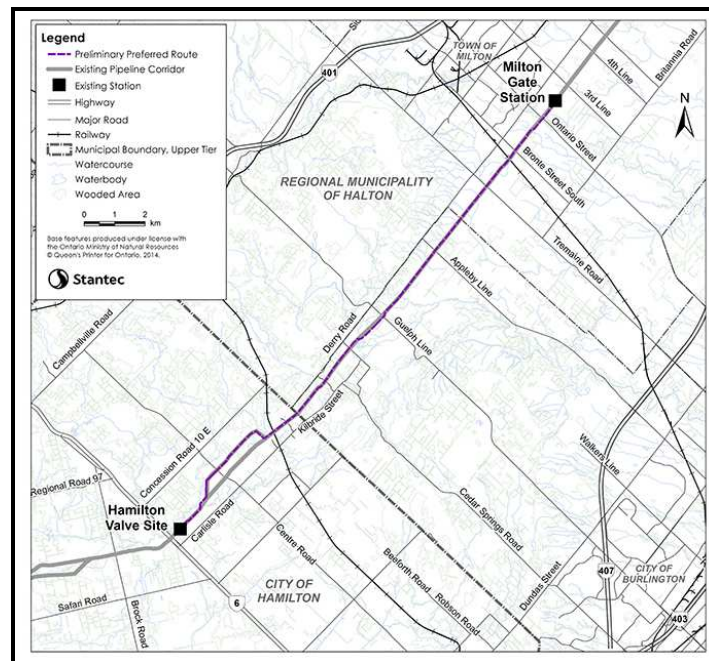
Private Corporate Organizations

Ackerman Law Office	Manufacturers Life Insurance Co.
Aird & Berlis	Maple Leaf Foods Inc.
Bank of America	Maple Leaf Savings & Credit Union
Bank of Montreal	Maple Trust
Bell Canada	Mattamy Developments
Borden Ladner Gervais LLP	MCAP Mortgage Corp.
Brewers Warehousing Company Limited	Momat Developments
Cambridge Leaseholds	N. Barry Lyon Consultants Limited
Canada Trust	National Bank
Canadian Imperial Bank of Commerce	Northern Telecom
Cara Operations Limited	O'Connor MacLeod Hanna LLP
Chippewas of Mnjikaning First Nation	Oshawa Properties Limited
Coldwell Banker	Pallett Valo LLP
Coopers & Lybrand Ltd.	Park Bible Church
Devon Estates Limited	Petro-Canada
Effort Trust Company	Premier Health Clubs
FirstOntario Credit Union	Press Development & Management Inc.
Fleet Bank of America	Royal Bank of Canada
G.E. Canada	Royaledge Industries
G.E. Capital	Royal LePage Real Estate
Genstar Development Company	Royal Life
Geofcott Group	Royal Trust
Greenpark Homes	Rubbermaid Canada Inc.
Harris Trust and Savings Bank	Scotiabank
Home Savings & Loan Corporation	Sears Canada
HSBC Bank Canada	Security Pacific Bank
HYA Pharmaceutical Corp.	Shell Canada Products Ltd.
I.B.M. Canada Ltd.	Sheridan College
Imperial Life Assurance Co.	Southam Business
Imperial Oil Limited	Stamm Economic Research Associates
Internorth Construction Company Limited	Sun Life Trust
Kerr Cadillac	Sunoco Inc.
Keyser Mason Ball	Toronto-Dominion Bank
Kodak	Trafalgar Group
Labatts	T.T.C. Credit Union
Laurentian Bank of Canada	Twin Oak Credit Union
Laventhol & Horvath	Union Gas Limited
London Life Assurance Co.	WeirFoulds LLP
Lush Bowker Aird	

SHORT NARRATIVE APPRAISAL REPORT

of the

**BENCHMARK RURAL LAND VALUE
PROPOSED HAMILTON-MILTON NPS 48 PIPELINE PROJECT
Extending from
Highway 6 at Carlisle Road, City of Hamilton (East Flamborough)
to
South of Derry Road, west of Third Line, Town of Milton**



Effective Date: August 5, 2014

Prepared For
Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Prepared By
LARRY BEDFORD & ASSOCIATES LTD.
Larry W. Bedford, AACI, MAI, SRA, PLE

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September 2, 2014

Our File No. 2659

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Re: Short Narrative Appraisal Report
Benchmark Rural Land Value
Proposed Hamilton-Milton NPS 48 Pipeline Project

Dear Sir:

In accordance with your request, I have inspected various properties (from the roadside only) within the proposed route of an existing gas pipeline to extend from the Union Gas Hamilton Valve Site located near Highway 6 at Carlisle Road, in the City of Hamilton (East Flamborough), to the existing Union Gas Milton Gate Station located south of Derry Road between Ontario Street and Third Line, in the Town of Milton, in the Province of Ontario. Furthermore, I have conducted the required investigation, gathered the necessary data and made certain analyses that have enabled me to express an opinion of the unit market value of the fee simple interest of a typical benchmark rural property, as if vacant and unimproved, and as of the *5th day of August, 2014*, the effective date of valuation.

The proposed area of this benchmark analysis extends from Highway 6 in the west to Tremaine Road in the east and comprises, in my opinion, two (2) different zones for benchmark value determination. These are described as **Zone 1** which comprises those lands between urban Milton and Milborough Line, while **Zone 2** extends from Highway 6 in the west to Milborough Line (boundary between the Cities of Hamilton and Burlington).

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited

September 2, 2014

This appraisal report was prepared as a "Short Narrative Appraisal Report" in accordance with the *Canadian Uniform Standards of Professional Appraisal Practice (CUSPAP)* for the Appraisal Institute of Canada. This report discusses the data, reasoning and analysis upon which the appraiser's opinion of value is based; however, some of the supporting documentation remains on file. Various extraordinary assumptions and limiting conditions are set out in Section 2.4 of this report.

Based upon an inspection of various properties and the investigation and analysis undertaken, I have formed an opinion of the unit market value of the fee simple interest of a typical benchmark rural property, as if vacant and unimproved, and as of the *5th day of August, 2014*.

Subject to the assumptions and limiting conditions set out in the body of this report, the estimated unit market value of a typical benchmark rural property, as stated in Canadian dollars, and in terms of cash, or in terms of financial arrangements equivalent to cash, is as follows:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Usable Site Acres	Topography	Land Use Designation	Benchmark Value Per Acre \$
Zone 1					
86 Acres (Average)	Generally Irregular	3/4 to Full	Level to Rolling	Greenbelt / NEC / Agricultural	\$25,000
Zone 2					
57 Acres (Average)	Generally Rectangular	3/4 to Full	Level to Rolling	Greenbelt / NEC	\$15,000

Mr. Merv Weishar, SR/WA
Senior Land Agent
Union Gas Limited

September 2, 2014

The following report plus addenda sets forth the identification of the property, the assumptions and limiting conditions, pertinent facts about the area and the subject property, comparable data, the results of the investigation and analysis, and the reasoning leading to the conclusions. This report is not valid unless an original signature is evident and I have enclosed one (1) original copy and one (1) electronic copy addressed to Mr. Merv Weishar, Senior Land Agent, Union Gas Limited, for their use in establishing a budget for the proposed pipeline project.

To the best to my knowledge all information is correct, subject to the limiting conditions set out in this report.

Yours truly,

LARRY BEDFORD & ASSOCIATES LTD.

A handwritten signature in cursive script, appearing to read "Larry Bedford".

Per:

Larry W. Bedford, AACI, MAI, SRA, PLE

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ADDENDA

Schedule No. 1A: Photographs of Comparable Sales - Zone 1

Schedule No. 1B: Photographs of Comparable Sales - Zone 2

Schedule No. 2: Curriculum Vitae - Larry W. Bedford

1.0 EXECUTIVE SUMMARY

Report Format:	Short Narrative Appraisal Report
Purpose & Intended Use:	To derive a benchmark per acre value for the typical property <i>as if vacant and unimproved</i> along the proposed route of the Union Gas utility project. The intended use of this valuation is to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.
Effective Date:	This valuation applies as of the <i>5th day of August, 2014</i> , the date on which the subject area was initially physically inspected.
Properties Appraised:	The benchmark determination applies to various properties extending from Highway 6 and Carlisle Road in the City of Hamilton (East Flamborough), to south of Derry Road between Ontario Street and Third Line in the Town of Milton, defined in this report as Zones 1 & 2 .
PIN's:	Various (as provided)
Property Owners:	Various (as provided)
Land Use Designations:	Various properties located, in part, within the <i>Greenbelt Plan</i>, in part, within the <i>Niagara Escarpment Plan</i> and, in part, within the <i>Town of Milton Official Plan</i> and designated as follows: - <u>Greenbelt Plan</u> Protected Countryside with Natural Heritage System overlay - <u>Niagara Escarpment Plan</u> Escarpment Rural Area; Escarpment Protection Area; Escarpment Natural Area - <u>Town of Milton Official Plan</u> Agricultural Area

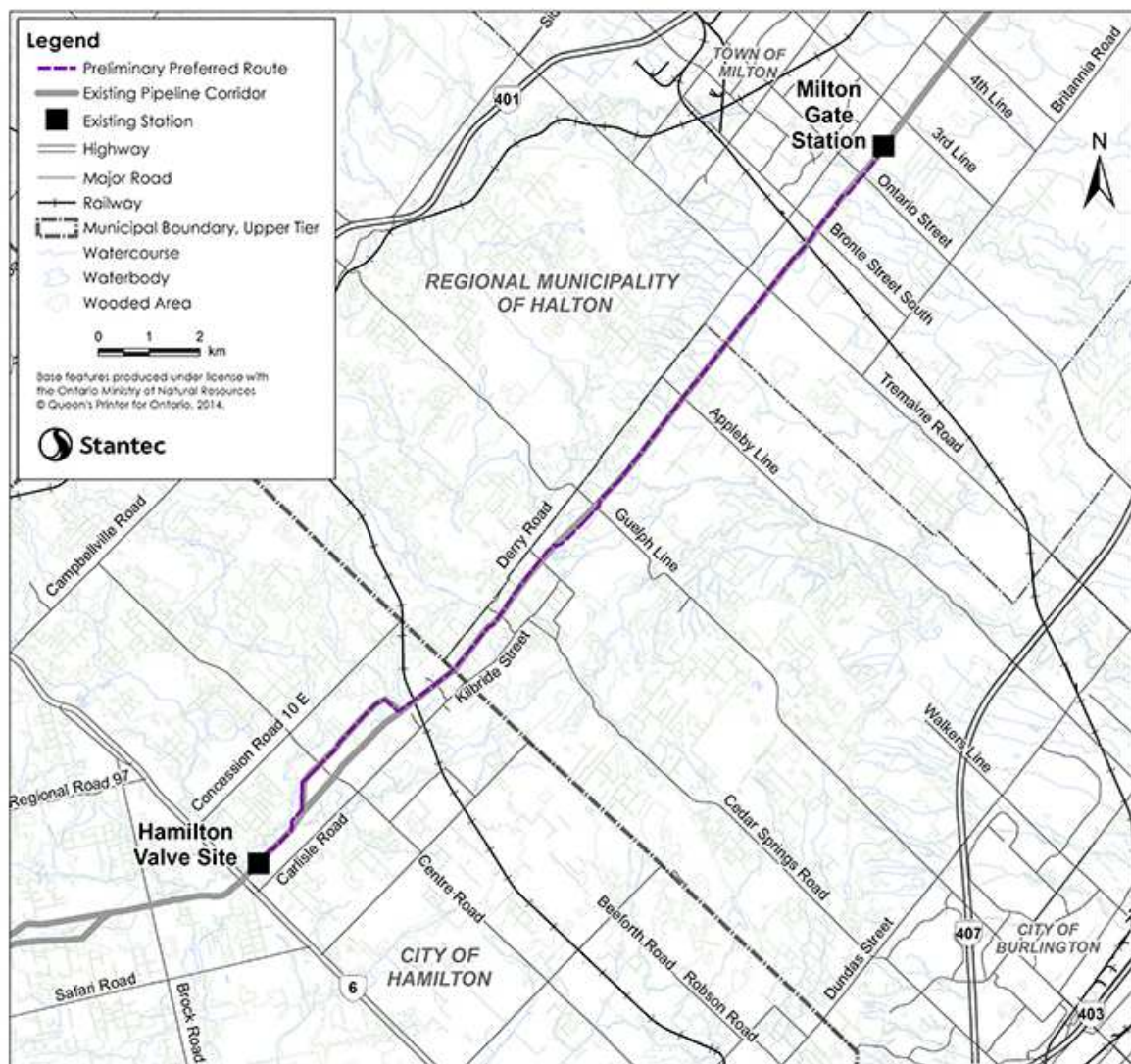
1.0 EXECUTIVE SUMMARY

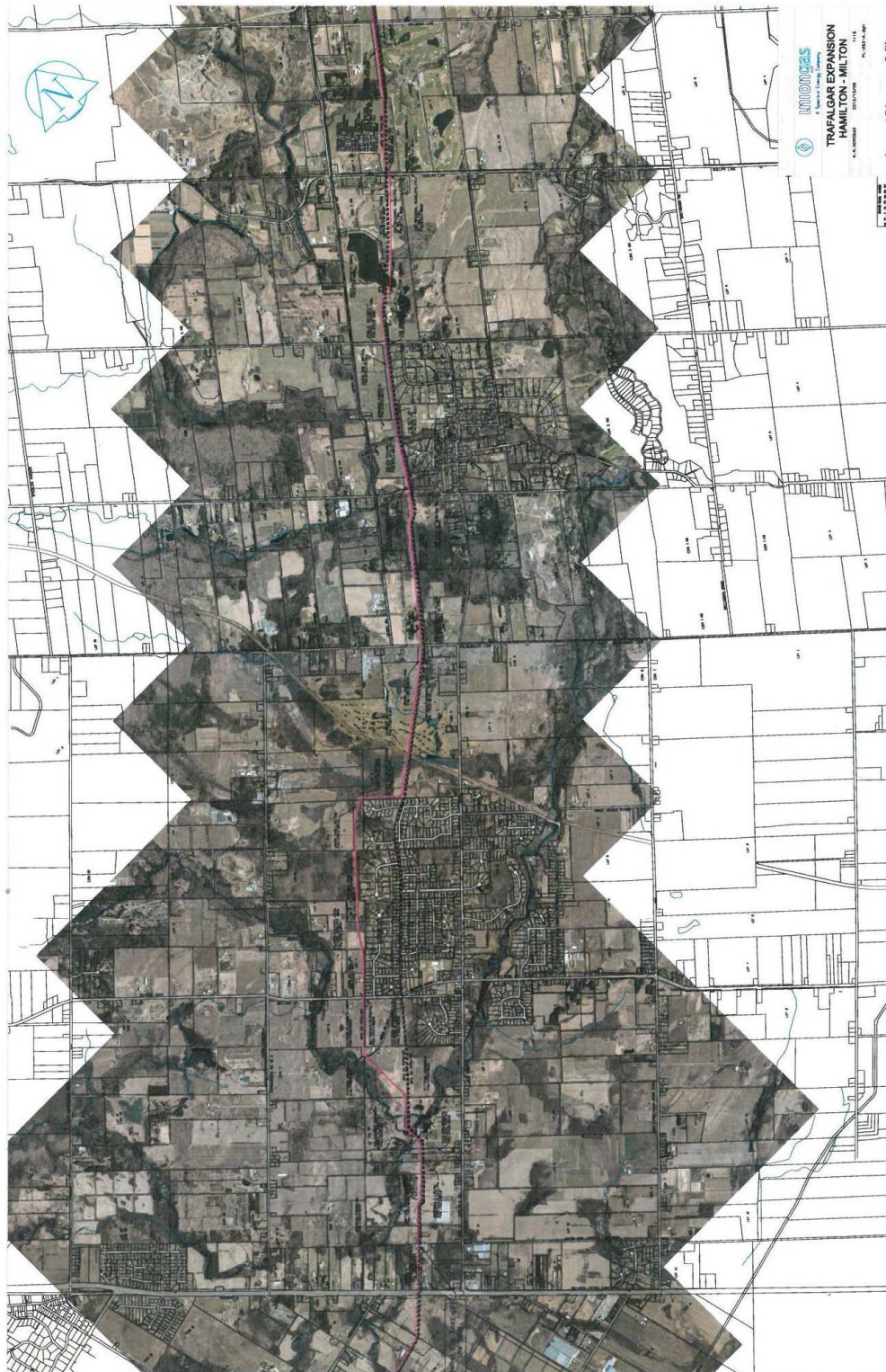
Description of Improvements: The benchmark site was valued as though vacant and unimproved.

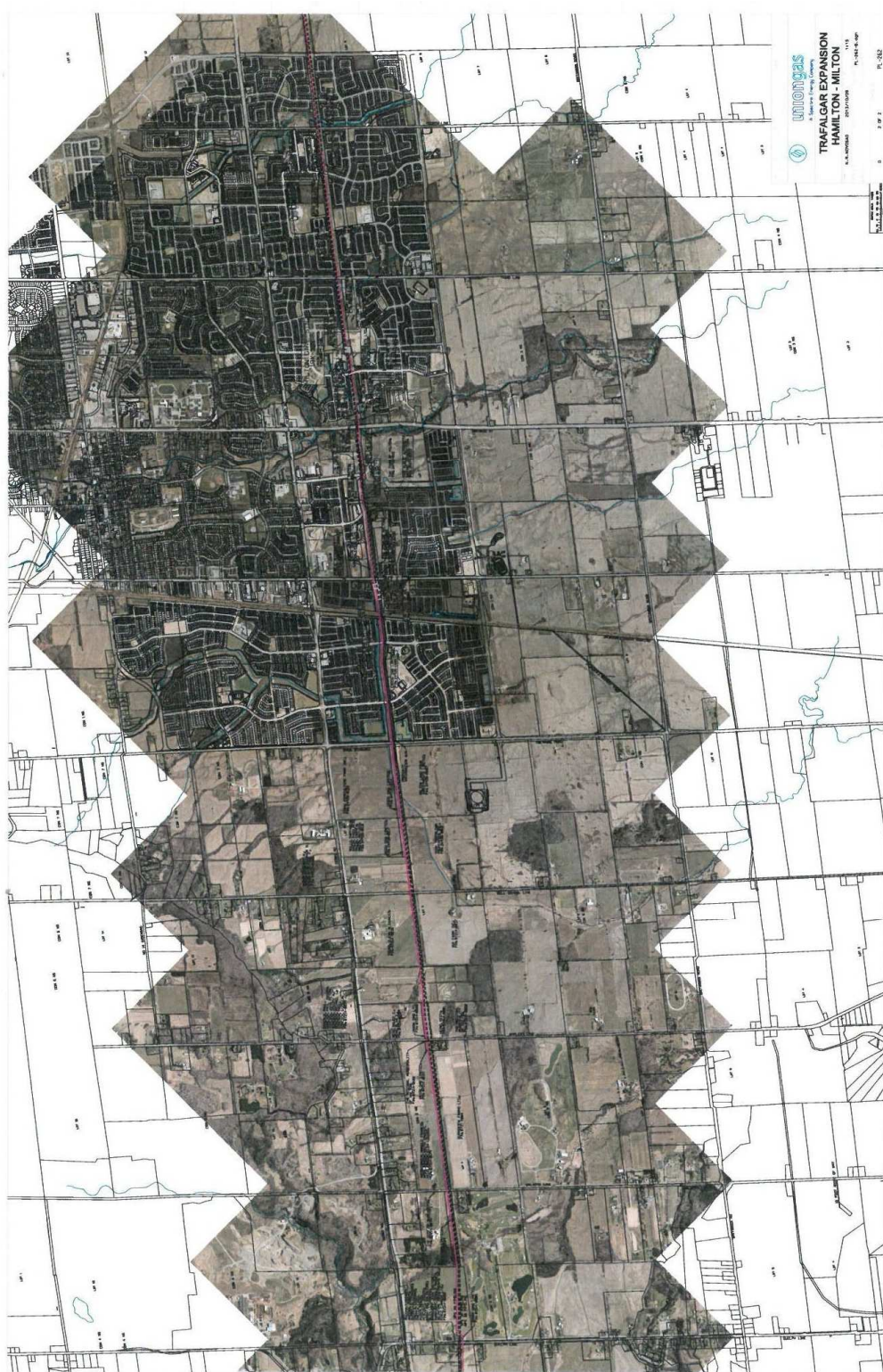
Highest and Best Use Estimate: Agricultural use (typically cash crop production) of the usable area.

Final Benchmark Unit Value Estimate(s):

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Usable Site Acres	Topography	Land Use Designation	Benchmark Value Per Acre \$
Zone 1					
86 Acres (Average)	Generally Irregular	3/4 to Full	Level to Rolling	Greenbelt / NEC / Agricultural	\$25,000
Zone 2					
57 Acres (Average)	Generally Rectangular	3/4 to Full	Level to Rolling	Greenbelt / NEC	\$15,000







2.0 INTRODUCTION

2.1 Purpose and Intended Use of Appraisal

The purpose of this appraisal is to derive a benchmark per acre value for the typical property *as if vacant and unimproved* along the proposed route of the Union Gas utility project.

The intended use of this valuation is to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.

The proposed route of the pipeline is between the existing Union Gas Hamilton Valve Site at Highway 6 and Carlisle Road, in the City of Hamilton (East Flamborough) and the existing Union Gas Milton Gate Station located south of Derry Road between Ontario Street and Third Line, in the Town of Milton.

2.2 Property Rights Appraised

The property rights appraised are the real properties, in fee simple, apart from any existing financing, yet subject to the usual statutory powers of the various levels of government. The benchmark determination applies to various properties within the route extending from Highway 6 and Carlisle Road, in the City of Hamilton (East Flamborough), to south of Derry Road between Ontario Street and Third Line, in the Town of Milton.

2.3 Terms of Reference

I have been asked to provide a "base line" appraisal (defined in this report as "benchmark" value) in a Short Narrative Report to derive a benchmark per acre value for the typical property along the route of the proposed Union Gas project as if vacant and unimproved.

2.0 INTRODUCTION

2.4 Extraordinary Assumptions and Limiting Conditions

The purpose of this appraisal is to derive a benchmark per acre value for the typical property *as if vacant and unimproved* along the proposed route of the Union Gas utility project.

It is assumed that the benchmark site has characteristics which are typical among the properties being considered. The typical site for **Zone 1** is, therefore, some 86 acres in size, is generally irregular in shape, has a level to rolling topography and the majority of the property is usable; any non-usable portions either being hardwood forested or low lying areas. **Zone 1** is also closer to the influence of the Milton urban area.

The typical site for **Zone 2** is, therefore, some 57 acres in size, is generally rectangular in shape, has a level to rolling topography and the majority of the property is usable; any non-usable portions either being hardwood forested or low lying areas. **Zone 2** is also further removed from Milton than **Zone 1**.

It is further assumed that no other conditions exist that would affect the concluded value other than those stated in this report. The conclusions are general and do not apply to any specific property in the rural district.

2.0 INTRODUCTION

2.5 Scope of Investigation

In order to complete this appraisal in accordance with the *Canadian Uniform Standards of Professional Appraisal Practice*, I have undertaken a level of investigation that is appropriate for the complexity and significance of the appraisal problem and the intended use of the appraisal. The extent of the process undertaken is deemed necessary to complete this appraisal assignment and is as follows:

- The subject area was inspected on various occasions; initially on the *5th day of August, 2014*, and most recently on the *2nd day of September, 2014*.
- Various information sources were examined in search of comparable sales. The sales selected as relevant from Registry Office (Teraview) data, Geowarehouse and the Hamilton Real Estate Board (MLS) have been examined and inspected. I have also reviewed various information sources available by subscription. Where possible, the circumstances surrounding these sales were confirmed with at least one party to the transaction.
- The Greenbelt Plan, the Niagara Escarpment Plan and the Milton Official Plan were reviewed to determine the land use designations for the various properties within the proposed route of the Union Gas utility project, as well as the comparable sales researched.
- The characteristics of the typical benchmark site were determined.
- Discussions were held with various realtors knowledgeable in the area to supplement our comprehensive data bank on sales data.
- Development trends, economic and real estate market conditions (in relation to the subject parcels) existing as of the effective date were reviewed.
- The physical, functional and economic characteristics of the subject parcels were considered.
- The specific sales deemed relevant were analyzed.
- The real estate market and specific sales and listings of properties located in the subject area were discussed with certain realtors.

2.0 INTRODUCTION

2.5 Scope of Investigation - Continued:

- A review of published market data and other public information (as contained in our files) as it relates to the real estate market in which the subject area is situated was conducted.
- All of the data was then reconciled into an estimate of market value for the typical benchmark site being appraised.
- In estimating the Highest and Best Use for the subject area, an analysis was made of data compiled in the steps noted above.
- A review and analysis of the appraisal methodologies and procedures employed in processing, collecting and analyzing market data into an indication of market value for the subject benchmark site, as of the effective date of the appraisal, was conducted.
- After assembling and analyzing the data defined in this scope of the appraisal, a final estimate of market value was concluded for the typical benchmark site.

2.6 Effective Date

The value(s) and analysis reported herein are effective as of the *5th day of August, 2014*, the date on which the subject area was initially physically inspected.

2.0 INTRODUCTION

2.7 Definition of Market Value

For the purpose of this valuation, market value is defined as follows:

The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- 1) buyer and seller are typically motivated;*
- 2) both parties are well informed or well advised, and acting in what they consider their best interests;*
- 3) a reasonable time is allowed for exposure in the open market;*
- 4) payment is made in terms of cash in Canadian dollars, or in terms of financial arrangements comparable thereto; and*
- 5) the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

2.8 Reasonable Exposure Time

The definition of market value assumes that the property has been exposed to the market for sale or lease for a reasonable period of time, estimated to be *2 weeks to 3 months* as of the effective date of valuation. This marketing time is the estimated period the property would have been exposed to the market prior to the hypothetical completion of an arm's length sale or lease. It precedes the effective date of valuation, which is the *5th day of August, 2014*, and is primarily based on the consideration of past market events and analysis of trends relevant to the type of real property being appraised.

3.0 SITE AND IMPROVEMENT DESCRIPTION

3.1 Site Description

For the purpose of this report, it is assumed that the benchmark site has characteristics which are typical among the properties being considered. The typical site for **Zone 1** is, therefore, some 86 acres in size, is generally irregular in shape, has a level to rolling topography and the majority of the property is usable; any non-usable portions either being hardwood forested or low lying areas. **Zone 1** is also closer to the influence of the Milton urban area.

The typical site for **Zone 2** is, therefore, some 57 acres in size, is generally rectangular in shape, has a level to rolling topography and the majority of the property is usable; any non-usable portions either being hardwood forested or low lying areas. **Zone 2** is also further removed from Milton than **Zone 1**.

3.2 Municipal Services & Utilities

Rural services and utilities only are available to this rural district. The utilities include hydro, telephone, paved roads, street lighting, while the services include police and fire protection, etc. Each of the properties is served by on-site private water and wastewater utilities.

3.3 Site Access

The typical property has a gravel driveway access to a 2-lane paved municipal roadway.

3.0 SITE AND IMPROVEMENT DESCRIPTION

3.4 Land Use Controls

The Province has assigned much of the planning process to the Regional Municipalities and individual constituent municipalities; apart, however, from overall Provincial planning mandates such as Conservation Authority plans and the Parkway Belt West Plan.

The various properties along the proposed route of the Union Gas utility project are located, in part, within the *Greenbelt Plan*, in part, within the *Niagara Escarpment Plan* and, in part, within the *Town of Milton Official Plan* and are designated as follows:

- Greenbelt Plan
Protected Countryside with Natural Heritage System overlay
- Niagara Escarpment Plan
Escarpment Rural Area; Escarpment Protection Area; Escarpment Natural Area
- Town of Milton Official Plan
Agricultural Area

The *Greenbelt Plan* was established under Section 3 of the *Greenbelt Act, 2005*, to take effect on December 16, 2004; approved by the Lieutenant Governor in Council on February 28, 2005.

The **Protected Countryside** designation covers the entire Greenbelt area. The **Natural Heritage System** includes areas of the Protected Countryside with the highest concentration of the most sensitive and/or significant natural features and functions. For lands within the Natural Heritage System of the Protected Countryside, *the full range of existing and new agricultural, agricultural-related and secondary uses and normal farm practices* are permitted, subject to policies set out in the Greenbelt Plan.

3.0 SITE AND IMPROVEMENT DESCRIPTION

3.4 Land Use Controls - Continued:

The *Niagara Escarpment Plan* was approved by the Lieutenant Governor on June 1, 2005, and consolidated as of June 12, 2014.

Permitted uses within the **Escarpment Rural Area** and **Escarpment Protection Area** include agricultural operations; existing uses; single dwellings; mobile or portable dwelling unit(s) accessory to an agricultural operation; accessory buildings, structures and facilities (e.g. a garage or farm pond) and the site modifications required to accommodate them; small scale commercial uses accessory to agricultural operations; home occupations, cottage industries and home industries. All permitted uses are subject to the development criteria outlined in Part 2 of the *Niagara Escarpment Plan*.

Escarpment features which are in a relatively natural state, and associated stream valleys, wetlands and forests which are relatively undisturbed are included within the **Escarpment Natural Area**.

The **Agricultural Area** designation in the *Town of Milton Official Plan* permits one single family residential dwelling, agricultural and various other related uses.

3.5 Description of Improvements

For the purpose of this report, it is assumed that the benchmark site is vacant and unimproved.

4.0 HIGHEST AND BEST USE

Fundamental to the concept of value is the principle of Highest and Best Use, which may be defined as:

"that use of property which will most likely produce the greatest net return to the land over a given period of time".

A proper interpretation of the foregoing includes the realization that in addition to a property being physically adaptable for a specific use, there must be a demand for it, and such use must be legally permitted by zoning ordinances, by-laws, etc., or at least be potentially permissible. Therefore, the highest and best use analysis should reflect the three practical tests of physical possibility, financial feasibility and legal permissibility.

In estimating the highest and best use of the subject property, I have considered the following criteria.

- 1) The use must be legal and in compliance with zoning and building restrictions.
- 2) The use must be within the realm of probability, a likely one, not speculative or conjectural.
- 3) A demand for such a use must exist.
- 4) The use must be profitable.
- 5) The use must provide the highest net return to the land for the longest possible time.

The utilization of land generally tends to flow to the "highest and best use". The actual use at any given time does not necessarily represent its "highest and best use"; however, the value of the land is not affected by the reluctance, indifference or ignorance of an owner to utilize the land so as to produce the greatest net return.

In estimating the highest and best use for which a property is adaptable and in demand (or likely to be in demand) an appraiser must consider the extent the prospect of such use affects the market value of the land. Elements which affect the timing of the realization of the property's potential should be given weight only in relation to the extent that a typical prudent and informed purchaser would reflect these elements in the price he would be prepared to pay.

4.0 HIGHEST AND BEST USE

4.1 Highest and Best Use - Benchmark Property

The purpose of this appraisal is to estimate the market value of a benchmark vacant property based upon various criteria. The Greenbelt regulations in place allow primarily for agricultural and related uses.

The majority of the area that is under consideration in this report is developed with agricultural or rural residential development, and hydro and gas line utility uses. Development tends to be century farm house buildings interspersed with newer residential buildings on smaller lots.

Given the nature of the district, it is my opinion that the "highest and best use" of the benchmark lands is agricultural use (typically cash crop production) of the usable area.

5.0 VALUATION THEORY

The valuation process is the orderly programme in which data used to estimate the value of the subject property is acquired, classified, analyzed and presented.

5.1 Approaches to Value

There are three accepted methods of valuing real property:

- 1) Direct Comparison Approach
- 2) Cost Approach, and
- 3) Income Approach

The selection of a relevant methodology depends upon the nature and characteristics of the real estate under appraisal.

The **Direct Comparison Approach** is based upon the "Principle of Substitution" which implies that a prudent purchaser will not pay more to buy or rent a property than what it will cost him to buy or rent a comparable substitute property. This approach to value recognizes that the typical buyer will compare properties which constitute the market for a given type and class.

The Direct Comparison Approach is used to estimate the value of the land as though vacant and/or the property as improved. The appraiser gathers data on sales and listings of comparable properties and analyzes the nature and conditions of each sale or listing, making logical adjustments for dissimilar characteristics. Typically, a common denominator is found. For land value, the unit of comparison is usually price per square foot or price per acre; for improved properties, it may be price per square foot, price per unit, or a gross rent multiplier. The Direct Comparison Approach produces a good indication of value when sales of similar properties are available.

The **Cost Approach** is based upon the principle that a prudent purchaser will not pay more for a property than the cost to reproduce it, provided it can be reproduced without costly delay.

In this approach, the value of the major components of the property, building, building services and yard improvements are calculated separately. The land value is estimated from available market data, while the reproduction cost new of the improvements, as of the effective valuation date, is estimated from reliable cost indices.

Depreciation from all sources is then deducted from the reproduction cost and the resultant depreciated cost is added to the land value. The value obtained from the sum of these values is the estimated current market value.

5.0 VALUATION THEORY

5.1 Approaches to Value - Continued:

The **Income Approach**, or capitalization method of valuation, is an approach whereby the estimated annual net income produced by a property is capitalized at an appropriate rate established by the market, into an indication of the property's capital value.

Capitalization, in the appraisal of real estate, may be defined as the process of converting into a present worth a series of anticipated future installments of income(s) by the application of a factor, referred to either as a capitalization rate or a yield rate depending upon the process used. More than one rate may be embodied in the factor; a rate providing for interest on the investment, as well as one providing for the recapture of invested capital.

5.2 Valuation Methods Employed

In this valuation, I have relied exclusively upon the Direct Comparison Approach in the estimate of value concluded herein.

Neither the Cost Approach nor the Income Approach is appropriate in estimating the value of the typical subject property as vacant and unimproved.

Valuation

Direct Comparison Approach

6.0 DIRECT COMPARISON APPROACH

6.1 Description of Sales

The sales which have been researched and which form the basis of the Direct Comparison Approach are described on individual benchmark comparable sales charts found on Pages 28 & 30 of this report (separate charts for Zone 1 & Zone 2). I have analyzed comparable properties ranging from 20 to some 204 acres in size. Each of the comparable sales researched is identified on the individual benchmark comparable sales maps found on Pages 29 & 31 of this report (separate maps for Zone 1 & Zone 2).

Based upon this summary analysis, I have concluded a value as if vacant and unimproved for the benchmark property. I have inspected and photographed each of the comparable sales with one photograph of each included in the Addenda of this report as *Schedule No. 1*.

In comparing sales of properties having physical differences, it is important to find a common unit of value. For the purpose of this report, I have considered the sale price per acre as the most germane common unit of value.

Each of the sales must be adjusted to allow for differences between the subject property and the comparable sales. The sales are initially adjusted for property rights, financing, conditions of sale, and then for market conditions (time). The adjustment for market conditions (time) is based upon property sales and re-sales, as shown on the chart found on Page 27 of this report. I have reviewed the sale and re-sale price trend of various comparable sales and have concluded that a typical trend for appreciation of sales price for vacant agricultural parcels throughout the study area is 6.30% per annum.

After a market conditions (time) adjustment is made, the market factored value is then further adjusted for various other physical, locational and statutory differences.

Elements of comparison are the characteristics of properties and transactions that cause the prices paid for real estate to vary. The appraiser considers and compares all reasonable differences between the comparable properties and the subject property that could affect their values. Market evidence should be tested to identify the variable elements to which property values are especially sensitive. Adjustments for differences are made to the price of each comparable property to make the comparables equal to the subject on the effective date of the value estimate.

6.0 DIRECT COMPARISON APPROACH

6.1 Description of Sales - Continued:

When making adjustments, a certain order must be followed. This is necessary because some adjustments can be calculated on a lump sum or dollar basis, and others will be done on a percentage basis. The question arises as to whether the percentage amount should be taken on the original price or on the adjusted price, where lump sum adjustments are made.

The following sequence of adjustments should be used:

Original Sale Price
(Compounded Adjustments)
Real Property Rights Conveyed
Financing Terms
Conditions of Sale
Market Conditions
Interim Adjusted Sale Price

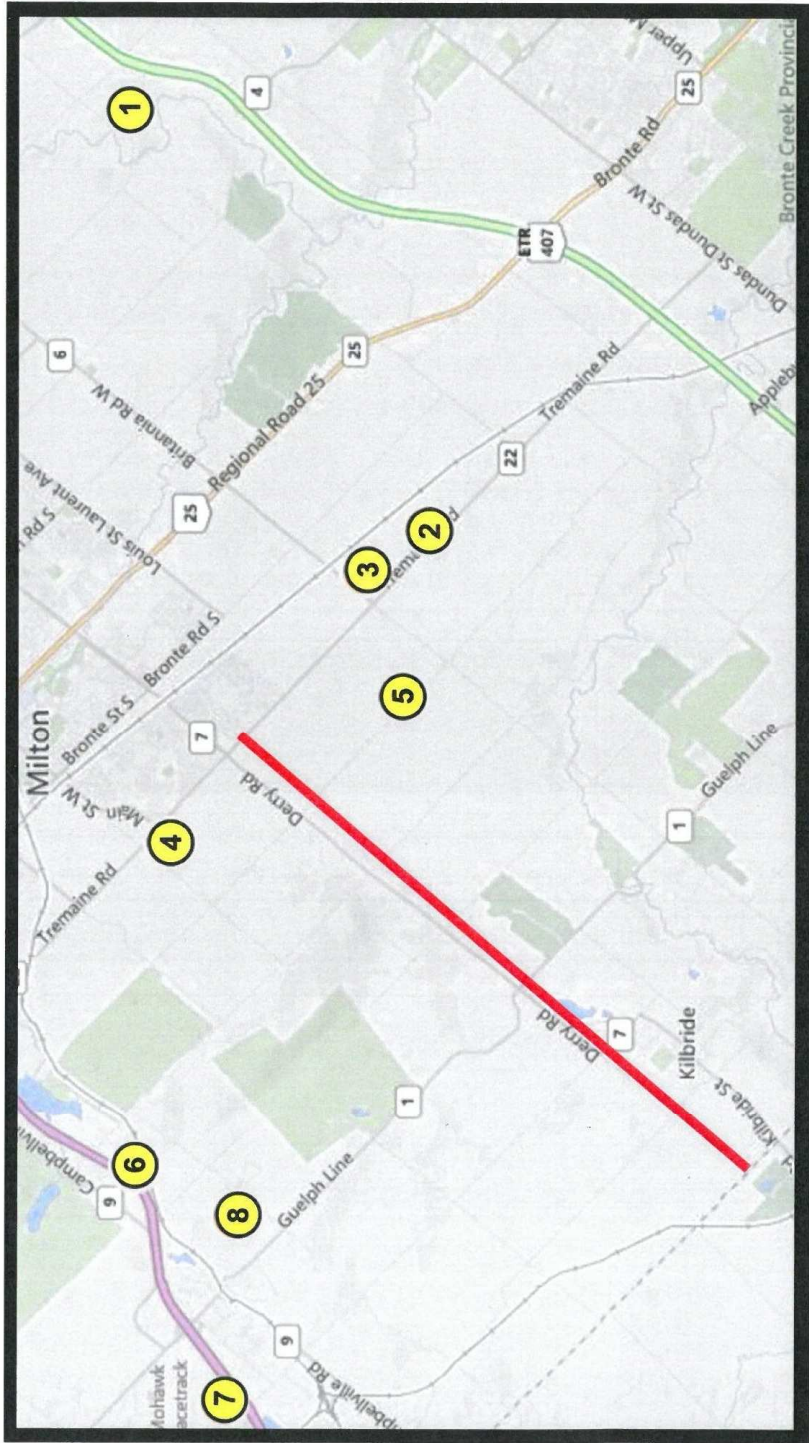
(Cumulative Physical Adjustments)
Location
Physical Characteristics
Economic Characteristics
Use
Non-Realty Components of Value
Final Adjusted Sale Price

By doing this, the appraiser calculates the selling prices at various stages and then applies the next set of adjustments to the previously adjusted selling price.

Analysis of Sales & Re-Sales			
Address	Sale Date Sale Price	Re-Sale Date Re-Sale Price	Rate of Annual Property Appreciation
Pt Lot 13, Tremaine Rd Milton	16-Apr-2008 \$1,687,400	8-Aug-2012 \$2,191,102	6.25%
7244 Twiss Rd Milton	10-Sep-2007 \$1,400,000	11-Jan-2013 \$2,000,000	6.91%
1180 Third Sideroad Milton	9-Feb-2012 \$780,000	15-Nov-2012 \$860,000	13.58%
437 6th Con Rd E Flamborough	21-Feb-2007 \$930,000	8-Aug-2013 \$1,300,000	5.32%
77 Campbellville Rd Flamborough	30-Oct-1997 \$450,000	20-Sep-2013 \$1,240,000	6.59%
156 Puslinch Line Hamilton	30-May-1994 \$377,500	4-Apr-2013 \$855,000	4.43%
1122 #97 Regional Rd Flamborough	30-Jul-2003 \$475,000	23-Aug-2012 \$840,000	6.49%
992 #97 Regional Rd Flamborough	22-Mar-2005 \$250,000	6-Mar-2013 \$850,000	16.63%
65 7th Con Rd E Hamilton	26-Jun-2001 \$402,000	16-Apr-2012 \$760,000	6.07%
11415 Sixth Line Milton	24-Jul-1998 \$180,000	30-May-2014 \$715,000	9.09%
2373 2nd Con Rd W Flamborough	29-Sep-2006 \$450,000	23-Jan-2014 \$545,000	2.65%
449 Binbrook Rd E Hamilton	10-Sep-1985 \$125,000	29-Aug-2013 \$951,000	7.52%
12364 Second Line Milton	26-Sep-1997 \$393,500	31-Jul-2013 \$936,500	5.62%
1778 Hwy 5 W Flamborough	15-Oct-1993 \$225,000	10-Oct-2012 \$569,000	5.01%
5615 Campbellville Rd Milton	29-Oct-1999 \$600,000	27-Sep-2012 \$1,400,000	6.78%
13670 Britannia Rd E Milton	27-Apr-2006 \$1,625,000	31-Jul-2012 \$2,650,000	8.12%
Overall Mean = 6.48% (excl. upper & lower outliers) * / Since 2000: Mean = 6.21% (excl. upper & lower outliers) *			
Overall Median = 6.49% (excl. upper & lower outliers) * / Since 2000: Median = 6.25% (excl. upper & lower outliers) *			
6.30% compounded annual rate of appreciation concluded			

BENCHMARK COMPARABLE SALES (ZONE 1)									
Sale No.	Address	Zone	Reg'd	Sale Price Time Adj. \$	Lot Size (Acres)	Land Use Designation	Sale Price/Acre Time Adj. \$	Improvement Contribution \$ P. / Acre Net of Improvements	Comments
1	765 Lower Base Line Rd W Milton	2	29-Nov-2012	\$2,800,000 \$3,092,760	108.43	Greenbelt / Agricultural Area / Parkway Belt West	\$25,823 \$28,523	No \$28,523	Vacant rolling land parcels located west of Sixth Line, on the north side of the border of Milton & Oakville. Separated by a power line corridor and an unopened road allowance. North parcel partly within Greenbelt and partly Agricultural Area. South parcel within Parkway Belt West.
2	5501, 5515, 5605 Tremaine Rd Milton	2	26-Jun-2014	\$4,610,000 \$4,624,888	203.4	Agricultural Area	\$22,665 \$22,738	Yes \$20,698	Rural land located on E/S Tremaine Rd, south of Britannia Rd. Backing onto rail line. Property at 5515 Tremaine Rd improved with 2-storey dwelling. Tremaine Rd. currently being widened to 6 lanes.
3	Britannia Rd W @ Tremaine Rd Milton	2	26-Jun-2014	\$2,091,000 \$2,097,753	109.3	Agricultural Area	\$19,131 \$19,193	No \$19,193	Rural land in crop production located at S/E corner Britannia Rd W & Tremaine Rd. Backing onto rail line. Tremaine Rd. currently being widened to 6 lanes.
4	6740 Tremaine Rd Milton	2	8-Aug-2012	\$2,191,102 \$2,466,218	112	Niagara Escarpment Plan Area	\$19,563 \$22,020	No \$22,020	Vacant parcel across from developed Milton at the foot of the escarpment. There is a stream on part of the acreage.
5	6235 Bell School Line Milton	2	2-Apr-2014	\$1,000,000 \$1,017,633	50.78	Greenbelt - Protected Countryside (NHS overlay)	\$19,693 \$20,040	Yes \$16,981	Farm property located on E/S Bell School Line, north of Britannia Rd, some 1.3 km from the western built-up edge of Milton. Improved with sidesplit residence built in 1970.
6	8681 Canyon Rd Milton	2	19-Jul-2013	\$1,105,000 \$1,173,815	36.76	Niagara Escarpment Plan Area	\$30,060 \$31,932	Yes \$21,893	Two (2) irregular shaped parcels on E/S Canyon Rd (northern extension of Walkers Line), separated by rail line. North parcel is vacant with long frontage on S/S of Hwy 401. Southerly triangular parcel contains a horse farm with race track & paddocks, 2-storey aluminum sided residence and quality outbuildings.
7	9301 Second Line Milton	2	14-Nov-2012	\$1,000,000 \$1,107,372	25.95	Greenbelt - Protected Countryside (NHS overlay)	\$38,336 \$42,573	No \$42,673	Irregular shaped parcel with narrow frontage on the dead-end of Second Line, extending eastwards along N/S of Hwy 401. Approx. 2/3 of the land is forested with the remainder occupied by plots for some 52 recreational vehicles, a swimming pool and 2 small buildings.
8	3123 Limestone Rd Milton	2	5-Jun-2012	\$1,500,000 \$1,706,488	42.60	Niagara Escarpment Plan Area	\$35,211 \$40,058	No \$40,058	"L" shaped parcel of rural land on N/S Limestone Rd, east of Guelph Line, some 2.2 km south & east from the interchange of Hwy 401 & Guelph Line (Main St). Village of Campbellville to the north. Majority of site is mature deciduous forest with a small pond and 2 clearings at the end of a long driveway from Limestone Rd.
TYPICAL SUBJECT PROPERTY							\$28,397		
Benchmark Value (Zone 1) = \$25,000 Per Acre as Vacant									

Benchmark Comparable Sales (Zone 1)

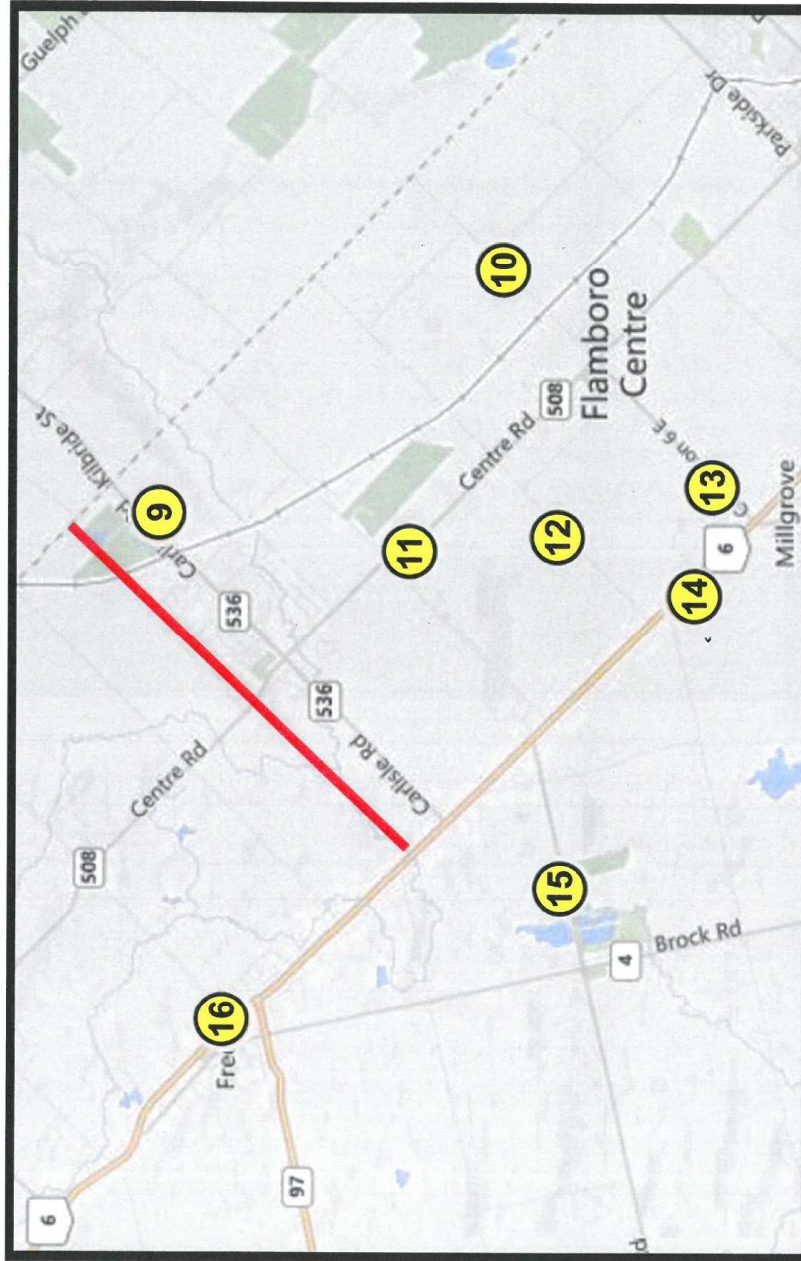


Approximate Easement Location

- | | | |
|---|--|------------------------------------|
| 1 765 Lower Base Line Rd W, Milton | 4 6740 Tremaine Rd, Milton | 7 9301 Second Line, Milton |
| 2 5501, 5515, 5605 Tremaine Rd, Milton | 5 6235 Bell School Line, Milton | 8 3123 Limestone Rd, Milton |
| 3 Britannia Rd W @ Tremaine Rd, Milton | 6 8681 Canyon Rd, Milton | |

BENCHMARK COMPARABLE SALES (ZONE 2)									
Sale No.	Address	Zone	Reg'd	Sale Price Time Adj. \$	Lot Size (Acres)	Land Use Designation	Sale Price/Acre Time Adj. \$	Improvement Contribution S.P. / Acre Net of Improvements	Comments
9	512 Carlisle Rd Flamborough	1	30-Jan-2012	\$1,100,000 \$1,278,254	100	Niagara Escarpment Plan Area	\$11,000 \$12,783	Yes \$10,283	Desirable old home. Property located across from Carlisle Golf Course. Good outbuildings with large detached garage. Land is rolling. Tree-lined driveway.
10	437 6th Con Rd E Flamborough	1	8-Aug-2013	\$1,300,000 \$1,376,513	96	Greenbelt - Protected Countryside (Pt NHS overlay)	\$13,542 \$14,339	Yes \$12,250	Property subject to pipeline easement at east limit of site. Good farmland. High quality barn, good house and plenty of good fencing. Property is located just north of Watertown.
11	1269 Centre Rd Flamborough	1	9-Aug-2013	\$813,000 \$860,704	39.5	Greenbelt - Protected Countryside	\$20,582 \$21,790	Yes \$16,287	Good farmland in crop production. Suitable for vegetable farming. Nice house at end of long, tree-lined driveway with kitchen addition.
12	151 7th Con Rd E Flamborough	1	26-Aug-2013	\$762,600 \$805,021	57.01	Greenbelt - Protected Countryside (Pt NHS overlay)	\$13,377 \$14,121	Yes \$11,891	Property subject to pipeline easement. Two (2) parcels totaling some 57 acres. Property is halfway between Hwy 6 & Centre Rd. Farm house, steel barn & shed in "as is" condition.
13	65 6th Con Rd E Flamborough	1	5-Sep-2013	\$630,000 \$664,030	23	Greenbelt - Protected Countryside	\$27,391 \$28,871	Yes \$13,157	Improved with 2-storey brick, old Victorian house. Shared access with 2 other properties. Good metal barn. Land used as market garden.
14	1021 Hwy 6 Flamborough	1	21-Aug-2012	\$505,000 \$567,156	20	Greenbelt - Protected Countryside (NHS overlay)	\$25,250 \$28,358	Yes \$16,658	Located on W/S of Hwy 6, some 5 km north of Hwy 5. Property has narrow frontage. House in average condition. Driveway is grass covered and farmland is leased out. Good land presently in crop production. Some outbuildings in the back.
15	737 Safari Rd Hamilton	1	10-Dec-2013	\$720,000 \$746,755	48.27	Greenbelt - Protected Countryside	\$14,916 \$15,470	No \$15,637	Located near Pineland Golf Course and African Lion Safari. House in poor condition and grounds have been neglected.
16	1846-1850 Hwy 6 Flamborough	1	31-Jan-2012	\$580,000 \$673,989	66.8	Greenbelt - Protected Countryside	\$8,683 \$10,090	No \$10,195	Located opposite the village of Freeton. Two (2) dwellings on property; the small house appears in good condition, the large house looks abandoned. Driveway slopes down from Hwy 6. Farmland is in crop production. Some outbuildings and large barn.
TYPICAL SUBJECT PROPERTY					56.32	Greenbelt / Niagara Escarpment	\$18,228		
Benchmark Value (Zone 2) = \$15,000 Per Acre as Vacant									

Benchmark Comparable Sales (Zone 2)



Approximate Easement Location

- | | | | |
|----|-------------------------------|----|-------------------------------|
| 9 | 512 Carlisle Rd, Flamborough | 15 | 737 Safari Rd, Hamilton |
| 10 | 437 6th Con Rd E, Flamborough | 16 | 1846-1850 Hwy 6, Flamborough |
| 11 | 1269 Centre Rd, Flamborough | | |
| | | 12 | 151 7th Con Rd E, Flamborough |
| | | 13 | 65 6th Con Rd E, Flamborough |
| | | 14 | 1021 Hwy 6, Flamborough |

6.0 DIRECT COMPARISON APPROACH

6.2 Analysis

I have considered various rural property sales in the former Town of Flamborough and the Town of Milton. These sales offer some guidance as to the value of the typical subject property.

Based upon the sales researched and summarized on the previous chart, I have conducted an analysis to determine the market value of one acre of the typical benchmark rural property, as if vacant and unimproved. Any difference in unit price can be attributed to various physical differences, as well as man-made improvements to the site.

6.3 Conclusions - Zone 1

The relevant sales once adjusted for market conditions and for any man-made improvements result in adjusted values ranging in **Zone 1** from **\$16,981 per acre** to **\$42,673 per acre**. Based upon an analysis of this data, I have calculated an average lot size of some **86 acres** and a benchmark value of **\$25,000 per acre**.

Conclusions - Zone 2

The relevant sales once adjusted for market conditions and for any man-made improvements result in adjusted values ranging in **Zone 2** from **\$10,195 per acre** to **\$16,658 per acre**. Based upon an analysis of this data, I have calculated an average lot size of some **57 acres** and a benchmark value of **\$15,000 per acre**.

6.0 DIRECT COMPARISON APPROACH

6.3 Conclusions - Continued:

My benchmark value estimates of the fee simple interest of one acre of the typical rural property for **Zone 1 & Zone 2**, as if vacant and unimproved, as estimated by the Direct Comparison Approach, and as of the *5th day of August, 2014* is as illustrated on the following chart:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Usable Site Acres	Topography	Land Use Designation	Benchmark Value Per Acre \$
Zone 1					
86 Acres (Average)	Generally Irregular	3/4 to Full	Level to Rolling	Greenbelt / NEC / Agricultural	\$25,000
Zone 2					
57 Acres (Average)	Generally Rectangular	3/4 to Full	Level to Rolling	Greenbelt / NEC	\$15,000

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- 1) This report has been prepared by *Larry Bedford & Associates Ltd.*, at the request of the *Union Gas Limited (Mr. Merv Weishar)* for the purpose of *deriving a benchmark per acre value for the typical property, as if vacant and unimproved, to assist Union Gas in establishing a budget for the acquisition of a gas utility easement to cross various properties from the City of Hamilton (East Flamborough) to the Town of Milton.* It is not reasonable for any person other than those addressed in this report to rely upon this appraisal without first obtaining written authorization from the *Union Gas Limited* and *Larry Bedford & Associates Ltd.* There may be qualifications, assumptions or limiting conditions in addition to those set out below relevant to that person's identity or intended use. This report is prepared on the assumption that no other person will rely on it for any other function and that all liability to all such persons is denied.
- 2) This appraisal is subject to revision upon the presentation of data, which might be later made available, that is undisclosed or unavailable at the completion date of this report.
- 3) Possession of this report, or a copy thereof, does not carry with it the right to reproduction or publication in any manner, in whole or in part, nor may it be disclosed, quoted from or referred to in any manner, in whole or in part, without prior written consent and approval of *Larry Bedford & Associates Ltd.*, as to the purpose, form and content of any such disclosure, quotation or reference.
- 4) The estimated market value of the real estate which is the object of this appraisal pertains to the value of the fee simple interest in the real property. The property rights appraised herein exclude mineral rights, if any.
- 5) The concept of market value presumes reasonable exposure. The exposure period is the estimated length of time the asset being valued would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of valuation. The overall concept of reasonable exposure encompassed not only adequate, sufficient and reasonable time, but also adequate, sufficient and reasonable effort. The reasonable exposure period is a function not only of time and effort, but will depend on the type of asset being valued, the state of the market at the date of valuation, and the level at which the asset is priced.
- 6) The estimate(s) of value contained in this report is founded upon a thorough and diligent examination and analysis of information gathered and obtained from numerous sources. Certain information has been accepted at face value; especially if there was no reason to doubt its accuracy. Other empirical data required interpretative analysis pursuant to the objective of this appraisal. Certain inquiries were outside the scope of this mandate. For these reasons, the analyses, opinions and conclusions contained in this report are subject to the following conditions:

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- (a) The property has been valued on the basis that title to the real estate herein appraised is good and marketable.
- (b) The author of this report cannot accept responsibility for legal matters, questions of survey, opinions of title, hidden or unapparent conditions of the property, toxic wastes or contaminated material, soil or sub-soil conditions, environmental, engineering or other technical matters which might render this property more or less valuable than as stated herein. If it came to our attention as the result of our investigation that certain problems may exist, a cautionary note has been entered in the body of this report.
- (c) The legal description of the property and the area of the site were obtained from the Land Registry Office. Further, the plans and sketches contained in this report are included solely to aid the recipient in visualizing the location of the property, the configuration and boundaries of the site, and the relative position of the improvements on the said lands.
- (d) The property has been valued on the basis that the real estate is free and clear of all value influencing encumbrances, encroachments, restrictions or covenants except as may be noted in this report, and that there are no pledges, charges, liens or special assessments outstanding against the property other than as described herein.
- (e) The property has been valued on the basis that there are no outstanding liabilities except expressly noted herein, pursuant to any agreement with a municipal or other governmental authority, or to any contract or agreement pertaining to the ownership and operation of the real estate or to any lease or agreement to lease, which may affect the stated value or saleability of the subject property or any portion thereof.
- (f) The property has been appraised on the basis that the real estate complies in all material respects with all restrictive covenants affecting the site and has been built, is occupied and is being operated, in all material respects, in full compliance with all requirements of the law, including zoning, land use classification, building, planning, fire and health by-laws, rules, regulations, orders and codes of all federal, provincial, regional and municipal governmental authorities having jurisdiction with respect thereto.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- (g) Investigations have been undertaken in respect of matters which regulate the use of land. However, no inquiries have been placed with the fire department, the building inspector, the health department or any other government regulatory agency, unless such investigations are expressly represented to have been made in this report. The subject property must comply with such regulations and if it does not comply, its non-compliance may affect the market value of this property. To be certain of such compliance, further investigations may be necessary.
 - (h) The property has been valued on the basis that there is no action, suit, proceeding or investigation pending or threatening against the real estate or affecting the titular owner of the property, at law or in equity, or before or by any federal, provincial or municipal department, commission, board, bureau, agency or instrumentality which may adversely influence the value of the real estate herein appraised.
 - (i) The data and statistical information contained herein were gathered from reliable sources and are believed to be correct. However, this data is not guaranteed for accuracy, even though every attempt has been made to verify the authenticity of this information as much as possible.
- 7) The estimated market value of the property does not necessarily represent the value of the underlying shares, if the asset is so held, as the value of the shares could be affected by other considerations. Further, the estimated market value does not include consideration of any extraordinary financing, rental or income guarantees, special tax considerations or any other typical benefits which may influence the ordinary market value of the property, unless the effects of such special conditions and the extent of any special value that may arise therefrom, have been described and measured in this report.
- 8) Should the title to the real estate presently be held (or changed to a holding) by a partnership, in a joint venture, through a co-tenancy arrangement or by any other form of divisional ownership, the value of any fractional interest associated therewith may be more or less than the percentage of ownership appearing in the contractual agreement pertaining to the structure of such divisional ownership.
- 9) The estimated market value of the property referred to herein is predicated upon the condition that it would be sold on a cash basis to the vendor and subject to any contractual agreements and encumbrances as noted in this report. Other financial arrangements, good or cumbersome, may affect the price at which this property might sell in the open market.

7.0 ASSUMPTIONS AND LIMITING CONDITIONS

- 10) Should the author of this report be required to give testimony or appear in court or at any administrative proceeding relating to this report, prior arrangements shall be made thereof, including provisions for additional compensation to permit adequate time for preparation and for any appearances which may be required. However, neither this nor any other of the contingent and limiting conditions is an attempt to limit the use that might be made of this report should it properly become evidence in a judicial or quasi-judicial proceeding. In such a case, it is acknowledged that it is the adjudicating body which will decide the use of this report which best serves the administration of justice.
- 11) Because market conditions, including economic, social and political factors change rapidly and, on occasion, without warning or notice, the estimate of market value expressed herein cannot be relied upon as of any date other than the effective date of this appraisal, without subsequent advice of the author of this report.
- 12) The distribution or allocation of the appraisal value between land, buildings and other improvements, or between any other classification of tangible or intangible assets, applies only in regard to the purpose and function of this appraisal, as outlined in the body of this report.
- 13) It is assumed that there is no environmental contamination of the soil; that the sewage disposal systems meet current Ministry of the Environment standards; and that none of the buildings contain any environmentally hazardous substances, such as UFFI. No environmental audit of the site or buildings was conducted by the appraiser or made available to the appraiser. If any soil or any of the buildings are contaminated, it would have an adverse effect on the market value.
- 14) The appraiser is not qualified to comment on environmental issues that may affect the market value of the property appraised, including but not limited to pollution or contamination of land, buildings, water, groundwater or air. Unless expressly stated, the property is assumed to be free and clear of pollutants and contaminants, including but not limited to moulds or mildews or the conditions that might give rise to either, and in compliance with all regulatory environmental requirements, government or otherwise, and free of any environmental condition, past, present or future, that might affect the market value of the property appraised. If the party relying on this report requires information about environmental issues then that party is cautioned to retain an expert qualified in such issues. We expressly deny any legal liability relating to the effect of environmental issues on the market value of the property appraised.
- 15) The unit value(s) expressed herein are in Canadian dollars.

8.0 FINAL ESTIMATES

After carefully weighing and analyzing all available data, it is my opinion that the estimated unit market value of the fee simple interest of a typical benchmark rural property, as if vacant and unimproved, and as of the *5th day of August, 2014*, is as follows:

BENCHMARK CRITERIA					
Lot Size	Lot Shape	Usable Site Acres	Topography	Land Use Designation	Benchmark Value Per Acre \$
Zone 1					
86 Acres (Average)	Generally Irregular	3/4 to Full	Level to Rolling	Greenbelt / NEC / Agricultural	\$25,000
Zone 2					
57 Acres (Average)	Generally Rectangular	3/4 to Full	Level to Rolling	Greenbelt / NEC	\$15,000

9.0 CERTIFICATION

**Re: Benchmark Rural Land Value
(Various properties extending from Highway 6 and Carlisle Road, City of Hamilton
(East Flamborough), to south of Derry Road between Ontario Street and Third Line,
Town of Milton)**

I certify that, except as otherwise noted in the preceding analysis, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal impartial, and unbiased professional analyses, opinions and conclusions.
- I have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- My engagement in and compensation for this assignment were not contingent upon developing or reporting pre-determined results, the amount of the value estimate, or a conclusion favouring the client.
- The reported analyses, opinions and conclusions were developed, and this report has been prepared in conformity with the requirements of the Code of Professional Ethics and the Canadian Uniform Standards of Professional Appraisal Practice of the Appraisal Institute.
- I have the knowledge and experience to complete the assignment competently.
- No one provided significant professional assistance to the person signing this report.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- As of the date of this report, the undersigned has completed the requirements of the Appraisal Institute of Canada Mandatory Recertification Program for designated members, and has also completed the requirements of the continuing education program of the American Appraisal Institute.

9.0 CERTIFICATION

Re: Benchmark Rural Land Value
(Various properties extending from Highway 6 and Carlisle Road, City of Hamilton (East Flamborough), to south of Derry Road between Ontario Street and Third Line, Town of Milton)

- A personal inspection of the subject area that is the subject of this report was completed by the undersigned on various occasions; most recently on the *5th day of August, 2014*.
- Based upon the data, analysis and conclusions contained herein, the unit market value of the fee simple interest of one acre of the typical benchmark rural property, as if vacant and unimproved, and as of the *5th day of August, 2014*, is estimated at **\$25,000 per acre for Zone 1** and **\$15,000 per acre for Zone 2** (as set out on the preceding chart).

LARRY BEDFORD & ASSOCIATES LTD.



Per: _____
Larry W. Bedford, AACI, MAI, SRA, PLE

Date: September 10, 2014

ADDENDA

Schedule No. 1A: Photographs of Comparable Sales - Zone 1

Schedule No. 1B: Photographs of Comparable Sales - Zone 2

Schedule No. 2: Curriculum Vitae - Larry W. Bedford

SCHEDULE NO. 1A

Photographs of Comparable Sales - Zone 1



Sale No. 1
765 Lower Base Line Road West, Milton



Sale No. 2
5501, 5515, 5605 Tremaine Road, Milton



Sale No. 3
Britannia Road West @ Tremaine Road, Milton



Sale No. 4
6740 Tremaine Road, Milton



Sale No. 5
6235 Bell School Line, Milton



Sale No. 6
8681 Canyon Road, Milton



Sale No. 7
9301 Second Line, Milton



Sale No. 8
3123 Limestone Road, Milton

SCHEDULE NO. 1B

Photographs of Comparable Sales - Zone 2



Sale No. 9
512 Carlisle Road, Milton



Sale No. 10
437 6th Concession Road East, Flamborough



Sale No. 11
1269 Centre Road, Flamborough



Sale No. 12
151 7th Concession Road East, Milton



Sale No. 13
65 6th Concession Road East, Milton



Sale No. 14
1021 Highway 6, Flamborough



Sale No. 15
737 Safari Road, Hamilton



Sale No. 16
1846-1850 Highway 6, Flamborough

SCHEDULE NO. 2

Curriculum Vitae - Larry W. Bedford

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

MEMBER OF:

APPRAISAL INSTITUTE OF CANADA

Accredited Member AACI (Certificate #1894)

Education Chairman & Course Director

Credit Valley Chapter A.I.C. 1977-78

Chairman Experience Rating Committee

Credit Valley Chapter A.I.C. 1978-79

Education Chairman & Course Director 1982-83

Chapter Vice-Chairman 1982-83

Chapter Chairman 1983-84

Chapter Co-Chairman and Immediate Past Chairman 1984-85

Provincial Faculty Certification Committee 1988-89

Certified Lecturer A.I.C.

APPRAISAL INSTITUTE (U.S.)

MAI

Vice-President Western New York/Ontario International Chapter 2001

ASSOCIATION OF ONTARIO LAND ECONOMISTS

Professional Land Economist PLE (Certificate #662)

VOCATIONAL BACKGROUND:

<i>March 1971</i>	<i>Cooper Appraisals Limited of Toronto</i>
<i>August 1975</i>	<i>Strung Real Estate Limited of Toronto</i>
<i>June 1979</i>	<i>Independent Fee Appraiser</i>

EXPERIENCE:

Employed in construction business as Field Engineer on a number of major projects including Manu Life Tower, National Life Building, Welland Canal project and others.

Completed market value appraisals of commercial, industrial, residential and agricultural properties across the Province of Ontario, in other Provinces in Canada and several of the United States, for financing, purchasing, expropriation, assessment appeal, litigation and insurance purposes.

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

BACKGROUND - EXPERT WITNESS:

I have appeared before the Ontario Municipal Board and have also appeared in court on numerous occasions as an expert witness in a variety of disputed property matters (arbitration and mediation).

- *Prepared retrospective appraisal and attended Board of Negotiations hearing for partial expropriation by MTO to accommodate the construction and use of the West Durham Link of Phase I of the Highway 407 extension (MTO vs. Cho)*
- *Prepared retrospective appraisal and attended Board of Negotiations hearing for entire property expropriated by the Region of York to accommodate the widening and reconstruction of Davis Drive, in the Town of Newmarket (Region of York vs. Moon)*
- *Prepared retrospective appraisal and attended Board of Negotiations hearing for partial expropriation by the Town of Bradford West Gwillimbury for the Eighth Line road widening (Town of Bradford West Gwillimbury vs. Moore)*
- *Prepared retrospective appraisal and attended Mediation hearing for partial expropriation by MTO to accommodate the construction of a link and transitway between Highway 407 & Highway 401 in the Municipality of Clarington (MTO vs. Dzikewicz)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for property expropriated on North Service Road in Oakville (MTO vs. Fraculj)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for expropriation involving re-construction of Torbram Road in Brampton and bridge construction (City of Brampton vs. Argiro)*
- *Prepared appraisal and gave evidence at Board of Negotiations hearing for expropriation involving construction of George Bolton Parkway in Caledon (Bolton) (Town of Caledon vs. Nicolini)*
- *Prepared appraisal and gave evidence at benchmark OMB hearing of loss in market value due to easement taking in Toronto (DDS vs. City of Toronto)*
- *Prepared appraisal and gave evidence at benchmark OMB hearing of loss in market value due to MTO acquisition in Innisfil (Gillespie vs. MTO)*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

BACKGROUND - EXPERT WITNESS:

- *Prepared appraisal and gave evidence at OMB hearing for benchmark determination of lands expropriated for Highway 407 (Shypka vs. Ontario Realty Corporation)*
- *Prepared appraisal and gave evidence at OMB hearing for expropriation for Halton Landfill Site (Region of Halton)*
- *Prepared appraisal and gave evidence at OMB hearing for expropriation of Halton Separate School site (Halton Catholic District School Board)*
- *Prepared appraisal and gave evidence at OMB hearing for City of Toronto road expropriation (Masae Limited vs. City of Toronto)*
- *Prepared appraisal and gave evidence at one of the Province's largest OMB expropriation matter hearing some 20 years after 1977 taking for Highway 427 (Hullmark vs. MTO)*
- *Prepared expropriation appraisal report for OMB hearing for Mississauga Road/ QEW intersection (settlement reached)*
- *Testified as expert witness in OPP real estate fraud*
- *Prepared appraisal and testified as expert witness at hearing for improvident sale of 100 acre mixed use site*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

APPRAISAL ASSIGNMENTS CARRIED OUT FOR:

Public Agencies

- *Canada Mortgage and Housing Corporation*
- *City of Brampton*
- *City of Burlington*
- *City of Hamilton*
- *City of Mississauga*
- *City of Scarborough*
- *City of Toronto*
- *Dufferin-Peel Catholic District School Board*
- *GO Transit*
- *Halton Board of Education*
- *Halton Catholic District School Board*
- *Halton District School Board*
- *Halton Non-Profit Housing*
- *Halton Region Conservation Authority*
- *Metropolitan Toronto & Region Conservation Authority*
- *Ministry of the Attorney General*
- *Ministry of Government Services*
- *Ministry of Transportation (on retainer for 2 years 2006-2008)*
- *Municipality of Metropolitan Toronto*
- *Ontario Hydro*
- *Ontario Ministry of Housing*
- *Ontario Realty Corporation*
- *Peel District School Board*
- *Public Works Canada*
- *Regional Municipality of Halton*
- *Regional Municipality of Peel*
- *Town of Ajax*
- *Town of Caledon*
- *Town of Milton*
- *Town of Oakville*
- *Town of Richmond Hill*

QUALIFICATIONS OF LARRY W. BEDFORD, AACI, MAI, SRA, PLE

APPRAISAL ASSIGNMENTS CARRIED OUT FOR:

Private Corporate Organizations

Ackerman Law Office	Manufacturers Life Insurance Co.
Aird & Berlis	Maple Leaf Foods Inc.
Bank of America	Maple Leaf Savings & Credit Union
Bank of Montreal	Maple Trust
Bell Canada	Mattamy Developments
Borden Ladner Gervais LLP	MCAP Mortgage Corp.
Brewers Warehousing Company Limited	Momat Developments
Cambridge Leaseholds	N. Barry Lyon Consultants Limited
Canada Trust	National Bank
Canadian Imperial Bank of Commerce	Northern Telecom
Cara Operations Limited	O'Connor MacLeod Hanna LLP
Chippewas of Mnjikaning First Nation	Oshawa Properties Limited
Coldwell Banker	Pallett Valo LLP
Coopers & Lybrand Ltd.	Park Bible Church
Devon Estates Limited	Petro-Canada
Effort Trust Company	Premier Health Clubs
FirstOntario Credit Union	Press Development & Management Inc.
Fleet Bank of America	Royal Bank of Canada
G.E. Canada	Royaledge Industries
G.E. Capital	Royal LePage Real Estate
Genstar Development Company	Royal Life
Geofcott Group	Royal Trust
Greenpark Homes	Rubbermaid Canada Inc.
Harris Trust and Savings Bank	Scotiabank
Home Savings & Loan Corporation	Sears Canada
HSBC Bank Canada	Security Pacific Bank
HYA Pharmaceutical Corp.	Shell Canada Products Ltd.
I.B.M. Canada Ltd.	Sheridan College
Imperial Life Assurance Co.	Southam Business
Imperial Oil Limited	Stamm Economic Research Associates
Internorth Construction Company Limited	Sun Life Trust
Kerr Cadillac	Sunoco Inc.
Keyser Mason Ball	Toronto-Dominion Bank
Kodak	Trafalgar Group
Labatts	T.T.C. Credit Union
Laurentian Bank of Canada	Twin Oak Credit Union
Laventhol & Horvath	Union Gas Limited
London Life Assurance Co.	WeirFoulds LLP
Lush Bowker Aird	

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, page 3 of 4, Land Matters

Preamble: Union Gas Limited states: "Preliminary discussions have not identified any strong objection to the Proposed Pipeline."

- a) Please provide details of any objections to the proposed pipelines that have been identified.
 - b) How have these objections been addressed by Union Gas?
-

Response:

- a) - b) No objections have been identified by landowners specific to the Proposed Pipeline. From these preliminary discussions Union has received questions from landowners, the majority of which relate to the specific location of the proposed pipeline on their property. Union has addressed these questions by reviewing site specific pipeline location maps with the landowners.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.4.7, page 4.71, Table 4.11, Land Use

Preamble: The EA Report states: "Consultation has been initiated, and will continue, with agricultural landowners along the proposed pipeline route in order to identify methods of minimizing disturbance to their operations."

What methods of minimizing disturbance to agricultural operations have been identified by Union Gas Limited?

Response:

Union will continue to consult with all landowners, including agricultural landowners, to discuss and determine specific methods for minimizing disturbance to their properties and operations. Specific methods may include minimizing the area of disturbance, minimizing the length of time an area is disturbed and maintaining land access.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, page 4 of 4, Land Matters

Preamble: Union Gas Limited states: "When the cleanup is completed, the Landowner will be asked by Union to sign a clean-up acknowledgement form if satisfied with the clean-up. This form, when signed, releases the Pipeline Contractor allowing payment for the clean-up on the property. This form in no way releases Union from its obligation for tile repairs, compensation for damages and/or further clean-up as required due to erosion or subsidence directly related to pipeline construction."

Please provide a copy of Union Gas Limited's clean-up acknowledgement form.

Response:

Please see Attachment 1.



uniongas

A Duke Energy Company

Clean-Up Acknowledgement

50 Keil Drive North, Chatham, Ont. N7M 5M1 352-3100

WBS #		Easement/Lease/CAP Number	
Owner's Name			Yr. Mo. Da.
			20
Lot	Concession	Township	County
Project			

I acknowledge that _____ has completed clean-up on my property and their work is satisfactory. I understand this is not a release for damages, but merely an acknowledgement that their clean-up work and repair of fences is satisfactory, subject to any conditions defined in Items 1 and 2 below:

Item 1 - On Easement

Item 2 - Off Easement

Authorizing Signature of Owner/Tenant		Telephone No.	
Address		Postal Code	
Contractor Representative		Date	Company Representative/Originator
			Date

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, Schedule 2, General Techniques and Methods of Construction

Preamble: On past projects, Union Gas Limited has made formal construction methodology agreements with landowners in the form of a Letter of Understanding.

- a) Please provide a copy of Union Gas Limited's Letter of Understanding or similar landowner construction agreement proposed for this project.
- b) If no agreement is proposed, please explain why not.

Response:

a)-b) The applicability of a Letter of Understanding for this Project will be discussed with landowners during Union's meetings with them.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 11, Schedule 2, General Techniques and Methods of Construction

Preamble: On farmland, Union Gas Limited picks stones down to 100 mm in diameter.

- a) On what basis did Union Gas Limited select 100 mm as the minimum size for stones to be picked?
 - b) Please confirm that Union Gas Limited has previously agreed to pick stones of a size 50 mm or larger on other pipeline projects.
 - c) Why has Union Gas Limited reverted to picking stones only where they are 100 mm or larger in diameter?
-

Response:

- a) The size was selected to reflect soil conditions noted from historical pipeline projects in the area. Union would address individual landowners concerns and adjust stone picking of topsoil if the natural soil conditions in the area warrant such.
- b) Confirmed.
- c) As described at Exhibit B.GAPLO.5, an Independent Construction Monitor was used during the construction of the Strathroy to Lobo pipeline project at the request of a landowner committee. This project used a 50mm or larger stone picking practice. The final report found that this was too restrictive and exceeded normal stone picking practices for this agricultural area. Furthermore, the Independent Construction Monitor recommended that specifications and procedures for stone picking should be revised to allow flexibility to adjust the requirements to natural soil conditions.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 12, Schedule 2, Summary of Comments (OPCC)

Preamble: Summary of Comments to be filed when received.

Please provide copies of OPCC comments received to date and going forward.

Response:

Please see Attachment 1 Updated.

OPCC Review Summary

Hamilton-Milton Pipeline Project

RECORD	STAKEHOLDER	COMMENT SUMMARY	RESPONSE SUMMARY
1	Frederick Thibeault, Administrator, Planning Services, Halton Catholic District School Board - Letter dated October 1, 2014	Noted that the proposed route is adjacent to 4 HCDSB schools. Listed 5 requirements for UG to follow during construction.	- Mark Knight, Stantec - Phone call dated October 9, 2014 - Fred has taken over as Project Administrator for Terrence Glover. - Mark indicated receipt of his OPCC comments, and that everything seemed reasonable. - Fred reiterated that he would like the work could occur outside of the school season. Mark indicated Fred's preference was understood, though made no commitment. - Fred asked that any correspondence/ meeting requests come through him first, and he could provide the appropriate contacts at the schools.
2	Tony Bavota, Fire Chief, City of Burlington - Phone call dated October 30, 2014 Leah Smith, Environmental Planner, City of Burlington - Letter dated November 5, 2014	Mr. Bavota reviewed the ER and requested to speak with someone about the Hamilton-Milton project. Mr. Bavota spoke with Scott Walker, Union Gas, and indicated he would like to eventually see emergency response plans. Following Scott's phone call a formal letter was provided by the City of Burlington outlining comments regarding emergency response procedures, as well as designated natural areas and vegetation; wildlife,	- Mark Knight, Stantec - Letter dated December 15, 2014 Provided details on field studies, permits and approvals, and emergency response procedures.

		wildlife habitat and species at risk; natural hazards, surficial hydrology and aquatic species and habitat; archaeological resources; heritage resources and cultural heritage landscapes; land use; and infrastructure.	
3	• Kim Peters, Senior Strategic Advisor, Niagara Escarpment Commission • Letter dated November 5, 2014	Commented on the need for a development permit, and the potential need for plan amendments.	• Tony Vadija, Union Gas • Letter dated November 28, 2014 Advised the NEC that Union Gas is continuing with various technical studies and expects a majority of this information to be submitted to the NEC by March 2015, and expects to file applicable permit application to the NEC by the end of the year.
4	• Guangli Zhang, Project Manager, City of Hamilton • Email dated November 5, 2014	Provided comments on related to natural heritage, source water protection and emergency services.	• Mark Knight, Stantec • Letter dated December 15, 2014 Responded to comments on natural heritage, source water protection and emergency services.
5	• Jack Carello, Manager, Utilities East, Canadian Pacific Railway • Email dated November 5, 2014	Stated that there were issues with the CD provided and requested a PDF copy of proposed route map with a red circle around the location where the pipeline crosses the CPR right of way.	• Mark Iamarino, Stantec • Email dated November 6, 2014 Provided Jack with a PDF copy of proposed route map (Figure 7 in the ER) with a red circle around the location where the pipeline crosses the CPR right of way.
6	• Ken Lawday, Trail Director, Iroquoia Bruce Trail Club • Email dated November 13, 2014	Provided 3 conditions regarding trail disturbance and restoration that the Iroquoia Bruce Trail Club would like the NEC to make conditions of approval, and explained that Union Gas has been very good at working	• Tony Vadija, Union Gas • Letter dated November 27, 2014 Assured the Iroquoia Bruce Trail Club that Union Gas will work closely with them to create minimal disruption to

		with them in the past to meet similar conditions.	both the trail and its users and to restore the area and reestablish the treadway following construction. Tony noted that he anticipated a site plan for construction and post construction would be provided for review by about March 2015. Tony committed to organizing a site visit in Spring 2015.
7	• Laureen Choi, Senior Planner, Halton District School Board • Email dated November 21, 2014	Confirmed that HDSB has no further comments from their letter sent in May 2014. Requested that Michelle D'Aguar be removed from the project mailing list.	Michelle D'Aguar was removed from the project mailing list.
8	• Angela Janzen, Development Review Planner, Town of Milton • Email dated November 27, 2014	Provided notes on the ER for future reference, and details on heritage resources.	• Mark Knight, Stantec • Email dated December 15, 2014 Thanked for the ER comments, requested air photos, and committed to providing the cultural heritage assessment when finalized.
9	• Dave Simpson, Lands and Resources Communications Officer, Alderville First Nation • Letter dated December 09, 2014	Noted that the Project does not fall within their Traditional or Treaty area.	Comment noted. No response required.
10	• Leah Chishimba, Environmental Planner, Conservation Halton • Letter dated December 17,	Provided comments on engineering, aquatic ecology, terrestrial ecology, and hydrogeology.	• Mark Knight, Stantec • Letter dated February 24, 2015 Provided responses on engineering (including the preferred watercourse crossing methods and general details of the O.

	2014		Reg. 162/06 Permit Application), aquatic and terrestrial ecology (including restoration and monitoring), and hydrogeology.
11	• D'Arcy McKinnon, Area Distribution Engineering Technician, Hydro One Networks Inc. • Email dated February 4, 2015	Provided maps showing the location of HONI infrastructure along the preferred route.	Comments Noted. No response required.



802 Drury Lane
Burlington, ON
L7R 2Y2

(905) 632-6300

www.hcdsb.org

October 1st, 2014

Mr. Zora Crnojacki
Chairperson
Ontario Energy Board
2300 Yonge St., 27th Floor, P.O. Box 2319
Toronto, ON
M4P 1E4

Mr. Zora:

RE: Environmental Report – NPS 48 Hamilton-Milton Pipeline Expansion Project

Stantec has provided the Board with the Environmental Report for the Hamilton-Milton Pipeline Expansion Project. Referring to Appendix A: Figure 7, it has been demonstrated that the preferred route for the pipeline expansion is parallel to an existing pipeline easement. As such, the Board has no objections to the proposed alignment.

Do note however that the easement is adjacent to four (4) of the Boards Catholic Elementary Schools:

- 1) Lumen Christie CES
- 2) St. Benedict CES
- 3) Our Lady of Fatima CES
- 4) Guardians Angels CES

Due to the adjacency to the easement and future works, the HCDSB would appreciate and request that Union Gas do the following:

- 1) To plan construction near school sites during summer months to reduce disruptions
- 2) To provide protective safety fencing around the work site to prevent student entry.
- 3) To inform the Board and Halton Student Transportation Services of any road closures
- 4) To be aware of the associated traffic congestion associated near schools around the start times (8-9am) and dismissal times (2:45 – 3:45pm). Actual school times can be provided closer to the construction date.
- 5) To continue to inform us of the progression of the expansion and anticipated works.

Should you have any questions please contact the undersigned.

Regards,

A handwritten signature in blue ink, appearing to read "Frederick Thibeault", is written over a horizontal line.

Frederick Thibeault, M.P., M.C.I.P.
Administrator of Planning Services

CC: P. McMahon, Superintendent of Business Services and Treasurer of the Board
G. Corbacio, Superintendent of Facility Management Services
C. Laurin, Senior Planning Clerk, Planning Services



905-335-7600 ext. 7508
905-335-7880 fax
leah.smith@burlington.ca

November 5, 2014

BY EMAIL ONLY

Zora Crnojacki
Chairperson, Ontario Pipeline Coordinating Committee
Ontario Energy Board
2300 Yonge St., 27th Floor
P.O. Box 2319
Toronto ON M4P 1E4

Dear Ms Crnojacki:

RE: Environmental Report – Union Gas Dawn to Parkway Natural Gas Pipeline Expansion
File Number: 825-02-3

City of Burlington staff has reviewed the Dawn Parkway System Expansion, Hamilton to Milton Section: Environmental Report (ER) (prepared by Stantec, dated September 18/2014) and offers the following comments.

While the proposed pipeline does not require *Planning Act* approvals, staff has reviewed the policies of the Official Plan for guidance in reviewing the environmental impacts associated with the proposal. The City of Burlington is not the lead agency for environmental permitting requirements, so while we have policies regarding natural heritage features and cultural heritage, we rely upon the technical review and permitting processes of several external agencies. Detailed field studies were not completed as part of the ER process. Ecological Land Classification and all field study requirements should be identified and carried out in consultation with Conservation Halton, the Region of Halton and the Ministry of Natural Resources and Forestry, and completed to their satisfaction.

Section 4.3.3 Designated Natural Areas and Vegetation

The preferred route traverses a portion of the Kilbride Swamp Provincially Significant Wetland Complex and candidate significant woodlands as identified by the Region of Halton. The City of Burlington Official Plan contains policies related to Provincially Significant Wetlands (PSW), significant woodlands and significant valleylands and notes that development and significant re-development is not permitted in these areas. The City of Burlington defers the technical review of the PSW to the Ministry of Natural Resources and Forestry and to Conservation Halton, and the review of significant woodlands to the Region of Halton.

Section 4.3.4 Wildlife, Wildlife Habitat and Species at Risk

The ER notes the possible presence of Endangered Species (Redside Dace, American Eel Butternut, Jefferson Salamander, Acadian Flycatcher and three species of bats – Little Brown Myotis, Northern Myotis and Eastern Small-footed Myotis) and Threatened Species (Bobolink, Meadowlark). The City of

Burlington Official Plan contains policies related to the significant habitat of endangered and threatened species and notes that development and significant re-development is not permitted in these areas. The City of Burlington defers the technical review of these items to the Ministry of Natural Resources and Forestry (MNRF). The MNRF must confirm the presence or absence of these species, and if present determine if an overall benefit permit under the *Endangered Species Act* can be issued. Staff further notes that wildlife provisions of the Niagara Escarpment Plan must also be addressed.

Section 4.2.7 Natural Hazards, 4.3.1 Surficial Hydrology and 4.3.2 Aquatic Species and Habitat

The preferred route may require up to 18 watercourse crossings within the City of Burlington. The City of Burlington Official Plan contains policies related to fish habitat and flooding and erosion hazards, and notes that development and significant re-development is not permitted in these areas, unless permission has been received from Conservation Halton.

Section 4.4.1 Residents and Businesses

This section would benefit from a discussion regarding emergency response procedures. The City of Burlington Fire Department would like to reiterate the following comments received from the City of Hamilton Fire Department, and requests a response related to these items:

- Union Gas should provide a comprehensive site-specific emergency response plan that addresses how they would respond to a major pipeline incident along the route within our community. This plan should include:
 - Information on the potential impact radius in the event of a worse case occurrence for each of the scenarios mentioned previously;
 - Detailed and comprehensive procedures for responding to a large-scale emergency such as a transmission line break, including a defined command structure that clearly assigns a single point of leadership and allocates specific duties to staff and other involved agencies.
- Union Gas was asked to provide realistic metrics concerning the pipeline operator's ability to detect a problem. This would include a drop in pressure (SCADA) and then time to react to a problem (close valves; notify emergency response staff-corporate and municipal). Union Gas has indicated that if a drop in pressure is detected, they would send field personnel to a site to determine the cause and contact external emergency personnel in the event of an emergency. Union Gas has also stated that they respond to an emergency within 60 minutes of an incident 98% of the time, with the average response time being 29 minutes. The Burlington Fire Department is concerned about the potential for a delay in notification of the fire department; given Union Gas' documented response time to a site for investigation. At a minimum (for information purposes), assurances need to be given that the fire department will be notified of situations where Union Gas representatives are on route to a specific area to investigate a pressure drop (possible leak). Prompt notification will benefit both organizations, for example, in

the event that we begin to receive calls from the area reporting a hissing sound along the right-of-way we will be in a better position to identify the cause, give more timely and accurate advice to callers (i.e. evacuate the structure) and dispatch a more appropriate response.

- When the geology in the area is taken into account, is there the possibility of product from a small undetected leak migrating through the soil or bedrock into the basement of a structure or other confined area?
- Will the product in the pipe be odorized at this point in the line?
- If the product is not odorized, would Union Gas be willing to supply natural gas detectors to properties along the right-of-way that could potentially be affected by a leak?
- Will the line have automatic or remote control shut offs?
 - Where will they be located?
 - How quickly will they react?

Section 4.4.8 Archaeological Resources

The ER notes that a Stage 1 Archaeological Assessment has been conducted and that there are 5 known archaeological sites that either abut or are transected by the proposed pipeline and that a Stage 2 Archaeological Assessment has been initiated. The City of Burlington's Official Plan contains policies regarding the conservation of archaeological resources. However, the field investigation for archaeology i.e. the Stage 2 assessment is not completed at this point, nor has this report been submitted to the Ministry of Tourism, Culture and Sport (MTCS) for technical review. As such, the City of Burlington recommends that this work be completed and submitted to MTCS for their technical review as per the *Ontario Heritage Act*, as archaeological assessment reports are required to meet MTCS's archaeological licensing standards. In addition to which, further archaeological assessment work beyond the Stage 2 Archaeological Assessment may yet be needed as noted by the ER.

Section 4.4.9 Heritage Resources and Cultural Heritage Landscapes

The ER notes that a Heritage Overview has been undertaken along the proposed pipeline route, and in the Section 4.4.9, subsection 'Potential Impacts' the ER notes that as the project has the potential to directly impact 22 heritage resources during construction. The ER indicates a Heritage Assessment Report will be undertaken prior to construction. The City of Burlington's Official Plan has cultural heritage policies to address impacts to cultural heritage resources and that support the identification of cultural heritage conservation issues early in the land use planning process and that the alteration of cultural heritage resources is to occur in accordance with legislative authority. As such the City of Burlington recommends that a Heritage Assessment Report be conducted in order to address any needed conservation or mitigation options for the 22 heritage resources identified as early in this process as possible. As municipalities identify, conserve and protect properties under Part IV and V of the *Ontario Heritage Act*, the City of Burlington recommends that heritage assessment report also is submitted to the city for review and comment.

Summary

The City of Burlington requests that impacts to the above noted features and resources are identified and reviewed by the relevant agencies and addressed to their satisfaction. Further, any mitigation and protective measures required should also be identified in conjunction with the agencies/provincial ministries and addressed to their satisfaction.

4.4.7 Land Use

Within the City of Burlington, the preferred route traverses three Official Plan land use designations: Escarpment Rural Area, Greenlands (Escarpment Plan Area) and Escarpment Protection Area. Utility facilities are a permitted use in these land use designations; however in the Greenlands (Escarpment Plan Area) designation the utility must be deemed essential. Essential is defined as "That which is deemed necessary to the public interest after all alternatives have been considered." The OEB must demonstrate through its approval process that the proposed pipeline is necessary and in the public interest. The same standard is required within Escarpment Natural Areas of the Niagara Escarpment Plan.

4.4.11 Infrastructure

Municipal Consent Permits will be needed for any work with the City's road right-of-way. The Municipal Consent process will also address all other city requirements and by-laws, such as impacts to City owned trees and municipal access agreements for works on City owned lands. Please contact Mr. Sam Sidawi, Senior Engineer at sam.sidawi@burlington.ca to obtain these approvals.

Yours Truly,



Leah Smith
Environmental Planner II
Planning and Building Department

cc. Mark Knight, Environmental Planner, Stantec
Sam Sidawi, Senior Engineer, City of Burlington
Tony Bavota, Fire Chief, City of Burlington
Penny Young, Senior Heritage Planner, City of Burlington
Kim Peters, Niagara Escarpment Commission
Leah Chishimba, Conservation Halton
Steve Dinka, Region of Halton



Stantec Consulting Ltd.
70 Southgate Drive, Suite 1, Guelph ON N1G 4P5

December 15, 2014
File: 160960892

Attention: Leah Smith
City of Burlington
426 Brant Street, PO Box 5013
Burlington, ON L7R 3Z6

Dear Ms. Smith,

Reference: Environmental Report – Union Gas Dawn to Parkway Natural Gas Pipeline Expansion
File Number: 825-02-3

Thank you for taking the time to review the Environmental Report prepared for the Hamilton to Milton Pipeline project and for your letter dated November 5, 2014 providing comments.

Please note that all field studies will be carried out in consultation with relevant agencies and municipalities, including: Conservation Halton, the Niagara Escarpment Commission (NEC), the City of Hamilton, the City of Burlington, the Town of Milton, the Region of Halton and the Ministry of Natural Resources and Forestry (MNRF). A 'Terrestrial and Aquatic Field Work Plan' was circulated for agency and municipal review and comment in early 2014. Results of the 2014 field surveys are currently being summarized in a report titled 'Hamilton-Milton Pipeline: Natural Heritage Survey Results – 2014', which will be forwarded shortly for agency and municipal review and comment. Following field surveys conducted in 2015, a final natural heritage summary report will be prepared.

Union Gas has committed to obtaining all applicable permits and approvals prior to construction of the project, including those from Conservation Halton, the NEC, municipalities and the MNRF. Union Gas has also committed to undertake all necessary archaeological and cultural heritage assessments prior to construction, and ensure they are provided to the Ministry of Tourism, Culture and Sport for their review and comment. As requested, a copy of the cultural heritage assessment will be forwarded to the City for review and comment.

In regards to your comments on emergency response procedures, please find the following responses which have been prepared in discussion with Union Gas:

- The potential impact radius for a worst case occurrence is typically in accordance with the latest Technical Standards and Safety Authority's (TSSA) Oil and Gas Pipeline Systems Code



December 15, 2014

Page 2 of 3

Reference: Environmental Report – Union Gas Dawn to Parkway Natural Gas Pipeline Expansion
File Number: 825-02-3

Adoption Amendment (FS-196-12). That being said, Union Gas uses a different more conservative approach using Emergency Planning Zones (EPZ).

- Union Gas' Emergency Response Plan (ERP) is a comprehensive document that meets or exceeds the requirements of the governing pipeline standards, namely the CSA ZS662 requirements. For security reasons, Union Gas' ERP is a controlled internal document and is not distributed publicly.
- Union Gas' ERP includes a defined Incident Command Structure. Union Gas has utilized this structure for more than 10 years. The structure includes Union Gas' role assignments and accountabilities. Union Gas' Incident Commander is accountable for all Union Gas activities on site. During emergency situations, the Incident Commander can be clearly identified by a reflective vest that includes bold reflective lettering "Union Gas Incident Commander".
- If Union Gas' Dawn Operations Centre determines there is a leak on their system, Union Gas' Emergency Response Procedures would be immediately enacted and emergency services would be contacted as soon as possible.
- Due to the lighter-than-air properties of natural gas, any leak would rapidly escape into the atmosphere and dissipate. Migration below ground is unlikely to travel long distances on a transmission line as it will likely find an easy path to the surface along the pipe easement.
- The gas is not odorized in this part of Union Gas' system. Consistent with industry-wide practice, Union Gas does not believe natural gas detectors are required for the reasons provided in the answer above.
- The pipeline will have remote control shut-off valves located at each end (Hamilton Valve Site and Milton Gate Station). Once they are signaled to be closed, it would take approximately 90-120 seconds to fully close.

Thank you for providing the City's contact name for any required Municipal Consent Permits.



December 15, 2014

Page 3 of 3

Reference: Environmental Report – Union Gas Dawn to Parkway Natural Gas Pipeline Expansion
File Number: 825-02-3

Should you have any additional comments or questions regarding the Project, including in regards to emergency response procedures, please do not hesitate to contact the undersigned to assist in having your questions answered and/or organizing a meeting with representatives from Union Gas.

Regards,

STANTEC CONSULTING LTD.

Mark Knight, MA, MCIP, RPP
Environmental Planner
Phone: (519) 836 6050 x218
mark.knight@stantec.com

cc. Zora Crnojacki, Ontario Pipeline Coordinating Committee
Tony Vadjia, Union Gas Limited
Sam Sidawi, City of Burlington
Tony Bavota, City of Burlington
Penny Young, City of Burlington
Kim Peters, Niagara Escarpment Commission
Leah Chishimba, Conservation Halton
Stephen Dinka, Region of Halton

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Niagara Escarpment Commission

An agency of the Government of Ontario

November 5, 2014

BY EMAIL

Zora Crnojacki
Ontario Pipeline Coordinating Committee
Ontario Energy Board
2300 Yonge Street, 27th Floor
PO Box 2319
Toronto, Ontario
M4P 1E4

**Re: Union Gas Dawn Parkway System Expansion, Hamilton to Milton:
Environmental Report**

Dear Ms. Crnojacki,

Staff of the Niagara Escarpment Commission (NEC) has reviewed the Environmental Report for the proposed Union Gas Dawn Parkway System Expansion, dated September 18, 2014.

General Comments

NEC staff notes that the proposed pipeline traverses the Niagara Escarpment Plan (NEP) Area through the City of Burlington and the Town of Milton. The Purpose of the NEP is "to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment, and to ensure only such development occurs as is compatible with that natural environment." The policies and objectives relate to this Purpose, and set out both permitted uses within the various land use designations of the NEP Area, and development criteria that must be met when development, including the installation of utilities, is proposed. An excerpt of the NEP land use map showing the pipeline route is attached for your reference.

NEC staff will assess the proposed development's conformity with these policies, and will coordinate its review with Conservation Halton, the Ministry of Natural Resources and Forestry (MNR), and other agencies as necessary to ensure technical and natural heritage studies undertaken by the proponent are satisfactory.

.../2

Compliance with Niagara Escarpment Plan Policies

The Environmental Report notes that the preliminary preferred route, as illustrated on Figure 4, will traverse Provincially Significant Wetland (the Kilbride Swamp). NEC staff has informed Union Gas and its consultants that, as per Part 2.6.10 of the NEP, development must locate outside wetlands. The preliminary proposed route does not comply with this policy, and therefore a Niagara Escarpment Plan Amendment may be required. However, NEC staff agrees that the preliminary proposed route appears to have fewer natural heritage impacts, notwithstanding the findings of the natural heritage field surveys that have not yet been completed.

The NEP also contains a policy that new development will not be permitted in the identified habitat of an endangered species (NEP Part 2.8.1). As noted in the Environmental Report, there is no route alternative that avoids potential habitat of endangered species. Therefore, if the habitat of one or more endangered species is identified within the limits of construction within the NEP Area, a NEP Amendment may be required. NEC staff will not be able to advise on the need for a Plan Amendment until MNRF has provided advice on species at risk, and the natural heritage field surveys have been completed.

It is noted in the Environmental Report that the proposed pipeline must cross lands in the Escarpment Natural Area land use designation. Only essential utility facilities are permitted in Escarpment Natural Area. The Ontario Energy Board's approval of the project is necessary for the proposed pipeline to be deemed essential, although this will not remove the possible requirement for Amendments to the NEP.

In addition to the policy constraints outlined above, there are other development criteria contained within Part 2 of the NEP with which the proposal must comply. Union Gas and its consultants were previously provided with a detailed list of relevant criteria, as contained in the attached letter dated June 5, 2014. Once natural heritage field surveys are complete and construction details are made available, NEC staff will be able to determine if the proposal complies with these policies.

NEC Development Permit Application

In several sections of the Environmental Report (e.g., section 4.3.2), references are made to the need for permits from Conservation Halton, and possibly from MNRF under the *Endangered Species Act, 2007*. It is important to note that these permits can only be issued after the NEC has approved its development permit. In the case where a Plan Amendment is required (i.e., where development must locate in a wetland or in the habitat of an endangered species), the Plan Amendment must be approved by the Minister of Natural Resources and Forestry prior to or concurrently with the issuance of the NEC development permit.

NEC staff encourages early submission of a NEC development permit application. Although the NEC decision on the application may be deferred until the technical studies are complete, early submission of the application will enable the Commission to commence circulation of the application to affected agencies and stakeholders for their

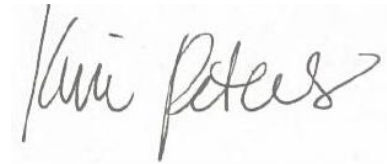
comments. The feedback received from agencies and stakeholders will assist the NEC in determining if a Plan Amendment will be required, especially with regard to the habitat of endangered species.

Mitigation, Protective Measures and Monitoring

NEC staff appreciates Union Gas' commitments to mitigating and protecting against negative environmental impacts. However, the adequacy of these commitments can only be assessed once detailed field surveys are complete and construction details are made available. Therefore, NEC staff reserves the right to make additional comments when technical studies are complete.

NEC staff appreciates the opportunity to review the Environmental Report as part of the OPCC process. We look forward to reviewing the technical studies associated with this project to further evaluate the potential impacts within the NEP Area.

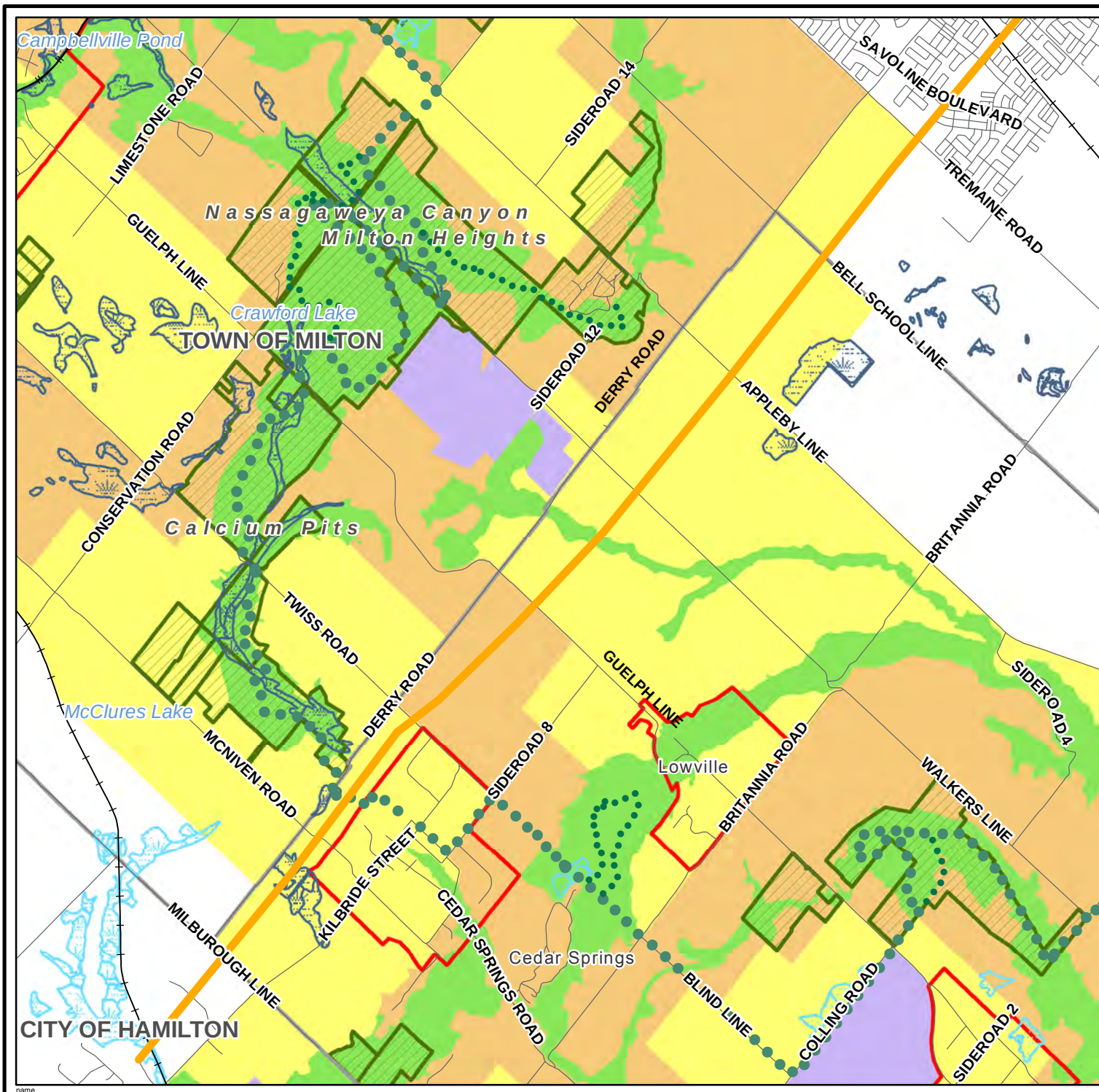
Sincerely,

A handwritten signature in dark ink, reading "Kim Peters", with a stylized flourish at the end.

Kim Peters
Senior Strategic Advisor

Enclosures

c: Niagara Escarpment Commission
 Tony Vadlja, Union Gas
 Jeff Wesley, Union Gas
 Mark Knight, Stantec
 Margaret Berube, MNRF
 Leah Chishimba, Conservation Halton
 Leah Smith, City of Burlington
 Angela Janzen, Town of Milton
 Guy Paparella, City of Hamilton
 Steve Dinka, Halton Region



Niagara Escarpment Plan

Map 1

Union Gas Dawn Parkway Pipeline (Hamilton to Milton)

— Union Gas Pipeline

Plan Designations

- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre
- Niagara Escarpment Parks and Open Space System

NOTE: The Niagara Escarpment Plan Designation boundaries shown on this map are approximate and subject to confirmation through Site Inspection and the application of the 'Interpretation of Boundaries' section of the Niagara Escarpment Plan

Map Features Legend

Bruce Trail

- Main Trail
- Side Trail

Evaluated Wetlands

- Evaluated-Provincial
- Evaluated-Other

Scale 1:50,000
0 250 500 750 1000
Metres

Printed on Jul 08, 2009

THIS IS NOT A PLAN OF SURVEY

This map is illustrative only. Do not rely on it as being a precise indicator of routes, location of features, nor as a guide to navigation. Base derived from various sources. Map compiled and produced by the Geographic Information Systems (GIS) Department of the Niagara Escarpment Commission, Ministry of Natural Resources



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Niagara Escarpment Commission

232 Guelph St.
Georgetown, ON L7G 4B1
Tel: 905-877-5191
Fax: 905-873-7452
www.escarpment.org

Commission de l'escarpement du Niagara

232, rue Guelph
Georgetown ON L7G 4B1
No de tel. 905-877-5191
Télécopieur 905-873-7452
www.escarpment.org



Niagara Escarpment Commission
An agency of the Government of Ontario

June 5, 2014

Mr. Mark Knight
Environmental Planner
Stantec Consulting Ltd.
1-70 Southgate Drive
Guelph, ON N1G 4P5

**Re: Union Gas Dawn Parkway System Expansion, Hamilton to Milton:
Terrestrial and Aquatic Field Work Plan & Environmental Report**

Staff of the Niagara Escarpment Commission (NEC) is in receipt of the above-mentioned document. Staff appreciates the opportunity to review the proposed work plan, but defers technical comment to Conservation Halton. However, staff would like to take this opportunity to provide input to other aspects of the Environmental Report.

There are several policy matters specific to the Niagara Escarpment Plan (NEP) that need to be addressed in the Environmental Report. It is staff's understanding that the Environmental Report will be prepared in accordance with the Ontario Energy Board's *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario* (6th Edition, 2011). In accordance with these guidelines, a discussion of the undertaking's compliance with relevant NEP policies should be included in the Environmental Report. These policies are:

NEP Section	Policies	Discussion
Part 1.3 Escarpment Natural Area	Permitted Use: Essential transportation and utility facilities	Since the proposed pipeline will likely transect land in the Escarpment Natural Area designation, the pipeline will need to be shown to be essential. The Ontario Energy Board's approval of the project will meet this requirement.
Part 2.2 General Development Criteria	1a-d, 4, 5, 8	General Development Criteria that are relevant to the proposed undertaking
Part 2.6 New Development Affecting Water Resources	1, 6, 7a-h, 8, 9a-b, 10, 11, 12, 13, 14a-e, 20	Policy #10 requires that all development locate outside wetlands, i.e., all wetlands, not only Provincially Significant Wetlands (PSW). If the proponent chooses to expand on the existing Union Gas easement corridor, the pipeline will transect the Kilbride Swamp PSW, and will not comply with this policy.

Part 2.7 New Development within Wooded Areas	1, 2, 3	Policies to protect wooded areas
Part 2.8 Wildlife Habitat	1, 2a-c	Policy #1 prohibits new development in identified habitat of endangered plant or animal species.
Part 2.9 Forest Management	1a-e, 2a-e, 4, 5	Tree protection and reforestation policies
Part 2.12 Heritage	1, 2, 5	Cultural heritage preservation policies
Part 2.15 Transportation and Utilities	1a-e, h-i, 2, 3	Policies regarding the location and expansion of transportation and utility facilities.

Although the expansion of the existing pipeline corridor does not comply with the NEP's prohibition on development in wetlands, NEC staff acknowledges that it may be the most environmentally preferable option given that expansion of the existing pipeline corridor could have less impact than a new corridor in a different location. The evaluation of alternatives in the Environmental Report will need to demonstrate that this is the case.

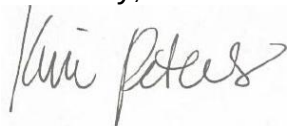
As noted in the work plan, there are records of species at risk in proximity to the study area. The NEP policy prohibiting development in the identified habitat of an endangered species should be noted. At this time, this threshold policy still applies even if a permit could be considered pursuant to Section 17(2) of the *Endangered Species Act* (2007).

As previously discussed, if the proposed undertaking cannot meet the policies referenced in this letter, an amendment to the NEP may be required.

We expect that Stantec and Union Gas will be able to fully address all of the above-noted policies in the Environmental Report. NEC staff would appreciate the opportunity to review the Environmental Report concurrently with the Ontario Pipeline Coordinating Committee review process.

If clarifications or additional information are required, please do not hesitate to contact the undersigned at kim.peters@ontario.ca or (905) 877-6425.

Sincerely,



Kim Peters
Senior Strategic Advisor

- c. David Johnston, NEC
- Leah Chishimba, Conservation Halton
- Jackie Burkart, Ministry of Natural Resources
- Angela Janzen, Town of Milton
- Guy Paparella, City of Hamilton
- Bianca Bielski, City of Burlington
- Doug Schmidt, Union Gas



uniongas

A Spectra Energy Company

Niagara Escarpment Commission
232 Guelph St.
Georgetown, Ontario
L7G 4B1

November 28, 2014

Attn: Ms. Kim Peters, Senior Strategic Advisor

Re: Proposed NPS 48 Hamilton – Milton pipeline project

Dear Kim,

Thank you for your letter dated November 5, 2014 to Ms. Zora Crnojacki (OEB) concerning our proposed Hamilton to Milton pipeline project and related Environmental Report.

We are continuing with various technical studies in support of the proposed project and anticipate that the majority of this information will be submitted to the NEC and other agencies by March, 2015. In addition, we anticipate filing, by the end of the year, the applicable NEC permit applications for the proposed Hamilton to Milton project and thank you in advance for any assistance you can offer in this regard.

Once again, thank you for your time associated with our project and please feel free to call if you have any questions concerning the proposed Hamilton to Milton pipeline project.

Yours truly,

Tony Vadlja
Senior Environmental Advisor
519 667 4100 ext 5153550
519 520 6934 (cell)

CC: Zora Crnojacki, OEB

From: [Iamarino, Mark](#)
To: [Iamarino, Mark](#)
Subject: FW: Union Gas Hamilton-Halton Pipeline Expansion Environmental Report
Date: Tuesday, December 02, 2014 2:39:26 PM
Attachments: [Environmental Report Comments-Natural Heritage Planner.doc](#)
[RE Union Gas Pipeline Expansion Environmental Report.msg](#)
[RE Union Gas Pipeline Expansion Environmental Report.msg](#)

From: Zhang, Guangli [<mailto:Guangli.Zhang@hamilton.ca>]
Sent: Wednesday, November 05, 2014 3:40 PM
To: Zora.Crnojacki@OntarioEnergyBoard.ca; Knight, Mark
Cc: Paparella, Guy; Picone, Lindsay
Subject: Union Gas Hamilton-Halton Pipeline Expansion Environmental Report

This message is sent on behalf of Mr. Guy Paparella, Director of Growth Planning, City of Hamilton

Dear Ms. Crnojacki and Mr. Knight,

Thank you for allowing us the opportunity to review and comment on the Environmental Report, for the Union Gas NPS 48 Hamilton-Milton Pipeline Expansion Project. Staff has reviewed the report. Comments are provided as the attachment to this email message.

If you have any questions, please contact Mr. Paparella at 905-546-2424 ext. 5807.

Sincerely,

Guangli Zhang, P. Eng.
Project Manager
Infrastructure Planning | City of Hamilton
P:(905) 546-2424 ext. 6412 | F:(905) 540-5611



Hamilton

Planning and Economic
Development Department

Memorandum

To: Guangli Zhang,
Project Manager
Infrastructure Planning

From: Cathy Plosz
Natural Heritage Planner
Development Planning, Heritage and Design, West

Phone: 905-546-2424 Ext. 1231 **Fax:** 905-546-4202

Date: October 15, 2014 **File:**

Subject: Comments on the Environmental Report, Union Gas Hamilton-Milton Pipeline Expansion Project.

I have reviewed the Environmental Report by Stantec Consulting, dated September 18, 2014 and offer the following comments:

On Page 4.25 of the report, Section 4.3.3. Designated Natural Areas and Vegetation, the City of Hamilton has a Natural Heritage System mapped on Schedule B of the Rural Hamilton Official Plan. The City does break the system down into features, such as ESAs, wetlands, and Significant Woodlands, but the report should note that the City does consider these areas as part of a system of connected and inter-related natural areas. Currently, the section indicates that the City has ESAs, Significant Woodlands, and wetlands identified in its Official Plan, but there is actually a Natural Heritage System, consisting of Core Areas and Linkages. This should be noted in the report.

The report indicates that there may be habitat for species at risk along the pipeline route, but field surveys to confirm whether any of these species are present is only being proposed for Jefferson Salamander. Will field surveys be conducted for bats? Since their status has changed recently, surveys for bats are warranted in 2015. It is possible that proposed tree removal may affect bat roosts or maternity colonies.

On Page 4.27, the report indicates that tree removal will be done “in consideration of the City of Hamilton Woodland Conservation By-law R00-054”. This is the old Region of Hamilton-Wentworth By-law and should be referred to as the “Region of Hamilton-Wentworth Woodland Conservation By-law”. Also, it is not clear what is meant by “considering” the By-laws – this should be clarified in the report.

In Section 4.3.4, on page 4.30, there is a statement that:

Rare species are considered at five levels: globally rare, federally rare (with designations by COSEWIC), provincially rare (with designations by COSSARO), regionally rare (at the

Site Region level), and locally rare (in the municipality or Site District). This is also the order of priority that should be assigned to the importance of maintaining species.

I also have concerns about the statement that federally rare species should be given a higher level of protection than Provincially rare species, and finally, locally rare species. I am not aware of this direction in any policy documents.

I note that the report does not consider species which Hamilton (and Halton Region) identify as locally/regionally rare. Both Hamilton and Halton have completed recent field studies and have information which may be useful to Stantec. Field studies were conducted on the North Progreston Swamp ESA as part of the Nature Counts 2 Project (2011 to 2013). This natural area was surveyed in 2012 for frogs and toads, and in 2013 for frogs, toads, birds, butterflies, odonates, and Ecological Land Classification (ELC). This additional data is available by contacting the Ecologist at the Hamilton Conservation Authority at (905) 525-2181.

On Page 4.44, please note that zones proposed within Hamilton's rural area have changed and now include additional Conservation/Hazard Zones (P7 and P8).

Regarding the replanting and monitoring plan, I understand that monitoring is done for one year after restoration planting. If Union Gas does not already do this, it would be useful to provide information to landowners on what they can do if the plantings do not survive, or there are other negative impacts (e.g. erosion) that they note on their property as a result of the pipeline construction and restoration.

Thanks for the opportunity to provide comments. If you have any questions, please contact me at (905) 546-2424 ext. 1231.

CP

October 15, 2014.

From: [Ches, Carmen](#)
To: [Zhang, Guangli](#)
Cc: [Paparella, Guy](#); [Bazzard, Andrea](#); [Picone, Lindsay](#); [Cunliffe, Dave](#)
Subject: RE: Union Gas Pipeline Expansion Environmental Report

Hi Guangli,

The Source Protection Planning group reviewed the Environmental Report for the Union Gas NPS48, *Dawn Parkway System Expansion, Hamilton to Milton Section* prepared by Stantec Consulting Ltd (Sept 2014). We are in agreement with the Potential Effects and corresponding Mitigation and Protective Measures relating to groundwater outlined in the *Summary and Recommendations* section of the report (page 4.60-4.61). We would like to add the following comments as outlined below:

- SPP is concerned about the potential for adverse impacts to the private and municipal well supplies during construction and afterwards given that some wells are GUDI (Groundwater under direct influence of surface water). The proposed pipeline transects the Wellhead Protection Area (WHPA) for the Carlisle municipal wells and is also nearby many private well users. The groundwater quality and quantity shall be preserved and any unforeseen impacts generated by the construction or dewatering activities be promptly mitigated.
- SPP would like to be informed of whether or not a Permit to Take Water will be required.
- A hydrogeological study should be prepared to identify the potential effects of the construction and dewatering activities on the private water well users within a 500 meter radius of the site. This may include, but is not limited to residential homes, commercial/industrial establishments and the municipal wells. If deemed necessary a monitoring program shall be implemented (pre, during and post construction) to ensure that the construction and potential dewatering activities do not negatively affect the groundwater quality or quantity of the local groundwater resource.
- It has been noted that in the event of dewatering, the effluent will be released into the natural environment. As a measure to protect the natural environment, including the receiving body and the local groundwater resource, the quality of the dewatering effluent must be monitored.
- The area has been identified in the Halton-Hamilton Source Protection Plan as a Highly Vulnerable Aquifer and a portion of the pipeline will be laid within the WHPA-B and WHPA-E of the Carlisle municipal wells. The following should be noted:
 - The temporary storage of fuel or chemicals would be considered a significant drinking water threat under the Clean Water Act so we advise that the on-site storage of chemicals to be located outside the WHPAs where possible or in limited quantities. The containers shall be equipped with secondary containment;
 - All fuel and chemical equipment shall be free from leaks and equipped with shut-off devices;
 - Refueling activities shall be performed outside of WHPAs, monitored, and vehicles should not be left unattended when being refueled;
 - The contractor shall prepare and implement the following:
 - Spill Mitigation and Contingency Plan

■ Emergency Spills Action Plan

If further details related to our comments are required please contact Andrea Bazzard (x5605) or the undersigned.

Regards,
Carmen



Carmen Ches, M.Sc.

Acting Senior Project Manager

Source Protection Planning
Sustainable Initiatives | Public Works | City of Hamilton
77 James Street North, Suite 400
Hamilton, ON L8R 2K3
T: 905.546.2424 ext. 1301
Carmen.Ches@hamilton.ca

From: Zhang, Guangli
Sent: October-20-14 12:10 PM
To: Picone, Lindsay; Cunliffe, Dave; Ches, Carmen
Cc: Paparella, Guy
Subject: Union Gas Pipeline Expansion Environmental Report

Hello,

We have received an Environmental Report for the Union Gas NPS48 Hamilton-Milton Pipeline Expansion Project. A digital copy of the report is on N: drive for your review:

N:\Development Engineering\Melanie A\Union Gas\NPS 48 Hamilton-Milton Pipeline Expansion\Environmental Report - rpt_60892_EnvReport_20140919_fin.pdf

Please kindly provide your comments by Monday Nov 3, we will coordinate and forward the comments to the Ontario Energy Board.

Many Thanks,

Guangli Zhang, P. Eng.
Project Manager
Infrastructure Planning | City of Hamilton
P:(905) 546-2424 ext. 6412 | F:(905) 540-5611

From: [Cunliffe, Dave](#)
To: [Zhang, Guangli](#); [Picone, Lindsay](#); [McGuire, Gord](#); [Sergi, Michelle](#); [Paparella, Guy](#)
Cc: [Simonds, Rob](#); [Moss, Randy](#)
Subject: RE: Union Gas Pipeline Expansion Environmental Report
Date: Tuesday, November 04, 2014 11:29:00 AM
Attachments: [COH response to Union Gas - Dawn Parkway System Expansion Project Initia....pdf](#)
Importance: High

Guangli,

I am sorry for the delayed in our response.

Attached is the City of Hamilton response dated March 21st, 2014, that has been included in the report provided by Stantec Engineering ([N:\Development Engineering\Melanie A\Union Gas\NPS 48 Hamilton-Milton Pipeline Expansion\Environmental Report - rpt_60892_EnvReport_20140919_fin.pdf](#)) concerning this proposed project in the appendices under Municipal Comment 5. Since the Hamilton Fire Department has yet to receive a substantive response to our concerns, we would suggest that it is appropriate to reiterate that all of the concerns previously identified (March 21st, 2014) still exist.

In addition, the email from Carmen Ches, Acting Senior Project Manager, Source Protection Planning, Public Works of the City of Hamilton expresses concerns regarding the potential of adverse impacts to the Carlisle municipal wells. If the Carlisle municipal water supply (which is our primary source of water for fire protection in the area) is compromised/contaminated due to a release, we are concerned that this would have a significant impact our ability to utilize the municipal water source for fire/emergency operations in the area.

Please let me know if you have any questions.

Thanks

Dave
David Cunliffe
Deputy Fire Chief
Hamilton Fire Department
Community and Emergency Services Department
Tel: (905) 546-2424 ext. 3340
Fax: (905) 546-3344
Cell: (905) 961-9112
e-mail David.Cunliffe@hamilton.ca

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From: Zhang, Guangli
Sent: October 31, 2014 11:24
To: Picone, Lindsay; Cunliffe, Dave; McGuire, Gord; Sergi, Michelle

Subject: FW: Union Gas Pipeline Expansion Environmental Report

Hello,

Just a friendly reminder:

We are to consolidate staff comments and send them to the Ontario Energy Board. If you have any comments regarding the Environmental Report for the Union Gas Expansion Project, we would appreciate to receive them by next Monday Nov 3.

Thanks,

Guangli

From: Zhang, Guangli

Sent: October-20-14 12:10 PM

To: Picone, Lindsay; Cunliffe, Dave; Ches, Carmen

Cc: Paparella, Guy

Subject: Union Gas Pipeline Expansion Environmental Report

Hello,

We have received an Environmental Report for the Union Gas NPS48 Hamilton-Milton Pipeline Expansion Project. A digital copy of the report is on N: drive for your review:

N:\Development Engineering\Melanie A\Union Gas\NPS 48 Hamilton-Milton Pipeline Expansion\Environmental Report - rpt_60892_EnvReport_20140919_fin.pdf

Please kindly provide your comments by Monday Nov 3, we will coordinate and forward the comments to the Ontario Energy Board.

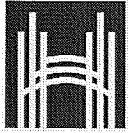
Many Thanks,

Guangli Zhang, P. Eng.

Project Manager

Infrastructure Planning | City of Hamilton

P:(905) 546-2424 ext. 6412 | F:(905) 540-5611



Hamilton

City of Hamilton
City Hall, 71 Main Street West
Hamilton, Ontario
Canada L8P 4Y5
www.hamilton.ca

Growth Management Division, Planning and Economic Development Department
Physical Address: 71 Main Street West, 6th floor
Phone: 905.546.2424 Ext. 5807 Fax: 905.540.5611
Email: Guy.Paparella@hamilton.ca

March 21, 2014

Sent via Email only

Stantec Consulting Ltd.
Attn: Mr. Mark Knight
70 Southgate Drive, Suite 1
Guelph ON N1G 4P5

Dear Mr. Knight:

**Subject: Union Gas Pipeline Project – Dawn Parkway System Expansion -
Hamilton to Milton Section**

Thank you for allowing us the opportunity to review and comment on the Union Gas Pipeline Project – Dawn Parkway System Expansion – Hamilton to Milton Section.

The City of Hamilton has reviewed the Initiation of Environmental Study letter and has the following preliminary comments:

General Comments and Future Consultation

Union Gas requested comments from the City of Hamilton. The project initiation letter stated that Union Gas was “...seeking information that may affect construction and operation of the proposed pipeline, including: background environmental and socioeconomic information, planning principles or guidelines which fall under your jurisdiction and other proposed developments to assess potential cumulative effects.” It is difficult to provide specific comments at this time without proposed routing being identified.

The City of Hamilton requests that as the environmental study process progresses further consultation occurs. The City of Hamilton will require sufficient time to consider the application and associated materials and be provided with adequate opportunity to provide input.

Also, as the study progresses all road crossing details will need to be directed through the City's Geomatics and Corridor Management Section. An agreement will be required that outlines cost sharing arrangements, relocation, etc.

Hamilton Fire Department

Similar to the unresolved concerns for the Proposed Union Gas Pipeline Project – Brantford Take-Off Station to Kirkwall Valve Site, Hamilton Fire Department has the following comments on the Parkway System Expansion – Hamilton to Milton Section:

- Union Gas should provide a comprehensive site-specific emergency response plan that addresses how they would respond to a major pipeline incident along the route within our municipality. This plan should include:
 - Information on the potential impact radius in the event of a worse case occurrence for each of the scenarios mentioned previously.
 - Detailed and comprehensive procedures for responding to a large-scale emergency such as a transmission line break, including a defined command structure that clearly assigns a single point of leadership and allocates specific duties to staff and other involved agencies.
- Union Gas was asked to provide realistic metrics concerning the pipeline operator's ability to detect a problem. This would include a drop in pressure (SCADA) and then time to react to a problem (close valves; notify emergency response staff- corporate and municipal). Union Gas has indicated that if a drop in pressure is detected, they would send field personnel to a site to determine the cause and contact external emergency personnel in the event of an emergency. Union Gas has also stated that they respond to an emergency within 60 minutes of an incident 98% of the time, with the average response time being 29 minutes. The Hamilton Fire Department is concerned about the potential for a delay in notification of the fire department, given Union Gas' documented response time to a site for investigation. At a minimum (for information purposes), assurances need to be given that the Fire Department will be notified of situations where Union Gas representatives are on route to a specific area to investigate a pressure drop (possible leak). Prompt notification will benefit both organizations, for example, in the event that we begin to receive calls from the area reporting a hissing sound along the right-of-way we will be in a better position to identify the cause, give more timely and accurate advice to callers (i.e. evacuate the structure) and dispatch a more appropriate response.
- When the geology in the area is taken into account, is there the possibility of product from a small undetected leak migrating through the soil or bedrock into the basement of a structure or other confined area? In the past we have encountered situations in Hamilton where a gas has migrated through the shale, entered basements of residences and affected the health and safety of the occupants.
- Will the product in the pipe be odorized at this point in the line?
- If the product is not odorized, would Union Gas be willing to supply natural gas detectors to properties along the right-of-way that could potentially be affected by a leak?
- Will the line have automatic or remote control shut offs?
 - Where will they be located?
 - How quickly will they react?

**Subject: Union Gas Pipeline Project - Initiation of Environmental Study Dawn
Parkway System Expansion - Hamilton to Milton Section Page 3 of 3
March 21, 2014**

Thank you again for allowing us the opportunity to comment on the Union Gas Pipeline Project – Dawn Parkway System Expansion – Hamilton to Milton Section. If you have any questions or concerns please contact me at 905-546-2424 Ext. 5807.

Sincerely,



for: Guy Paparella
Director, Growth Planning

c.c. Rob Simonds, Fire Chief, Hamilton Fire Department
Lindsay Picone, Solicitor, Legal Services
Gord McGuire, Manager of Geomatics and Corridor Management



Stantec Consulting Ltd.
70 Southgate Drive, Suite 1, Guelph ON N1G 4P5

December 15, 2014
File: 160960892

Attention: Guangli Zhang
City of Hamilton
71 Main Street West, 6th Floor
Hamilton, ON L8P 4Y5

Dear Guangli Zhang,

Reference: Comments on the Environmental Report, Union Gas Pipeline Project, Dawn Parkway System Expansion, Hamilton to Milton Section.

Thank you for taking the time to review the Environmental Report prepared for the Hamilton to Milton Pipeline project and for your email dated November 5, 2014 providing comments.

Natural Heritage Comments

It is understood that the City of Hamilton has a Natural Heritage System (NHS) consisting of Core Areas and Linkages. Hamilton's NHS is referred to in Section 4.3.3 of the Environmental Report (ER). Future Reports and correspondence will make it clearer that Hamilton's NHS consists of Core Areas and Linkages.

With regard to habit of species at risk, and your specific reference to bat surveys, the ER states in Section 4.3.4 (page 4.34) that "Planned surveys include those for amphibians (anuran breeding surveys, Jefferson salamander (minnow trapping), reptiles (turtle and snake habitat), mammals (bat habitat) and breeding birds (grassland, woodland and wetland, crepuscular)." Species at risk field surveys were initiated in 2014. Additional surveys are planned in 2015. Results of the 2014 surveys will be forwarded to the City shortly.

It will be passed onto Union Gas that the City of Hamilton Woodland Conservation By-law R00-054 should be referred to as the Region of Hamilton-Wentworth Woodland Conservation By-law.

With reference to your comment made about prioritizing the protection of federally, provincially and locally rare species, stated in Section 4.3.4, on page 4.30, it should be clarified that federally rare species should not be given a higher level of protection, but rather, their protection should be given a higher level of priority since their populations are sensitive nationwide, not just locally.

Locally rare species within the City of Hamilton and other municipalities along the pipeline route will be identified in the Natural Heritage Survey Results report. As noted above, , the Natural Heritage Survey Results will be forwarded shortly to all appropriate municipalities and agencies for review and comment. Please note that existing information on locally rare species has already been received from the Hamilton Conservation Authority.

It has been noted that within Hamilton's rural area the zones have been updated and now include additional Conservation/Hazard Zones (P7 and P8).



December 15, 2014

Page 2 of 4

Reference: Comments on the Environmental Report, Union Gas Pipeline Project, Dawn Parkway System Expansion, Hamilton to Milton Section.

With regard to Union Gas' replanting and monitoring plan, as stated in Section 4.3.3, on page 4.28, Union Gas will maintain the trees for 5 years or until they reach a free to grow status as defined by a height of one metre and free of adjacent brush competition.

Source Water Protection Comments

Hamilton's recommendation to undertake a hydrogeological study and associated monitoring program, and to monitor the quality of dewatering effluent, are noted. As recommended in Section 4.2.3, on page 4.9, Union Gas will hire a hydrogeologist to develop a well monitoring program for private water well users. While your recommendation of a 500m radius is noted, our preference would be to have the hydrogeologist determine the appropriate radius based on the nature of the risk and the hydrogeological conditions encountered. As recommended in Section 4.3.2, on page 4.8, Union Gas will consult with contamination experts to determine and develop a monitoring program for discharged hydrostatic test water.

As per Section 4.3.2, a Permit to Take Water will be required and obtained for the project.

Union Gas intends to monitor and implement measures to mitigate any negative impacts to groundwater quality and quantity during construction of the proposed pipeline and associated dewatering activities. Proposed mitigation and protection measures are in Section 4.2.3 Groundwater and Section 6.0 Monitoring and Contingency Plans of the Environmental Report. Your recommended mitigation is in alignment with the recommendations in these two sections, or as found in other sections of the Environmental Report (for example, the commitment to equipment being free of leaks and equipped with shut-off devices can be found in Section 4.3.1, Page 4.19). That being said, the four specific requirements outlined in your letter concerning HVA have been noted and will be prepared and implemented. Specific measures such as these will be outlined in an Environmental Construction Plan which, for larger Union Gas projects, is typically prepared the year prior to construction. A copy of the Plan will be forwarded to the City.

Union Gas and Stantec will keep the Source Protection Planning group at the City of Hamilton informed as project details related to Permits to Take Water, well monitoring and water discharge testing become known.

Emergency Services Comments

In regards to your comments on emergency response procedures, please note that Union Gas has actively consulted with the Hamilton Fire Department throughout the recent projects occurring within your municipal boundary. Such consultation includes:

- A letter dated May 15, 2013, from the City of Hamilton, asking for information about Union Gas' Emergency Response Plan in relation to the Brantford-Kirkwall Pipeline Project.



December 15, 2014

Page 3 of 4

Reference: Comments on the Environmental Report, Union Gas Pipeline Project, Dawn Parkway System Expansion, Hamilton to Milton Section.

- A response letter dated June 11, 2013, from Union Gas, providing Emergency Response Plan details in relation to the Brantford-Kirkwall Pipeline Project.
- A meeting on October 3, 2013 with representatives from Union Gas, the Hamilton Fire Department and the City of Hamilton to discuss emergency response for the Brantford-Kirkwall Pipeline Project.
- A letter dated March 21, 2014, from the City of Hamilton, asking for information about Union Gas' Emergency Response Plan in relation to the Hamilton to Milton Project.
- A meeting on March 31, 2014 with representatives from Union Gas and the City of Hamilton where emergency response was discussed.

While it was the understanding of Union Gas that the above consultation efforts addressed any questions of the Hamilton Fire Department, as requested, please find the following responses regarding Union Gas' emergency response procedures:

- The potential impact radius for a worst case occurrence is typically in accordance with the latest Technical Standards and Safety Authority's (TSSA) Oil and Gas Pipeline Systems Code Adoption Amendment (FS-196-12). That being said, Union Gas uses a different more conservative approach using Emergency Planning Zones (EPZ).
- Union Gas' Emergency Response Plan (ERP) is a comprehensive document that meets or exceeds the requirements of the governing pipeline standards, namely the CSA ZS662 requirements. For security reasons, Union Gas' ERP is a controlled internal document and is not distributed publicly.
- Union Gas' ERP includes a defined Incident Command Structure. Union Gas has utilized this structure for more than 10 years. The structure includes Union Gas' role assignments and accountabilities. Union Gas' Incident Commander is accountable for all Union Gas activities on site. During emergency situations, the Incident Commander can be clearly identified by a reflective vest that includes bold reflective lettering "Union Gas Incident Commander".
- If Union Gas' Dawn Operations Centre determines there is a leak on their system, Union Gas' Emergency Response Procedures would be immediately enacted and emergency services would be contacted as soon as possible.
- Due to the lighter-than-air properties of natural gas, any leak would rapidly escape into the atmosphere and dissipate. Migration below ground is unlikely to travel long distances on a transmission line as it will likely find an easy path to the surface along the pipe easement.



December 15, 2014

Page 4 of 4

Reference: Comments on the Environmental Report, Union Gas Pipeline Project, Dawn Parkway System Expansion, Hamilton to Milton Section.

- The gas is not odorized in this part of Union Gas' system. Consistent with industry-wide practice, Union Gas does not believe natural gas detectors are required for the reasons provided in the answer above.
- The pipeline will have remote control shut-off valves located at each end (Hamilton Valve Site and Milton Gate Station). Once they are signaled to be closed it would take approximately 90-120 seconds to fully close.

In regards to your additional question regarding municipal water supply, as noted above, due to the lighter-than-air properties of natural gas any leak would rapidly escape into the atmosphere and dissipate. Section 2.2.2 of the Environmental Report outlines measures that will be undertaken to plan for and react to an accidental spill of gas or oil during construction.

Should you have any additional comments or questions regarding the Project, including in regards to emergency response procedures, please do not hesitate to contact the undersigned to assist in having your questions answered and/or organizing a meeting with representatives from Union Gas.

Regards,

STANTEC CONSULTING LTD.

Mark Knight, MA, MCIP, RPP
Environmental Planner
Phone: (519) 836 6050 x218
mark.knight@stantec.com

- c. Zora Crnojacki, Ontario Pipeline Coordinating Committee
Tony Vadjia, Union Gas Limited
Patrick Sullivan, Union Gas Limited
Cathy Plosz, City of Hamilton
David Cunliffe, City of Hamilton
Carmen Ches, City of Hamilton
Guy Paparella, City of Hamilton

From: [Jack Carello](#)
To: [Iamarino, Mark](#)
Cc: "[Sullivan, Patrick](#)"; joconnor@uniongas.com
Subject: RE: Environmental Report - Hamilton-Milton Pipeline Expansion Project - File # 160960892
Date: Thursday, November 06, 2014 3:11:52 PM

Thanks Mark - Proposed pipeline would be crossing CPR's right of way at Mile 71.53 of the Hamilton Subdivision Line.

CP has a Master Agreement with Union Gas, which I've cc'd Joel O'Connor whom usually applies to our group for pipeline under crossings.

Regards,

Jack Carello SR / WA | Manager Utilities East | Engineering – Special Projects | 1290 Central Pkwy W. Ste 700

Mississauga ON L5C-4R3 | **O 905-803-3417 - CP**

From: Iamarino, Mark [<mailto:Mark.Iamarino@stantec.com>]
Sent: Thursday, November 06, 2014 11:05 AM
To: Jack Carello
Cc: 'Sullivan, Patrick'
Subject: RE: Environmental Report - Hamilton-Milton Pipeline Expansion Project - File # 160960892

Hi Jack,

Attached is a map of the proposed route, with the CP Rail crossing circled in red.

Mark I.

From: Knight, Mark
Sent: Thursday, November 06, 2014 9:23 AM
To: Iamarino, Mark
Subject: FW: Environmental Report - Hamilton-Milton Pipeline Expansion Project - File # 160960892

Could you get this map prepped and forwarded to Jack?

Thanks

From: Jack Carello [mailto:Jack_Carello@cpr.ca]
Sent: Wednesday, November 05, 2014 4:50 PM
To: Knight, Mark
Subject: Environmental Report - Hamilton-Milton Pipeline Expansion Project - File # 160960892

Hi Mark,

We're having some issues with the CD provided with your letter dated September 24, 2014. Can you forward a pdf copy of the proposed route map only showing with a red circle the gas pipeline crossing the CP right of way.

Thanks,

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Ontario Energy Board
2300 Yonge Street,
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Toronto, ON M4P 1E4

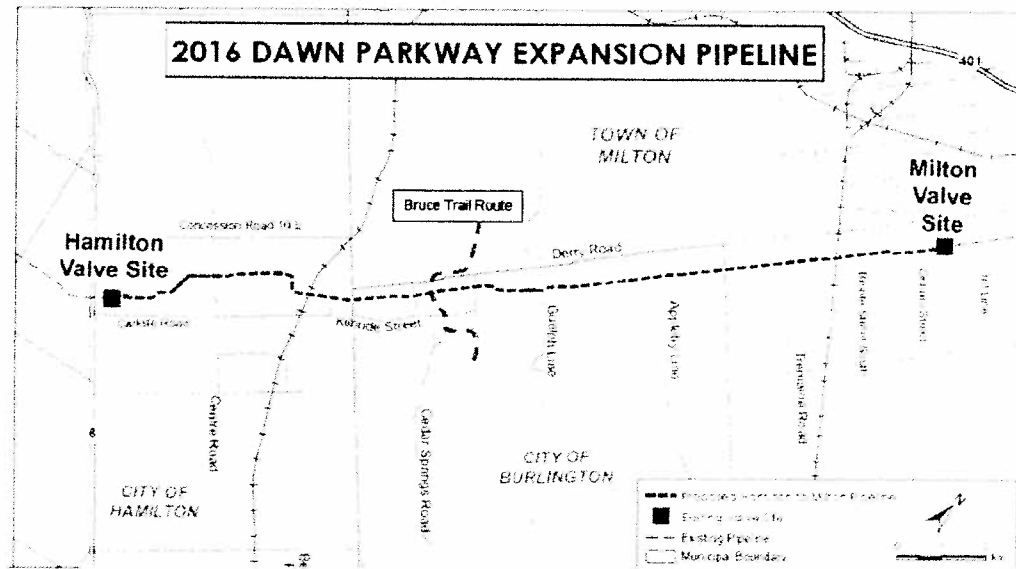
Attn: Ms. Kirsten Walli
Board Secretary

Iroquoia Bruce Trail Club
PO Box 71057
Burlington ON L7T 4J8 Canada
www.iroquoia.on.ca

Ref: File No. EB-2014-0261

Union Gas application for approval to construct a natural gas pipeline.

The proposed route of the new pipeline crosses the route of the Bruce Trail between Kilbride and Derry Road, as shown in the following map:



As you may be aware, the Bruce Trail is Ontario's premier hiking trail, linking Queenston Heights in the south to Tobermory in the north. The trail is part of the conservation efforts of the Bruce Trail Conservancy to establish a conservation corridor containing a public footpath along the Niagara Escarpment in order to protect its natural ecosystems and to promote environmentally responsible access to this UNESCO World Biosphere Reserve.

The Bruce Trail is strongly supported by the Niagara Escarpment Commission (NEC) and forms a fundamental part of NEC planning guidelines.

The section of the Bruce Trail that will be affected by the construction of this new pipeline is managed by the Iroquoia Bruce Trail Club, one of the nine member clubs of the Bruce Trail Conservancy. The Club has obvious concerns over the affect this new pipeline will have on the Bruce Trail, both during construction and after completion.

I would request that the Ontario Energy Board make it a condition of any approval of this new pipeline that Union Gas agree, in writing, to work closely with the Iroquoia Bruce Trail Club to ensure that:

- a) Minimum disruption to the Bruce Trail occurs during construction,
- b) Full restoration of the natural habitat after construction is made,
- c) Assistance is given to re-establish the Bruce Trail treadway in its original location following construction.

I am pleased to note that Union Gas has, in the past, been a good supporter of the Bruce Trail and I would hope that this support continues during and after this project. Shown below is the existing boardwalk close to the location where the Bruce Trail would cross the new pipeline. This boardwalk was partially funded by Union Gas as part of the construction of the existing pipeline in this same location.



Yours sincerely,

Ken Lawday

Trail Director,
Iroquoia Bruce Trail Club
Email: kenlawday@live.ca
Tel: (905) 876-2527



uniongas

A Spectra Energy Company

Response to Correspondence Comment 6

original mailed to Ken.

Iroquoia Bruce Trail Club
PO Box 71057
Burlington, Ontario
L7T 4J8

November 27, 2014

Attn: Mr. Ken Lawday

Re: Union Gas Proposed NPS 48 Hamilton – Milton Pipeline Project

Dear Ken,

Further to our discussion on November 14, 2014, I want to assure you that we will work closely with the Iroquoia Bruce Trail Club so that our proposed Hamilton – Milton pipeline project creates minimal disruption to both the Trail and its users and that we will restore the area and re-establish the treadway following construction. To this end, we will prepare a site plan for both construction and post construction for your review. I anticipate that we will have the site plan completed and available for your review by about March, 2015.

Thank you in advance for your time on our proposed pipeline project. Please feel free to call if you have any questions about the project.

Yours truly,

Tony Vadjia
Senior Environmental Advisor
519 667 4100 ext 5153550
519 520 6934 (cell)

From: [Iamarino, Mark](#)
To: [Iamarino, Mark](#)
Subject: FW: File #160960892 Hamilton Milton Pipeline Project
Date: Friday, November 21, 2014 4:11:27 PM
Attachments: [Dawn Parkway Expansion Comments - May 2014.pdf](#)

From: Laureen Choi [<mailto:choil@hdsb.ca>]
Sent: Friday, November 21, 2014 10:28 AM
To: Knight, Mark
Subject: File #160960892 Hamilton Milton Pipeline Project

Hi Mark. Thanks for your circulation. We have no further comments on the proposed project. We provided comments May 2014 which have been attached for your reference.

Please continue to circulate us of the project. Also, please only send one copy of the circulations to my attention (Michelle's name can be removed from the circulation list).

Thank you.

Laureen Choi
Senior Planner
Planning Department
Halton District School Board
tel 905-335-3665 x2201
choil@hdsb.ca

Knight, Mark

From: Knight, Mark
Sent: Monday, December 15, 2014 1:58 PM
To: 'angela.janzen@milton.ca'; 'Zora.Crnojacki@OntarioEnergyBoard.ca'
Cc: Barb.Koopmans@milton.ca; paul.cripps@milton.ca; John.Brophy@milton.ca; jeff.fraser@milton.ca; mike.dunstall@milton.ca; Susan.O'Brien@milton.ca; george.murdych@milton.ca
Subject: RE: Union Gas -ER - NPS 48 Hamilton-Milton Pipeline Expansion Project

Hi Angela,

Thank you for taking the time to review the Environmental Report prepared for the Hamilton to Milton Pipeline project and for your email below providing comments. The comments provided by the Town of Milton have been reviewed and passed onto Union Gas, and will be noted for future reference.

With regards to your comment concerning the air photo base in the Environmental Report, we feel that at this stage of the project they are adequate for planning purposes. Both Stantec and Union Gas are aware of the development that has since occurred in the Town of Milton. We would however appreciate your more recent air photos. Please let us know the most efficient way to get them.

With respect to Ms. Fisher's comments about heritage resources, thank you very much for this information. We plan to complete the cultural heritage assessment on behalf of Union Gas by mid-2015 and will ensure it is provided to Ms. Fisher and the Ministry of Tourism, Culture and Sport for their review and comment. Mitigation and protection measures identified through the assessment will be implemented, as necessary, to protect heritage resources.

Should you have any further comments or questions regarding the project please do not hesitate to contact me.

Regards,

Mark Knight, MA, MCIP, RPP

Environmental Planner - Assessment, Permitting and Compliance
Stantec
70 Southgate Drive, Suite 1 Guelph ON N1G 4P5
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Mark.Knight@stantec.com



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From: angela.janzen@milton.ca [mailto:angela.janzen@milton.ca]
Sent: Thursday, November 27, 2014 2:34 PM
To: 'Zora.Crnojacki@OntarioEnergyBoard.ca'; Knight, Mark
Cc: Barb.Koopmans@milton.ca; paul.cripps@milton.ca; John.Brophy@milton.ca; jeff.fraser@milton.ca; mike.dunstall@milton.ca; Susan.O'Brien@milton.ca; george.murdych@milton.ca
Subject: Union Gas -ER - NPS 48 Hamilton-Milton Pipeline Expansion Project

Good morning Zora and Mark.

My apologies for not getting these comments to you sooner. The deadline to comment on the ER document was November 5, 2014.

The comments I have provided below are mostly for clarification purposes, with the exception of those relating to the heritage resources. If it is too late to incorporate any of these changes within the ER document for the above noted project, please take note of these items for future reference.

1. Section 1.1 – Ontario St. does not extend beyond Derry Road at this point in time. The reference should be “between Regional Road 25 and Third Line”
2. Section 1.3.5 - Milborough Line should be Milborough Line
3. Section 3.4.1 – Stantec/Union Gas met with Milton staff re: impact to trails, parks, assumed roads, etc. on November 11, 2014.
4. Section 4.4.7 – The proposed pipeline route in the Urban Area is designated “environmental linkage area” for the most part, not Greenlands B. In some areas the pipeline crosses major watercourses – where that occurs, the designation is Greenlands A. Both designations permit essential transportation and utility facilities. The segment from Bell School Line to Tremaine Road is within the Niagara Escarpment Plan Area and appears to be designated Escarpment Rural and Greenlands A.
5. Section 4.4.9 and Table 4.10 (Heritage) – See details provided by the Town’s Heritage Planner below. Additional resources have been noted.
6. Table 4.11 (Land Use – Section 4.4.7) – If agreeable, add something along the lines of the following in terms of Mitigation and Protective Measures relating to Land Uses (page 106 in the draft ER document) - *“Consultation has been initiated, and will continue, with the Town of Milton in order to identify methods of minimizing disturbances of any Town owned lands roads, and facilities, including existing and planned trails within the proposed pipeline route.”*
7. Section 5.3 – Year 2016 Construction - This may be an appropriate place to mention the above noted suggestion. As a result of a meeting held on November 11, 2014 between Stantec, Union Gas and Town Engineering, Parks and Planning Departments, there are various parks, roads and trail connections that will be affected by the construction.
8. In the Figures section at the back of the document, are the air photos up-to-date? When Stantec and Union Gas met with Town of Milton Engineering, Parks and Planning staff on November 11th, it was noted that the photos were out of date. If there is an opportunity to correct any outdated information, that would be appreciated. Town staff will provide a copy of a more recent air photo showing areas that will need to be coordinated during construction once it is completed, as per our discussion at our meeting of November 11th. This may be helpful to your report.

Heritage Resources (information provided by Anne Fisher, Heritage Planner at the Town of Milton)

The following heritage resources would be affected by the proposed Union Gas expansion that is proposed south of Derry Road between Bell School Line and Thompson Road:

- **5408 Derry Road West.** This is a heritage landscape known as the Absalom Bell Farmstead (Bell School Line is named after the Bell family as Absalom Bell sold the land for the school to be built on his land north of Derry Road) The house on 5408 Derry Road West was built c. 1920 and there are a variety of barns and outbuildings. It

is unclear how close the Union Gas works would be to the cluster of farmstead buildings on this property. If they follow the line of the existing gas corridor the buildings on this property are unlikely to be affected by the proposals. A Heritage Impact Assessment may be required to assess the impact of any proposed works on the heritage resources on this property. This property is not designated or on the Town's Heritage List but it is of heritage significance.

- **6740 Tremaine Road.** This is not designated but is included on the Town's Heritage List. It is a heritage landscape that includes a Gothic Revival Style house with some nearby mature trees. It is unclear how close the Union Gas works would be to the house on this property. If they follow the line of the existing gas corridor the house on this property is unlikely to be affected by the proposals. A Heritage Impact Assessment may be required if the works are close to the house.
- **225 Ruhl Drive** (the street address of this property has changed a number of times). This property is designated under the provisions of the Ontario Heritage Act as a heritage landscape comprising of the Austin Willmott farmstead. It is unclear how close the Union Gas works would be to the heritage resources on this property. If they follow the line of the existing gas corridor the buildings on this property are unlikely to be affected by the proposals. A Heritage Impact Assessment may be required to assess the impact of any proposed works on the heritage resources on this property.
- **6712 Regional Road 25.** This is not designated but is included on the Town's Heritage List. It is a heritage landscape, known as the John Willmot farmstead, comprising of a brick Regency farmhouse (built c.1835) and various outbuildings. It is unclear how close the Union Gas works would be to the heritage resources on this property. If they follow the line of the existing gas corridor the buildings on this property are unlikely to be affected by the proposals. A Heritage Impact Assessment may be required to assess the impact of any proposed works on the heritage resources on this property.
- **6529 Regional Road 25.** This is not designated but is included on the Town's Heritage List. It is a heritage landscape comprising of a c. 1840 Gothic Revival style farmhouse and various outbuildings. It is unclear how close the Union Gas works would be to the heritage resources on this property. If they follow the line of the existing gas corridor the buildings on this property are unlikely to be affected by the proposals. A Heritage Impact Assessment may be required to assess the impact of any proposed works on the heritage resources on this property.
- **6597 Regional Road 25.** The William and Lexie Kennedy stone Regency farmhouse (also known as the Featherstone House). This is of heritage significance but is being demolished. The stones are being used to build a replica house on Stoutt Crescent and the history of the property is being commemorated in the park on this property. It is unclear how close the Union Gas works would be to the remaining heritage resources on this property. We already have a Heritage Impact Assessment for this property but it may need to be updated if the park is being affected by the proposed works
- **6649 Regional Road 25.** This is not designated but is included on the Town's Heritage List. It comprises of a c. 1890 brick house. This is located very close to the existing Union Gas corridor. A Heritage Impact Assessment would be required if the proposed works affect this property.

6619 Regional Road 25 contains a 1950's bungalow and is of no heritage significance.

If you should have any questions, please contact me directly.

Thanks.

Angela Janzen, BES, MCIP RPP

Development Review Planner

Planning & Development Department

Town of Milton

150 Mary St., Milton ON L9T 6Z5

Tel: 905-878-7252 x2310

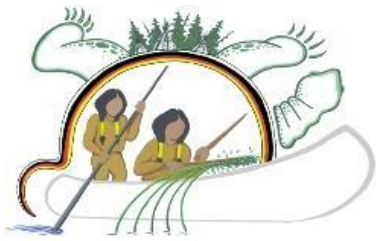
Fax: 905-876-5024

Email: angela.janzen@milton.ca

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11696 Second Line
P.O. Box 46
Roseneath, Ontario K0K 2X0
Phone: (905) 352-2011
Fax: (905) 352-3242

Correspondence Comment 9

Chief: James R. Marsden
Councillor: Julie Bothwell
Councillor: Jody Holmes
Councillor: Dave Mowat
Councillor: Angela Smoke

December 9, 2014

Union Gas
P.O. Box 2001
50 Keil Drive North
Chatham, ON N7M 5M1

Attn: John Bonin
Manager Economic Development

Re: Environmental Report – NPS 48 Hamilton-Milton Pipeline Expansion Project

Dear Mr. Bonin:

Thank you for your consultation request to Alderville First Nation regarding the Environmental Report – NPS 48 Hamilton-Milton Pipeline Expansion Project, which is being proposed. Your project does not fall within our Traditional or Treaty area therefore I would suggest you contact the First Nation whose territory the project is being proposed in. We appreciate the fact that Union Gas recognizes the importance of First Nations Consultation and that your office is conforming to the requirements within the Duty to Consult Process.

In good faith and respect,

Dave Simpson
Lands and Resources
Communications Officer
Alderville First Nation

dsimpson@aldervillefirstnation.ca

Tele: (905) 352-2662
Fax: (905) 352-3242

From: [Iamarino, Mark](#)
To: [Iamarino, Mark](#)
Subject: FW: ER Comments for the Union Gas Dawn Parkway System Expansion-Hamilton to Milton
Date: Friday, February 27, 2015 11:54:27 AM
Attachments: [Union Gas Pipeline Project- Dawn Parkway System Expansion -ESR.pdf](#)

From: Leah Chishimba [mailto:Ichishimba@hrca.on.ca]
Sent: Thursday, December 18, 2014 9:59 AM
To: Knight, Mark
Cc: Iamarino, Mark; 'Kim.Peters@ontario.ca'; Smith, Leah (Leah.Smith@burlington.ca)
Subject: Re: ER Comments for the Union Gas Dawn Parkway System Expansion-Hamilton to Milton

Hi Mark,

Please see attached CH's comments on the Environmental Report for the above noted EA project.

Thanks,

Leah Chishimba, M.A.E.S

Environmental Planner

Conservation Halton

2596 Britannia Road West, Burlington, ON L7P 0G3

905.336.1158 ext. 2266 | Fax 905.336.6634 | Ichishimba@hrca.on.ca

conservationhalton.ca

December 17, 2014

MAIL & EMAIL

Mr. Mark Knight
Environmental Planner
Stantec Consulting Limited
70 Southgate Drive, Suite 1,
Guelph, Ontario N1G 4P5

Dear Mr. Knight:

**Re: Union Gas Pipeline Project-Environmental Report
Dawn Parkway System Expansion-Hamilton to Milton Section
Conservation Halton File: MPR 650**

Staff of Conservation Halton have reviewed the submitted '*Dawn Parkway System Expansion, Hamilton to Milton Section: Environmental Report, dated September 18, 2014*', prepared by Stantec and offer the following comments.

Engineering Comments:

1. Section 3.5.2.2. Refinements based on Input. (Pg. 3.6):

Conservation Halton staff in our letter dated April 14, 2014 indicated that the preferred method of watercourse crossing is trenchless. The report does not acknowledge it or provide comments on this recommendation. While staff would not object to open cut crossing method for some of the required crossings; several crossings will require trenchless, therefore refinements of the input are required.

2. Section 4.2.2 Physiography & Surficial Geology. (Pg. 4.6)

- a. Staff recommend that confined riverine system crossings (Sixteen Mile Creek, Crossings CS30, CS31) should be undertaken by trenchless technologies.
- b. Please note that sediment and erosion control plans must be prepared by a qualified professional (P.Eng. or CISEC) for each of the activities within the regulated areas under Ontario Regulation 162/06.

- c. Please note that Union Gas DFO – endorsed Generic Sediment Control Plan does not include trenchless crossing details. Please note that staff will require trenchless crossing details to be provided for all permanent watercourses.
- d. Please note that any interference with the confined systems (valley walls) will require involvement of a Qualified Professional (i.e. a Geotechnical Engineer) to confirm slope stability aspects.
- e. Staff request that Geotechnical input is required to confirm the condition of each crossing of the permanent watercourse and to confirm the appropriate trenchless methodology to be utilised for the crossing.

3. **Section 4.2.7. Natural Hazards.**

- a. This section identifies two hazards: seismic activity and flooding. Natural hazards also include hazards associated with erosion, unstable bedrock and unstable soils. Please note that at minimum erosion hazards should be included in this section and the impact on the erosion hazard must be discussed. The erosion risk includes stability valley walls (confined riverine systems) and natural migration of a watercourse within its meander belt (unconfined riverine systems) and must be addressed accordingly. Staff noted that the alignment of the proposed pipeline is parallel to Mountsberg Creek. The proposed alignment is also crossing at the confluence of two tributaries of Flamboro Creek (Crossing CS3). Infrastructure in these locations may be impacted by the erosion hazard associated with the watercourse. Please note that according to Conservation Halton Policies and Guidelines for the Administration of Ontario Regulation 162/06 and Land Use Planning Policy Document dated April 27, 2006, revised August 11, 2011 (Policy), no new development is permitted within the erosion hazard, without a confirmation from a Professional Geoscientist (fluvial geomorphologist) that the erosion hazard associated with the watercourse has been properly addressed.
- b. Please note that the design drawings must indicate the limit of the hazard in relation with the location of the proposed pipeline for the extent of the project.
- c. Staff recommend that the applicable hazards be identified and confirmed for each crossing. Further, staff require that applicable hazards be identified for each section of the pipeline that will run within the Conservation Halton regulated areas.
- d. To limit the long term risk of pipeline exposure, Conservation Halton staff recommend a Professional Geoscientist (Fluvial Geomorphologist) assess the relative risk associated with downcutting for each crossing.
- e. Staff request that for all medium to high risk systems, such as, but not limited to crossings CS1, 2, 29 – 31, the minimum depth of cover for each crossing must be confirmed by a Professional Geoscientist (Fluvial Geomorphologist).

- f. Please note that for low risk systems, the minimum accepted depth of cover between the new pipe and the bottom of the watercourse is 2.0 m and this minimum cover depth is recommended to encompass the entire width of the watercourse's meander belt.
- g. Please note that to address the flooding hazard in the long-term perspective, the project at the minimum should indicate that the existing grades will be maintained. It is expected that the entry-exit pits for the trenchless crossings will be located outside of the floodplain hazard, however, no material should be stockpiled in the floodplain during the construction.

4. Section 4.3. Biophysical Features (Pg. 4.15)

Please note that according to *Section. 3.51 (g)* of our Policy Document, *"the construction of pipe or service pipelines must maintain the pre-development configuration of the floodplain and valley walls and minimize the disturbance to existing vegetation. Directional drilling or boring should be utilized for all permanent flowing streams"*.

Please note that all watercourses identified as "permanent" in Table 2.2. should be crossed by trenchless technologies. Please note that staff request confirmation on the nature of the remaining streams before confirming the appropriate method of crossing.

5. Table 4.11. Section 4.2.2. Physiography & Surficial Geology (Pg. 4.59)

- a. Please add the following bullet point *"A Professional Geoscientist (fluvial geomorphologist) should be retained to confirm the required depth of installation of the proposed gas pipeline based on the characteristics of the watercourse"*.
- b. Please add to *"Control and stabilization measures should be maintained until vegetative cover is established"* the following *"and fully removed thereafter."* Staff recommend this inclusion because of the frequency that staff have observed silt fencing and other controls remaining within or adjacent to natural areas well past their required use.

6. Table 4.11. Section 4.2.3. Groundwater (Pg. 4.60)

Please add the following bullet point *"Additional information regarding the hydrostatic test including the source of water and discharge characteristics is required. Please note that depending on the location of the discharge, a permit under Ontario Regulation 162/06 may be required"*.

7. Table 4.11. Section 4.3.2. Aquatic Species and Habitat (Pg. 4.65)

- a. Please replace *"Bed material will be replaced to match pre-construction conditions"* with *"Bed material will be replaced to match native substrate"*.
- b. Please add to *"Crossings methods and details will be determined following geotechnical investigations, and will follow measures outlined in Union Gas's*

DFO endorsed Watercourse Crossing Agreement” the following “and to comply with the requirements outlined in our Policy”.

8. Table 4.11. Sec. 4.3.3. Designated Natural Areas and Vegetation (Pg. 4.66)

- a. Please add the following bullet point *“Storage and maintenance of the stripped top soil should adhere Soil Management Practices for Urban Construction prepared by TRCA, dated 2012 or better practices to ensure preservation of the healthy soil”*.
- c. Please add the following bullet point *“The access to the sites and /or crossings including the existing access road conditions will be assessed and confirmation on the need to replace or upgrade the existing culverts as part of the access road will be provided”*.

9. Conservation Areas

Please note that a permit to access lands owned by Conservation Halton will be required. Please contact Niall Lobley at ext. 2256 or nlobley@hrca.on.ca to obtain the requirements for a land access permit.

10. Sec. 4.3.1. Surficial Hydrology

Sections should discuss the potential impact on the wetland as well as the required mitigation measures.

11. General

Please note that staff’s preferred location of the new pipeline is entirely within the existing pipeline route to avoid the north deviation.

Hydrogeology Comments:

- 12. Union Gas constructed a similar pipeline to the one subject to this EA following the same route and typically only 13 metres away, partially in 1992 and the remainder in 2007. Staff note that it is important to understand any issues/challenges that occurred during the previous construction to better inform our current review. These issues/challenges may include locations where dewatering was required to maintain dry working conditions, shallow bedrock, and any complaints received that suggested impacts to water quality or quantity in wells, ponds, streams, wetlands, etc.

13. Section 4.2.1 Bedrock Geology and Drift Thickness

Staff note that this section identifies the bedrock geology underlying the proposed route. This section falsely defines the Amabel Formation as including the Eramosa Formation. The Amabel only included the lower Goat Island, Gasport, and Irondequoit Formations. The Eramosa Formation is mapped by Ontario Geological

Survey west of the pipeline route. If current work has identified the Eramosa Formation as underlying the pipeline route, please provide the borehole logs for our records.

14. Section 4.2.3 Potential Impacts

- a. The pipeline route is not identified as a potential preferential pathway for groundwater flow. Staff request that Union Gas assess the need for clay collars to restrict lateral groundwater movement along the pipeline trench.
- b. Municipal well source water protection is discussed and threats to the municipal wells are discussed. Not specifically mentioned in the report is that Carlisle wells FDC03R and FDC05, located in the vicinity of the pipeline route, are GUDI wells – groundwater under the direction influence of surface water. As such, activities occurring at or near ground surface could impact water quality at the wells in a relatively short time period. The handling and storage of fuel and chemicals have been identified as threats to the municipal wells, however, soil disturbance from vibration and the potential for increased turbidity at the municipal wells was not. Union Gas should consider how to avoid soil disturbance during construction in the area, plan to notify City of Hamilton water operators when work will be undertaken near the wells, and a contingency plan ought to be developed with the City of Hamilton to address potential impacts to the municipal well water quality or quantity.

15. Section 4.4.5 Contaminated Sites

Conservation Halton supports the recommendation for a study into the presence of contaminated sites along the proposed pipeline route. We request that we be informed of the findings of such a study prior to construction within these areas. We also request that we be informed should previously unknown contaminated soils be uncovered or suspected as noted in Section 6.2.3.

16. Section 6.1 Monitoring

An assessment of water quality and quantity should be undertaken one year following construction to ensure pre-development conditions and water levels in wetlands, streams, wells and groundwater discharge areas are reestablished following development and rehabilitation.

Terrestrial Ecology Comments:

17. Page 2.6

Staff are not necessarily in agreement with the statement about species at risk being primarily located within agricultural land, wetlands and woodlots, given that some also occur in early successional meadow or thicket habitat. Nevertheless, given that

these types of habitat are compatible with future pipeline operations, it seems likely that habitat for those species will either increase or remain the same post-construction. Should any species at risk reliant on early successional habitats be found during detailed design field surveys, we trust they would receive additional due consideration at that time.

18. Section 2.6.3.2 Quantitative Evaluation (Page 2.13)

It is stated that a preliminary field investigation of the Kilbride Swamp Wetland Complex has been completed to examine impacts arising from the 2006 pipeline construction activities. Staff would like to note that it would be helpful if these results could be provided for staff's review.

19. Section 4.2.5, Soil and Soil Capability- Mitigation and Protective Measures

Please refer to TRCA's 2012 document "*Preserving and Restoring Healthy Soil: Best Practices for Urban Construction for additional direction in regard to preserving soil quality*". Of particular note is the recommendation to stockpile topsoil in mounds no higher than 1.3 m to help prevent the loss of beneficial organisms.

20. Section 4.3.3, Designated Natural Areas and Vegetation

During the site walks, staff identified several wetland features that are not referenced on the existing base mapping for the project. Please include these wetlands; locations of these wetlands are as follows:

- West of Guelph Line within ROW (SC12)
- At SC14
- West of Centre Road where pipeline parallels wooded area
- At SC11

21. Page 4.26, Potential Impacts

Please add soil compaction and edge effects to the list of potential impacts in the last paragraph.

22. Page 4.27, Mitigation and Protective Measures

- a. Staff are supportive of the development of a *Phragmites* control plan and rehabilitation of the Kilbride Swamp. The web site of the Ontario Invasive Plant Council (<http://www.opwg.ca/index.php/ongoing-projects>) has a number of helpful resources in this regard.
- b. Staff would be interested in reviewing the 2006 Environmental Protection Plan- please forward a copy for our review.

23. Page 4.28

- a. Many of the open bullets listed on this page (e.g. removal of vegetation at ground level, leaving root systems intact) would also be beneficial in other natural

communities. Please extend the use of these mitigation techniques to other natural areas to the maximum extent possible.

- b. Please note that should there be a surplus of replacement trees, Conservation Halton would be happy to work with Union Gas to establish suitable offsite compensation areas.

24. Page 4.34, Potential Impacts

It would be helpful if a draft Terms of Reference for the detailed design field studies could be prepared and circulated to agencies for review prior to the initiation of the 2015 fieldwork. This would help to ensure that the work completed will satisfy agency expectations.

25. Table 4.11, Summary of Potential Effects and Recommended Mitigation and Protective Measures

Please transcribe all modifications of the previous sections of the report in response to agency comments to this table. Of note, reference to Conservation Halton's landscaping guidelines should be added to the table.

26. To assist with the characterization of species complement and habitat during the detailed design phase of the project, we offer the following observations recorded during agency site walks in fall 2014.
- September 10, Coutcliffe Park
 - Northern Flicker (south of SC1)
 - Belted Kingfisher and American Goldfinch (between SC1 and SC2)
 - Potential turtle nesting habitat (NE of SC1)
 - Northern Flicker and Green Frog (SC2)
 - Tree Swallow nest boxes (between SC1 and SC2)- avoid disturbance during nesting season
 - SC2 culvert appears to be undersized- consider upgrade
 - September 10, west of Centre Road
 - Spring Peeper calling from wetland where pipeline parallels wooded area
 - September 10, around terminus of Palomino Drive
 - Spring Peeper calling from unevaluated wetland south of pipeline
 - Big Bluestem and Great Lobelia (planted during 2006 work?)
 - September 10, North Progreton Swamp crossing
 - Fence across creek- work with landowner to remove it.
 - September 11, SC 9
 - Ruby-throated Hummingbird

- September 11, Islay Lake, SC 11
 - Steep slope with wetland at bottom- will require special consideration for mitigation/restoration
 - Is there an outlet from Islay Lake to this watercourse?
- November 3, SC 14
 - Flowing water observed
- September 10, lane crossing upstream of SC17
 - Watercress, potential groundwater input, flowing water, washed out culvert
- September 10, SC21 and SC23
 - Gray Treefrog heard from unevaluated wetland
 - Northern Leopard Frog and American Toad seen, Spring Peeper heard at SC21
 - Flow observed at SC23
- November 3, SC 30- heritage open grown Bur Oak- develop avoidance/mitigation plan

Aquatic Ecology Comments:

27. Section 4.3.2 Aquatic Species and Habitat, Permitting (Pg. 4.2.4):

Please update this section of the report with respect to changes to the Federal Fisheries Act which occurred on Nov. 25/13.

28. Section 5.3 Analysis of Cumulative Effects

- a. Some of the main causes of cumulative effects caused by the pipeline installation would be the multiple disturbances to a large number of ecologically sensitive areas including woodlots, watercourses and wetlands. One method to help offset these cumulative impacts is to replace the undersized culvert on Bronte Creek in Courtcliffe Park located immediately upstream of the “SC2” pipeline crossing as depicted on Figure No. 2 within the book of maps provided by Stantec during the site visit tours. It is recommended that a new culvert be sized to be at least 3 times the bankfull channel width of the watercourse with an open bottom design.

Another method to offset cumulative impacts at the watercourse crossings is to ensure a contracting company is hired which has previous demonstrated in water work experience and who can demonstrate a previous positive work record on projects conducted within aquatic environments.

- b. Staff are generally satisfied with the rehabilitation work at previous pipeline installation locations within the same pipeline system. Staff have a good level of comfort given that the same consulting team that undertook the most recent

pipeline installation will be working on the proposed pipeline installation. Staff suggest that all applicable Ontario Energy Board guidelines regarding environmental management with respect to pipeline installations be followed through the planning and construction phases of this project.

- c. Further discussion is requested internally as to the application of Conservation Halton's guideline within the regulatory policy document which indicates that permanently flowing creeks should be crossed using trenchless technologies. It is suggested that it would be beneficial to follow this guideline especially where the ecological sensitivity of the watercourse to be crossed by the pipeline warrants this approach.

Due to the observed success of the riparian restoration areas at the location of the previous pipeline crossing locations, staff suggest that a similar riparian planting approach be followed subsequent to the proposed pipeline construction. Staff suggest that the planting be established for an area of 20 metres back from each side of the creek within the pipeline right of way.

29. General EA Recommendation

Staff recommend that a table be included in the Environmental Report that ranks each of the watercourse crossings in terms of environmental importance and level of risk with respect to an open or trenchless pipeline crossing based on an examination of a number of parameters about the watercourse including but not limited to:

- Fish community
- Presence of groundwater
- Watercourse flow permanency and hydraulic characteristics
- Presence of terrestrial vegetation near watercourse including wetland related features
- Natural channel/geomorphic characteristics of watercourse
- Presence/absence of valley features

We trust the above is of assistance. If you have any further questions, please contact the undersigned at Extension 2266.

Yours truly,



Leah Chishimba
Environmental Planner

cc: Kim Peters, Niagara Escarpment Commission, by e-mail
Leah Smith, City of Burlington, by e-mail

From: [Iamarino, Mark](#)
To: [Iamarino, Mark](#)
Subject: FW: Hamilton-Milton Pipeline Project
Date: Friday, February 27, 2015 11:46:04 AM

From: Leah Chishimba <lechishimba@hrca.on.ca>
Date: February 25, 2015 at 9:35:03 AM EST
To: "Knight, Mark" <Mark.Knight@stantec.com>
Subject: RE: Hamilton-Milton Pipeline Project

Hi Mark,

Thanks for the response letter. I will coordinate with staff and provide you with some tentative meeting dates. I will also circulate your response letter to staff so that we can review prior to the meeting.

Leah

Leah Chishimba, M.A.E.S

Environmental Planner

Conservation Halton

2596 Britannia Road West, Burlington, ON L7P 0G3
905.336.1158 ext. 2266 | Fax 905.336.6634 | lechishimba@hrca.on.ca
conservationhalton.ca

From: Knight, Mark [<mailto:Mark.Knight@stantec.com>]
Sent: February-24-15 10:27 PM
To: Leah Chishimba
Cc: Peters, Kim (MNRF); Smith, Leah; Tony Vadlja
Subject: Hamilton-Milton Pipeline Project

Hi Leah,

Attached please find a response to Conservation Halton's letter of December 17, 2014 regarding the Hamilton-Milton Pipeline Project.

I'd also like to suggest that a meeting regarding the project may be useful. An FYI that I will be on vacation until March 9th, but could you perhaps discuss availability with relevant staff and see if you have any availability mid-late March? I'm sure Union Gas and Stantec will re-work our schedules for whatever date/time works for you.

Sincerely,

Mark

Mark Knight, MA, MCIP, RPP

Environmental Planner - Assessment, Permitting and Compliance
Stantec
70 Southgate Drive, Suite 1 Guelph ON N1G 4P5
Phone: (519) 836-6966 x218
Cell: (519) 400-9618
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Mark.Knight@stantec.com

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Stantec Consulting Ltd.
70 Southgate Drive, Suite 1, Guelph ON N1G 4P5

February 24, 2015
File: 160960892

Attention: Leah Chishimba

Conservation Halton
2596 Britannia Road West
Burlington, ON L7P 0G3

Dear Ms. Chishimba,

**Reference: Union Gas Pipeline Project-Environmental Report
Dawn Parkway System Expansion-Hamilton to Milton Section
Conservation Halton File: MPR650**

Thank you for taking the time to review the Environmental Report prepared for the Hamilton to Milton Pipeline project (the 'Project'). Both Union and Stantec appreciate the commitment of both time and energy that staff at Conservation Halton have provided on the Project, whether through written communication, in-person meetings or field reviews.

In regards to your letter dated December 17, 2014, below please find responses to your various comments.

Engineering Comments:

1. Section 3.5.2.2 Refinements based on Input (Pg. 3.6)

As acknowledged in your letter of April 14, 2014, Conservation Halton's preferred method of pipeline construction across watercourses is by trenchless. Trenchless is but one of the options Union evaluates as part of its construction programs. Crossing method decisions are made in consideration of various environmental, technical and engineering factors to identify the relative risks and advantages/disadvantages of each crossing method being considered.

The Hamilton – Milton project will cross 31 watercourses (Table 4.2, Environmental Report). Union believes that the environmental, technical and engineering factors and risks associated with the crossings indicates that all but two of these watercourses will be crossed by the dam and pump method.



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**Reference: Union Gas Pipeline Project-Environmental Report
Dawn Parkway System Expansion-Hamilton to Milton Section
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The majority of the 31 watercourses (19 watercourses) have intermittent flow. As such, it is expected that these watercourses will be dry or limited flow at the time of construction which makes the dam and pump a logical choice. There are no significant environmental, technical or engineering risks to consider any other crossing method.

The remainder of the watercourses noted in Table 4.2 include four ponds and 8 watercourses classified as permanent flow and vary from warm to cold water thermal regimes. An individual work plan will be prepared for each of the ponds. Fisheries resources for the watercourses are noted in the Environmental Report. Again, there are no significant environmental, technical or engineering risks to consider any other crossing method other than a dam and pump for the 8 permanent watercourses other than for Limestone Creek and Sixteen Mile Creek where endangered species at risk have been confirmed by the Ministry of Natural Resources and Forestry (MNRF). At these two locations, Union proposes to install the pipeline underneath the watercourses using the "boring" method.

The above risk determinations and suggested watercourse crossing methods are based on the following assumptions:

- Conducting the crossing during the appropriate in-stream construction timing window (July 1 to September 15 for cool – cold water regimes; July 1 to March 31 for warm water regimes);
- Conducting the crossing in the summer months when many of the watercourses are anticipated to be dry to low flow;
- Adhering to the practices and mitigation measures outlined in the Fisheries and Oceans Canada (DFO) endorsed Sediment and Erosion Control Plans as mutually developed with DFO and Union;
- Conducting the crossing in as short a time-period as possible, and preferably within 48 hours including bed and bank restoration;
- Having an environmental inspector on-site to ensure implementation of the protection and mitigations measures for all watercourse crossings;
- Restoring riparian vegetation, stream banks and substrate; and,
- Post construction review and monitoring of the watercourse crossings to ensure effective restoration; correct any outstanding restoration issues.

With the implementation of these mitigation and protective measures, and given the success of restoration activities for similar crossing methods used during the installation of the adjacent 48 inch pipeline in 2006, no significant environmental impacts are anticipated.



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**Reference: Union Gas Pipeline Project-Environmental Report
Dawn Parkway System Expansion-Hamilton to Milton Section
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Union plans to file an O. Reg. 162/06 Permit Application to Conservation Halton in April of 2015. The Application will include:

- An Environmental Construction Plan for both clearing and pipeline construction;
- Watercourse crossing plans for all permanent watercourses and ponds (generic crossing plan for intermittent watercourses ;
- Individual work and mitigation plans for Kilbride wetland, Courtcliffe Park, North Progreston wetland, and Bruce Trail;
- Natural heritage survey studies;
- Tree and ROW management plan; and,
- Geotechnical report.

2. Section 4.2.2 Physiography & Surficial Geology (Pg. 4.6)

- a. Union requests confirmation on which crossings constitute a 'confined riverine system', as SC31 as referenced does not appear to meet this definition. SC 31 is a planned dam and pump crossing.
- b. Sediment and erosion control measures, prepared by a qualified individual, will be included in the O. Reg. 162/06 Permit Application.
- c. Trenchless (boring method) crossing details will be included in the O. Reg. 162/06 Permit Application.
- d. Union has retained Golder Associated Ltd. to undertake geotechnical investigations, including an analysis of slope stability.
- e. Please see response 1 and 2d.

3. Section 4.2.7 Natural Hazards (Pg. 4.14)

- a. Stantec has completed permitting and inspection for numerous watercourse crossings as a result of pipeline construction and pipeline maintenance activities. Given that watercourse banks and bottoms as surveyed are to be returned to their original grade and that the flood plain will not be altered, impacts to stream morphology are not anticipated. In order to



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**Reference: Union Gas Pipeline Project-Environmental Report
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confirm that the morphology of the permanently flowing water courses is not altered cross section profiles will be taken 10m upstream and downstream of the crossing location prior to and after the completion of construction. A longitudinal profile will also be taken length wise along the center of the watercourses.

- b. Please see response 3a.
- c. Please see response 3a.
- d. Union must balance the desire to maintain cover over installed pipelines with the ability to access pipelines should future maintenance be required. Through experience with pipeline construction and integrity monitoring, Union's standard depth of cover requirements for watercourses is a minimum of 1.5m.
- e. Please see response 3d.
- f. Please see response 3d. The potential width of the meander belt will be considered in this regard.
- g. Existing grades will be restored post-construction. As reflected in the ER, work spaces such as entry pits and temporary land uses such as stockpiling will be located outside of the floodplain to the extent possible based on the constraints of the topography at each crossing location.

4. Section 4.3 Biophysical Features (Pg. 4.15)

Please see response 1. The report entitled '2014 Natural Heritage Survey Results' was forwarded to Conservation Halton and other relevant agency and municipal staff on January 05, 2015. In this Report, the flow regimes for all the watercourses identified as "unknown" in Table 4.2 of the ER were determined and noted in the report.

5. Table 4.11 Section 4.2.2 Physiography & Surficial Geology (Pg. 4.59)

- a. Please see response 3d.
- b. The recommendation is included in another section of the ER, and will be carried forward into the Environmental Construction Plan.



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6. Table 4.11 Section 4.2.3 Groundwater (Pg. 4.60)

Islay Lake is the planned source of water for hydrostatic test purposes. This source was used for the hydrostatic test associated with the 2006 48 inch construction project. Water withdrawal and discharge back to the lake is planned. All necessary permits with regards to water taking and discharge will be obtained.

7. Table 4.11 Section 4.3.2 Aquatic Species and Habitat (Pg. 4.65)

- a. The comment provided has been noted by Stantec and accepted as a future commitment by Union. Suggested edits are appreciated and will be included in future reports.
- b. Please see response 1.

8. Table 4.11 Section 4.3.3 Designated Natural Areas and Vegetation (Pg. 4.66)

- a. Union will use their standard topsoil stripping and conservation specifications. The specifications have been used successfully for a number of years on various pipeline construction projects.
- b. If required for construction purposes, Union will upgrade existing culverts.

9. Conservation Areas

Union will obtain any required permits to access lands owned by Conservation Halton.

10. Section 4.3.1 Surficial Hydrology (Pg. 4.15)

Wetlands are discussed in a different section of the ER, although the comment is noted and appreciated.

11. General

Conservation Halton's support for the preferred location of the proposed pipeline is appreciated.



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Hydrogeology Comments:

12.

Union recognizes that it is important for Conservation Halton to understand any issues or challenges that occurred during previous pipeline construction in order to better inform their current review. Union is hopeful that the meetings and field reviews that have occurred to-date have assisted in this understanding.

13. Section 4.2.1 Bedrock Geology and Drift Thickness

Borehole logs will be provided in the geotechnical report which will accompany the permit application.

14. Section 4.2.3 Potential Impacts (Pg. 4.7)

- a. Union agrees to assess the need for clay collars to restrict lateral groundwater movement along the pipeline trench.
- b. Union is in consultation with the City of Hamilton to establish a well monitoring program.

15. Section 4.4.5 Contaminated Sites (Pg. 4.41)

Union agrees to keep Conservation Halton informed of the findings of any studies related to contamination, and be informed should previously unknown contaminated soils be uncovered or suspected.

16. Section 6.1 Monitoring (Pg. 6.1)

Post-construction monitoring reports will be a condition of project approval from the Ontario Energy Board. Union will undertake a post construction wetland assessment program to ensure no significant impacts to the function of the Kilbride PSW have occurred. Clay collars will be used where applicable to prevent the preferential movement of water along the pipeline. Water well levels will be assessed through a well monitoring program during construction.



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Terrestrial Comments:

17. Page 2.6

Union will conduct all necessary field studies, and obtain all necessary permits and approvals, for species at risk and consult with MNRF in this regard.

18. Section 2.6.3.2 Quantitative Evaluation (Pg. 2.13)

General details of the preliminary field investigation of the Kilbride Swamp PSW are provided on Page 2.13 of the Environmental Report.

19. Section 2.5 Soil and Soil Capability – Mitigation and Protective Measures (Pg. 4.11)

Comment noted.

20. Section 4.3.3 Designated Natural Areas and Vegetation (Pg. 4.24)

Union and Stantec appreciate the sharing of wetland locations; please note that these locations were also identified by Stantec field staff.

21. Page 4.26 Potential Impacts

The comment provided has been noted by Stantec and accepted as a future commitment by Union. Suggested edits are appreciated and will be included in future reports.

22. Page 4.27 Mitigation and Protective Measures

- a. Conservation Halton's support for a phragmites management plan is appreciated. The plan will be developed in discussions with Conservation Halton, the NEC and the MNRF.
- b. As requested, a copy of the 2006 Environmental Protection Plan will be forwarded to Conservation Halton.

23. Page 4.28

- a. The comment provided has been noted by Stantec and accepted as a future commitment by Union. Suggested edits are appreciated and will be included in future reports.



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- b. Conservation Halton's offer of support for Union Gas's Tree Replacement Program is noted and appreciated.

24. Potential Impacts

The 2014 Natural Heritage Survey Results Report includes a discussion of the planned terrestrial and aquatic field studies for 2015. Any feedback on the Report and planned field studies would be greatly appreciated.

25. Table 4.11 Summary of Potential Effects and Recommended Mitigation and Protective Measures

Comment noted.

26.

Union and Stantec appreciate the sharing of field observations.

Aquatic Ecology Comments:

27. Section 4.3.2 Aquatic Species and Habitat, Permitting (Pg. 4.2.4)

Comment noted.

28. Section 5.3 Analysis of Cumulative Effects

- a. Union and Stantec are working with Trout Unlimited Canada to collaborate on work within Courtcliffe Park. Union also notes that they only work with experienced pipeline contractors who have strong working knowledge of watercourse crossing methods.
- b. Conservation Halton's satisfaction with previous rehabilitation work at pipeline installation locations is appreciated. Union is committed to planning and constructing the project in an environmentally-responsible manner.
- c. Please see response 1. Union would like to thank Conservation Halton for recognizing the success of the riparian restoration efforts and for supporting a similar effort to be undertaken for the proposed pipeline construction. Union acknowledges the request for a 20 m planting



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area on each side of watercourses, and will work with willing landowners to achieve this area of planting.

29. General EA Recommendations

Please see response 1.

Should you have any additional questions or comments regarding the Environmental Report or the Project please do not hesitate to contact the undersigned; I would be happy to assist in having your questions answered and/or organizing a meeting with representatives from Union to further discuss any of your comments or Union's approach to watercourse crossing methods.

Regards,

STANTEC CONSULTING LTD.

Mark Knight, MA, MCIP, RPP
Environmental Planner
Phone: (519) 836 6050 x218
mark.knight@stantec.com

cc. Tony Vadlja, Union Gas Limited
Kim Peters, Niagara Escarpment Commission
Leah Smith, City of Burlington

From: [Iamarino, Mark](#)
To: [Iamarino, Mark](#)
Subject: FW: Env Report - Union Gas NPS 48 Hamilton-Milton Pipeline Exp Project - Issued to D'Arcy McKinnon
Date: Wednesday, February 04, 2015 1:03:42 PM
Attachments: [CARLISLE RD AND DERRY RD.pdf](#)
[CONCESSION 10 E.pdf](#)
[CONCESSION 11 E.pdf](#)
[CONCESSION 8 E.pdf](#)

From: D'Arcy.McKinnon@HydroOne.com [mailto:D'Arcy.McKinnon@HydroOne.com]
Sent: Wednesday, February 04, 2015 7:33 AM
To: zora.crnojacki@ontarioenergyboard.ca; Knight, Mark
Cc: Zone2Scheduling@HydroOne.com; mary.mcfadden@HydroOne.com
Subject: Env Report - Union Gas NPS 48 Hamilton-Milton Pipeline Exp Project - Issued to D'Arcy McKinnon

Hi Zora, Mark,

Please find attached some images of the GIS map of our system, in the general area of the pipe routes shown in your environmental report.
Let us know if you there are any conflicts or if you need any more information, and call before you dig.

Thank you,

D'Arcy McKinnon
Area Distribution Engineering Technician
Hydro One Networks Inc.
Dundas Operations Centre

Phone: 905-627-6025
email: darcy.mckinnon@hydroone.com

From: MCFADDEN Mary **On Behalf Of** ZONE 2 SCHEDULING
Sent: Monday, January 26, 2015 2:53 PM
To: MCKINNON D'Arcy
Cc: KRNDIJA Robert
Subject: SEI Notif#300624230 - Env Report - Union Gas NPS 48 Hamilton-Milton Pipeline Exp Project - Issued to D'Arcy McKinnon

*D'Arcy - scheduled to you on **Thu Jan 29,15**
Notif# **300624230**
No individual WO, Report first 4hrs to WO# **856024-0010**.
Provide DHC/EWR if more than 4hrs required.
No Arc Design – please advise if required.
Return signed notification for SKF reporting
Return response to Customer via Zone 2 Planning*

Mary McFadden
Hydro One Networks Inc.
COSR, Zone 2 Planning - Dundas Ops
40 Olympic Dr, Dundas, On L9H 7P5

Toll Free: 888-652-2302 Ext 6016
Tel: 905-627-6016
Fax: 905-627-6046
Email: mary.mcfadden@hydroOne.com
Gen Email: westcentralzonescheduling@hydroOne.com

From: MCKINNON D'Arcy
Sent: Monday, January 19, 2015 2:02 PM
To: MCFADDEN Mary
Cc: KRNDIJA Robert
Subject: RE: Env Report - NPS 48 Hamilton-Milton Pipeline Exp Project

Hi Mary,

Can you schedule me 2hrs to work on this? I don't think a design is needed at this point.

Thank you,

D'Arcy McKinnon
Area Distribution Engineering Technician
Hydro One Networks Inc.
Dundas Operations Centre

Phone: 905-627-6025
email: darcy.mckinnon@hydroone.com

From: MCKINNON D'Arcy
Sent: Monday, January 19, 2015 1:44 PM
To: KRNDIJA Robert
Cc: MCFADDEN Mary
Subject: RE: Env Report - NPS 48 Hamilton-Milton Pipeline Exp Project

Hi Rob,

This is for a completely separate job from the one I had on Hwy 24.

Stantec is looking for utility comments on a proposed pipeline from Hamilton to Milton.

D'Arcy McKinnon
Area Distribution Engineering Technician
Hydro One Networks Inc.
Dundas Operations Centre

Phone: 905-627-6025
email: darcy.mckinnon@hydroone.com

From: KRNDIJA Robert

Sent: Monday, January 19, 2015 1:05 PM
To: MCFADDEN Mary
Cc: MCKINNON D'Arcy
Subject: RE: Env Report - NPS 48 Hamilton-Milton Pipeline Exp Project

I have given the letter to D'Arcy as he was handling the Stantac relocate on Hwy-24. I do not think we need to be there.

D'Arcy, please advise Mary of outcome.

Regards,

Robert Krndija
Supervising Distribution Engineering Tech
HydroOne | Dundas DU1
Mobile: 905-975-8962

From: MCFADDEN Mary
Sent: Tuesday, January 13, 2015 12:59 PM
To: KRNDIJA Robert
Subject: Env Report - NPS 48 Hamilton-Milton Pipeline Exp Project

Robert – A disk was received with the attached letter (interoffice from Markham). Can you tell me if this is something we need to tech and if so, who should I assign it to?

Thanks,

Mary McFadden
Hydro One Networks Inc.
COSR, Zone 2 Planning - Dundas Ops
40 Olympic Dr, Dundas, On L9H 7P5
Toll Free: 888-652-2302 Ext 6016
Tel: 905-627-6016
Fax: 905-627-6046
Email: mary.mcfadden@hydroOne.com
Gen Email: westcentralzonescheduling@hydroOne.com

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 12, Schedule 3, Total Estimated Environmental Costs

Preamble: Environmental costs include water well monitoring, wet soil shutdown, soil protection and restoration, environmental inspection, etc.

Please explain how these estimates were calculated and provide background calculations and data.

Response:

The majority of the estimated environmental costs are based on past project experience. The estimated costs for wet soil shutdown and soil protection and restoration are based on a percentage of the estimated total price to construct the pipeline. The estimated costs for watercourse crossings are based on using an estimated value for environmental protection measures associated with crossings such as sediment fencing multiplied by the number of watercourses to be crossed.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, Schedule 3, Pipeline Easement

Preamble: Clause 1 in the Pipeline Easement states that, "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."

- a) Other than in the above referenced clause of the Pipeline Easement, where is pipeline abandonment addressed in the Application or the EA Report? If it is not addressed, please explain why it is not addressed.
- b) What are the potential adverse effects of the proposed pipeline in the event of future abandonment or discontinuance of operation?
- c) How does Union Gas Limited propose to abandon its proposed pipeline and the adjacent pipelines in the future?
- d) Has Union Gas Limited developed a conceptual plan to address adverse effects of future abandonment or discontinuance of operation? Please provide particulars of any such plan. If no plan has been developed, please explain why not.
- e) What provision has Union Gas Limited made for the funding of future abandonment activities?
- f) Will Union Gas Limited agree to replace the above referenced portion of Clause 1 with: "As part of the Transferee's obligation to restore the Lands upon surrender of its easement, the Transferee agrees at the option of the Transferor to remove the Pipeline from the Lands. The Transferee and the Transferor shall surrender the easement and the Transferee shall remove the Pipeline at the Transferor's option where the Pipeline has been abandoned. The Pipeline shall be deemed to be abandoned where: a) corrosion protection is no longer applied to the Pipeline, or, b) the Pipeline becomes unfit for service in accordance with Ontario standards. The Transferee shall, within 60 days of either of these events occurring, provide the Transferor with notice of the event. Upon removal of the Pipeline and restoration of the Lands as required by this agreement, the Transferor shall release the Transferee from further obligations in respect of restoration." If not, why not?

- g) Will Union Gas further make the language set out in part (e) applicable to all Union Gas Limited pipelines on the Transferor's Lands? If not, why not?
 - h) If Union Gas Limited will not agree to the replacement language set out in parts (e) and (f) above, will Union Gas Limited agree to remove the last sentence of Clause 1 in the above referenced Pipeline Easement: "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."? If not, why not?
-

Response:

- a) Union does not anticipate the need to ever abandon this line. However, when abandoning pipelines, Union complies with all applicable codes and regulations.
- b) There should be no adverse effects if the pipeline is decommissioned and abandoned in compliance with legislation, regulations, codes and guidelines.
- c) Union does not anticipate the need to ever abandon this line, however if the line is ever proposed for abandonment a detailed abandonment plan that complies with all applicable legislation and regulations will be developed prior to abandonment.
- d) Please see the response to c) above.
- e) Union collects in rates for service approved by the Board future abandonment costs included in the asset depreciation rates. Future abandonment costs charged to earnings through the depreciation expense are recorded as a liability on Union's financial statements.
- f) g) and h) No, Union will not agree to amend the provisions of the easement, Union will comply with any applicable TSSA requirements with respect to abandonment of pipelines. Please see the responses to a) to e) above.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, Schedule 3, Pipeline Easement

Preamble: Clause 3 of the Pipeline Easement provides that Union Gas Limited 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."

Will Union Gas Limited agreed to add the following sentence to the end of Clause 3 of the Pipeline Easement: "The Transferee agrees to make reasonable efforts at its own expense to accommodate changes in land use on lands adjacent to the easement for the purpose of ensuring the Pipeline is in compliance with all applicable regulatory requirements in connection with any such change in use."? If not, why not?

Response:

No, Union will not agree to this amendment to the easement. Once compensation is paid and the easement is granted, Union is entitled to quiet enjoyment of the land, pursuant to the terms of the easement agreement, without the uncertainty of future unknown limitations, expenses or conditions placed upon Union, including any unknown changes in land use by the landowner. The compensation being paid to the landowner is designed to compensate the landowner for this potential limitation on the property.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, Schedule 3, Pipeline Easement

Preamble: Clause 9 of the Pipeline Easement addresses the possibility of the installation by Union Gas Limited of surface facilities.

- a) Does Union Gas Limited expect that any surface facilities will be required on lands for which it will be obtaining easements for the proposed project? If so, please provide details of these surface facilities.
- b) Please provide a copy of Union Gas Limited's proposed form of agreement for surface facilities.

Response:

- a) No.
- b) No surface facilities are required on land requiring an agreement.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, page 2 of 4, Land Matters

Preamble: Union Gas Limited states: "The temporary easements are in the form previously provided to the Board and used by Union in the past on similar pipeline projects. These agreements are usually for a period of two years, beginning in the year of construction. This allows Union the opportunity to return in the year following construction to perform further clean-up work as required."

Please provide a copy of Union Gas Limited's temporary easement form(s).

Response:

Please see Attachment 1.



TEMPORARY LAND USE AGREEMENT

(the "Agreement")

Between OT
(hereinafter called the "Owner")

and

UNION GAS LIMITED
(hereinafter called the "Company")

In consideration of Dollars (\$), the Owner of PIN:

Legal Description: hereby grants to Union Gas Limited (the "Company"), its servants, agents, employees, contractors and sub-contractors and those engaged in its and their business, the right on foot and/or with vehicles, supplies, machinery and equipment at any time and from time to time during the term of this Agreement to enter upon, use and occupy a parcel of land (hereinafter called the "Lands") more particularly described on the Sketch attached hereto and forming part of this Agreement, for any purpose incidental to, or that the Company may require in conjunction with, the construction by or on behalf of the Company of a proposed natural gas pipeline and appurtenances adjacent to the Lands

1. This Agreement is granted upon the following understandings:

- a) The rights hereby granted terminate on the day of , 20
- b) The Company shall make to the person entitled thereto due compensation for any damages resulting from the exercise of the right hereby granted and if the compensation is not agreed upon it shall be determined in the manner prescribed by section 100 of The Ontario Energy Board Act, R.S.O. 1998 S. O. 1998, c.15 Schedule B, as amended or any Act passed in amendment thereof or substitution there of;
- c) As soon as reasonably possible after the construction, the Company at its own expense will level the Lands, remove all debris therefrom and in all respects, restore the Lands to their former state so far as is reasonably possible, save and except for items in respect of which compensation is due under paragraph (b) and the Company will also restore any gates and fences interfered with around, (*if applicable*) the Lands as closely and as reasonably possible to the condition in which they existed immediately prior to such interference by the Company.
- d) It is further agreed that the Company shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Agreement or anything done or maintained by the Company hereunder or intended so to be and the Company shall at all times indemnify and save harmless the Owner from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Company shall not be liable under the Clause to the extent to which such loss, damage or injury is caused or contributed to by the gross negligence or wilful misconduct of the Owner.

2. a) The Company represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.

- b) The Company's HST registration number is 119465367RT0001.
- c) The Company shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.
- d) The Company shall indemnify and save harmless the Owner from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Agreement. The Company's obligations under this Clause shall survive this Agreement.

The Company and the Owner agree to perform the covenants on its part herein contained.

DATED this day of , 20

Signature (Owner)

Print Name(s) (and position held if applicable)
OT

Address (Owner)

Signature (Owner)

Print Name(s) (and position held if applicable)
OT

Address (Owner)

UNION GAS LIMITED

Signature (Company)

OT, OT
Name & Title (Union Gas Limited)

I have authority to bind the Corporation.

OT
Telephone Number (Union Gas Limited)

Additional Information: (if applicable)

Owner Solicitor: _____

Address: _____

Telephone: _____

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Application, Exhibit "A", Tab 13, Schedule 4, Landowner Complaint Resolution System

Preamble: Landowner Complaint Resolution System includes use of Form 3150.

Please provide a copy of Form 3150.

Response:

Please see Attachment 1.

ACTION REPORT FORM

Project Name:	Date:	Time:
	D / M / Y	
Information Supplied By: (Originator)	Information Recorded By Attending Agent:	

1. LOCATION REFERENCE

Landowner Name(s):	Lot:	Concession:	PIN:
	Municipality:		
Mailing Address:	Telephone:		

2. DESCRIPTION OF COMPLAINT OR COMMITMENT

Complaint / Commitment Type:	Construction	Process	Operations	Other
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Details: (Brief description)
1. Introduction: This section introduces the topic of the research paper, provides background information, and states the purpose of the study. 2. Literature Review: This section reviews existing research on the topic, identifying gaps and informing the current study. 3. Methodology: This section describes the research design, data collection methods, and analysis techniques used in the study. 4. Results: This section presents the findings of the study, including statistical analysis and interpretation of the data. 5. Discussion: This section discusses the implications of the findings, compares them to existing literature, and addresses limitations of the study. 6. Conclusion: This section summarizes the main findings and provides a final statement on the significance of the research.

The foregoing description is accurate and/or reflects my understanding of the work to be done by Union Gas Limited.

Originator

Originator(s)

Attending Agent

Referred To For Action:	Date: D / M / Y	Date Response Required: D / M / Y
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3.	ACTION TAKEN
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Action Taken By:	Date: D/M/Y
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Description

--

I confirm the foregoing work was completed to my satisfaction and addresses the complaint or commitment which is described in Section 2.

Originator(s):

Date: D / M / Y

(Forward signed copy to Lands Department)

Date: D / M / Y

Data Entered for follow up? , 20 By

Construction Fiscal Year:	On - R/W	Off - R/W
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Remarks:

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CODING KEY FOR COMPLAINT/COMMITMENT TYPES

01 - CONSTRUCTION

011 TOPSOIL

- 0111 - Loss
- 0112 - Subsidence
- 0113 - Erosion
- 0114 - Stones

012 CROPS

- 0121 - Damage
- 0122 - Yields

013 DRAINAGE/WELLS

- 0131 - Wet Spot
- 0121 - Tile Damage
- 0121 - Well Damage

014 WOODLOTS

- 0141 - Stump Removal
- 0142 - Log Removal or Use

015 NOISE

016 ODOUR

017 DUST

018 VEHICLE ACCESS

019 PREVIOUS YEARS

02 - PROCESS

021 COMPENSATION

022 COMMUNICATION

023 FAILURE TO COMPLY WITH
AGREEMENTS

024 NO TIME FOR NEGOTIATION

025 TOO LONG IN NEGOTIATIONS

03 - OPERATIONS

031 DAMAGE

032 NOTIFICATION OR
COMMUNICATION

033 NO RESPONSE

034 ACCESS

035 INTERFERENCE WITH...

0351 - Farm Operations

0352 - Future Development

04 - OTHER

041 SAFETY

042 MISTRUST

043 BIG COMPANY VS.

LITTLE LANDOWNER

044 FAIRNESS/EQUITY

045 UNION'S FUTURE PLANS

046 MISCELLANEOUS

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Page 7.1

Preamble: Stantec's EA Report was prepared by Mark Knight and reviewed by David Wesenger.

Please provide copies of the most recent resumes or CVs for Mr. Knight and Mr. Wesenger.

Response:

Please see Attachments 1 and 2 for the most recent CVs for Mr. Knight and Mr. Wesenger.

Mark Knight MA, MCIP, RPP
Environmental Planner



Mark is a registered environmental planner with 8 years of experience conducting and managing federal, provincial and class environmental assessments in the generation, oil and gas and transportation sectors. Project participation has involved managing environmental and socio-economic impact assessments, developing and implementing consultation strategies, coordinating field studies, managing permitting and construction inspection, and applying knowledge of land use and environmental legislation and policies.

EDUCATION

BA Honors, Geography, Wilfrid Laurier University,
Waterloo, Ontario, 2002

Master of Arts, Geography, University of Waterloo,
Waterloo, Ontario, 2006

MEMBERSHIPS

Member, Ontario Professional Planners Institute

PROJECT EXPERIENCE

Class Assessments

Project Manager for the preparation of class environmental assessments

- 930 Erb St. West IO Class EA, Category B
- William Halton Parkway IO Class EA, Category B
- Mississauga Off-Road Trail IO Class EA, Category B
- Brantford-Kirkwall Easement IO Class EA, Category B
- Parkway West Pipeline Easement IO Class EA, Category B
- Glenorchy Natural Gas Pipeline Relocation IO Class EA, Category B
- Eramosa Karst Land Disposition IO Class EA, Category C*

Renewable Energy

Project Manager for the preparation of Renewable Energy Approval (REA) applications for on-shore wind projects, including managing consultation programs, field investigations and permitting

- Grand Valley Phase 3 Wind Project, Grand Valley, ON (40MW)
- White Pines Wind Project, Prince Edward County, ON (60MW)

- Port Dover and Nanticoke Wind Project, Haldimand and Norfolk, ON (104MW)
- Brooke-Alvinston Wind Project, Watford, ON (10MW)

Oil & Gas Midstream, Facilities

Project Manager for the preparation of Environmental Reports to either the National or Ontario energy board, including managing field investigations, consultation programs, permitting and construction inspection

- Empire Odourant Station Abandonment, NEB
- Lobo Compressor Station Expansion, OEB
- Parkway West Compressor Station, New Build, OEB

Oil and Gas Pipelines

Project Manager for the preparation of Environmental Reports to either the National or Ontario energy board, including managing route selection, consultation programs, field investigations, permitting and construction inspection

- 19.5 km Hamilton to Milton Natural Gas Pipeline, OEB
- Hwy 6 Natural Gas Pipeline Replacement, OEB
- Strathroy-Caradoc Natural Gas Pipeline Replacement, OEB
- 13.5 km Burlington to Oakville Natural Gas Pipeline, OEB
- 4,600 km Energy East Pipeline Project, NEB ESA (Ontario Coordinator)
- Shell Natural Gas Pipeline, OEB
- 14 km Brantford-Kirkwall Natural Gas Pipeline, OEB
- 450 m HDD of St. Clair River, NEB
- 90 km Nanticoke GS Natural Gas Pipeline, OEB
- Sudbury Natural Gas Pipeline Relocation, OEB
- Woodford to Meaford Natural Gas Pipeline Relocation, OEB

* denotes projects completed with other firms

Mark Knight MA, MCIP, RPP

Environmental Planner

- 17 km Thunder Bay GS Natural Gas Pipeline, OEB
- 65 km Bayfield to Lobo Natural Gas Pipeline, OEB
- Bickford to Dawn Natural Gas Pipeline, NEB/OEB

Transportation

Environmental Planner for the preparation of environmental studies under either the individual or class environmental assessment process, including managing consultation programs

- Highway 406 Improvements from Port Robinson Road to East Main Street, MTO Class EA*
- Highway 401 Improvements from Highway 401/410/403 to Hurontario, MTO Class EA*
- Highway 427 Transportation Corridor, Individual EA*
- GTA West Transportation Corridor, Individual EA*
- Highway 401 Improvements from Sydenham Road to Montreal Street, MTO Class EA*
- Highway 534 Beatty Creek Bridge Replacement, MTO Class EA*
- Highway 542 Mindemoya Lake Bridge and Dam Replacement, MTO Class EA*
- Highway 105 Chukuni River Bridge Replacement, MTO Class EA*
- Highway 8 Rehabilitation, MTO Class EA*
- Highway 69 Route Planning Study, MTO Class EA*
- Highway 6 Four Mile Creek Bridge Replacement, MTO Class EA*
- Highway 60 Bridge Replacements, MTO Class EA*
- Valley Inn Bridge Replacement, MEA Class EA*
- Niagara to GTA Transportation Corridor, Individual EA* (Consultation Specialist)
- Waterdown/Aldershot Transportation Master Plan, MEA Class EA* (Consultation Specialist)

** denotes projects completed with other firms*

David Wesenger B.E.S.
Senior Principal



Over his 25-year career, David has worked as a business center managing leader, inter-disciplinary project team coordinator, senior environmental assessment specialist, and regulatory approvals and permits specialist. David's experience includes practical, project-specific application of environmental assessment methodologies. He has utilized these skills in facility siting, route selection, as well as facility planning, design and construction. David has extensive experience coordinating the public consultation component of projects through the planning, design and construction phases. He has assembled and managed multi-disciplinary teams in a diverse range of infrastructure planning and permitting studies as well as numerous environmental assessments and associated facilities siting and permitting investigations and preliminary design. David has extensive experience leading and overseeing the environmental approvals and permitting process for linear facilities under the Ontario Energy Board Act and National Energy Board Act.

EDUCATION

B.E.S., Environmental and Resource Studies,
University of Waterloo, Waterloo, Ontario, 1988

PROJECT EXPERIENCE

Oil & Gas

13.5 km Burlington to Oakville Natural Gas Pipeline
OEB EA (Senior Advisor)

Highway 6 Natural Gas Pipeline Replacement
Environmental Review (Senior Advisor)

19.5 km Hamilton to Milton Natural Gas Pipeline
OEB EA (Senior Advisor)

Parkway West Natural Gas Pipeline OEB EA (Senior
Advisor)

Shell Natural Gas Pipeline OEB EA (Senior Advisor)

Brantford to Kirkwall Natural Gas Pipeline OEB EA
Addendum (Senior Advisor)

Glenorchy Natural Gas Pipeline Relocation (Senior
Advisor)

Bayfield to Lobo Natural Gas Pipeline (Senior
Advisor)

NOVA 2020 Projects (Senior Advisor)

Genesis Pipeline Extension Project (Senior Advisor)

Blue Water Pipeline - St Clair River Crossing (Senior
Advisor)

Strathroy to Lobo Natural Gas Pipeline
Environmental Route Selection (Senior Advisor)

Nanticoke Natural Gas Pipeline Environmental
Route Selection (Senior Advisor)

Sudbury Route Relocation Environmental Report
(Senior Advisor)

Halton Hills Natural Gas Pipeline Environmental
Report (Senior Advisor)

Dawn-Gateway Natural Gas Pipeline
Environmental Route Selection (Senior Advisor)

St.Clair Energy Centre Natural Gas Transmission
Pipeline (Project Manager)

Toronto Port Lands, Reinforcement Project: South
Section. Natural Gas Transmission Pipeline, Enbridge
Gas Distribution Inc. (Project Manager)

Thunder Bay Generating Station, 12" Natural Gas
Pipeline, Union Gas Limited (Project Manager)

Environment and Socio-Economic Review of
Integrity Dig Sites (Lines 7,8,9,10 and 11), Enbridge
Pipelines Inc. (Project Manager)

* denotes projects completed with other firms

David Wesenger B.E.S.

Senior Principal

Greenfield Energy Centre Natural Gas Transmission Pipeline, Union Gas Ltd. (Project Manager)

St. Clair Pool Development Project Environmental Report, Market Hub Partners Canada (Project Manager)

Southdown Station Natural Gas Transmission Pipeline, Sithe Southdown Pipelines Ltd. (Project Manager)

Goreway Station Natural Gas Transmission Pipeline, Sithe Canadian Pipelines Ltd. (Project Manager)

17 km Hamilton to Milton 48" Natural Gas Pipeline, Union Gas Limited (Project Manager)

20 km Strathroy to Lobo 48" Natural Gas Transmission Pipeline, Union Gas Limited (Project Manager)

7km Guelph Reinforcement 12" Natural Gas Pipeline, Union Gas Limited (Project Manager)

Sarnia Airport Pool Natural Gas Pipeline and Sarnia Airport Storage Pool Development Plan, Market Hub Partners Canada (Project Manager)

60 km PRISM Pipeline - 12" CAT Naptha Transmission Pipeline, Imperial Oil Limited (Project Manager)

832 km Line 9 Reversal - 30" Crude Oil Transportation Project, Enbridge Pipelines (Project Manager)

Toronto to Montreal - Oil Spill Control Point Manual, Enbridge Pipelines (Project Manager)

Tipperary Pool Natural Gas Pipeline and Tipperary Storage Pool Development Plan, Tribute Resources Inc. (Project Manager)

Tank 226 - 150,000 barrel Oil Storage Tank, Enbridge Pipelines (Project Manager)

Sarnia to Nanticoke - Oil Spill Control Point Manual, Enbridge Pipelines (Project Manager)

Route selection studies for more than 500 km of distribution pipeline for domestic natural gas delivery in Ontario (Project Manager)

Proposed Bryanston Natural Gas Compressor Station, InterCoastal Pipeline (Project Manager)

PRISM Pipeline - Oil Spill Control Control Point Manual, Imperial Oil (Project Manager)

PRISM Metering Station, Hamilton, Ontario, Imperial Oil Limited (Project Manager)

Line 9 Reversal Tank 227 - 150,000 barrel Oil Storage Tank, Enbridge Pipelines (Project Manager)

Ladysmith Pool Natural Gas Pipeline and Ladysmith Storage Pool Development Plan, Tecumseh Gas Storage (Project Manager)

Initiating Pump Station, Terrebonne, Quebec, Enbridge Pipelines (Project Manager)

Gretna to Wawina - Oil Spill Control Point Manual, Lakehead Pipelines (Project Manager)

Environmental Protection Plan for Mainline Construction, Vector Pipelines L.P. Limited (Project Manager)

Environmental Protection Plan for Directional Drilling the St. Clair River, Vector Pipelines L.P. Limited (Project Manager)

Environmental Management Manual, Maritimes and Northeast Pipelines (Project Manager)

** denotes projects completed with other firms*

David Wesenger B.E.S.

Senior Principal

Environmental Inspection, Kitchener-Waterloo West Line, NPS 16 Mainline Construction, Union Gas (Environmental Inspector)

Environmental Inspection, Kirkwall to Hamilton, NPS 48 Mainline Construction, Union Gas (Environmental Inspector)

Directional Drill of the St. Clair River, Vector Pipeline L.P. Limited (Project Manager)

Directional Drill of the St. Clair River, Niagara Gas Transmission Ltd. (Project Manager)

Directional Drill of the St. Clair River, InterCoastal Pipeline (Project Manager)

Coveny Pool Natural Gas Pipeline and Coveny Storage Pool Development Plan, Tecumseh Gas Storage (Project Manager)

75 km Millennium West - 36" Natural Gas Transmission Pipeline, St. Clair Pipelines (Project Manager)

30 km Ancaster to Canadian Gypsum Natural Gas Transmission Pipeline, Union Gas Limited (Project Manager)

225 km Line 8 Oil Products Transportation System, Enbridge Pipelines (Project Manager)

20 km Vector Pipeline - 42" Natural Gas Transmission Pipeline, Vector Pipelines L.P. Limited (Project Manager)

1992-93, 1993-94, 1995-96 Facilities Application, Environmental and Socio-Economic Assessments, TransCanada PipeLines Ltd. (Project Manager)

10 km Northland Power Cogeneration Transmission Pipeline, Centra Gas Limited (Project Manager)

Power

Port Alma Wind Power Project, Kruger Energy, Port Alma, ON (Project Manager)

Southdown Station, Mississauga, Ontario - 800 MW Power Plant, Sithe Energies Canadian Development (Project Manager)

Goreway Station, Brampton, Ontario - 800 MW Power Plant, Sithe Energies Canadian Development (Project Manager)

40 km Les Cedres Hydroelectric Development 500 kV Transmission Line, Hydro Quebec (Project Manager)

2 km 230kV Hydroelectric Transmission Line, Sithe Energies Canadian Development (Project Manager)

Management Consulting

Environmental Review Program, Enbridge Eastern Region (Project Manager)

Environmental Guidelines and Standards for Pipeline Construction, Enbridge Pipelines (Technical Support)

Environmental Management Manual for Environmental Protection, Enbridge Gas Distribution (Technical Support)

Environmental Inspector's Handbook, Union Gas Limited (Project Manager)

Environmental Guidelines for Access Roads and Gathering Lines, Tecumseh Gas Storage (Technical Support)

Environmental Code of Practice, Centra Gas Limited (Technical Support)

* denotes projects completed with other firms

David Wesenger B.E.S.

Senior Principal

Corporate Environmental Policy, Centra Gas Limited (Technical Support)

Oil & Gas Midstream, Facilities

Empire Odourant Station Abandonment NEB EA (Senior Advisor)

Oil & Gas Midstream, Pipelines

Parkway West Compressor Station OEB EA (Senior Advisor)

Lobo Compressor Station Expansion OEB (Senior Advisor)

Expert Testimony

Expert Testimony, EB-2005-0201, Union Gas Limited, Trafalgar Facilities Expansion Program Leave to Construct Application (Project Manager)

Expert Testimony, RP-2001-0059, Imperial Oil Limited, PRISM Pipeline Leave to Construct Application (Project Manager)

Expert Testimony, RP-2000-0110, Union Gas Limited, Trafalgar Facilities Expansion Program Leave to Construct Application (Project Manager)

Expert Testimony, RP-1999-0047, Union Gas Limited, Century Pools Storage Development Phase II Leave to Construct Application (Project Manager)

Expert Testimony, RP-2005-0022, EB-2005-0473; Union Gas Limited, Greenfield Energy Centre Natural Gas Pipeline, Leave to Construct Application (Project Manager)

Expert Testimony, EB-2005-0550; Union Gas Limited, Trafalgar Facilities, Expansion Program, Leave to Construct Application (Project Manager)

Expert Testimony EB-2006-0305, Enbridge Portlands, Energy Centre Reinforcement Project, Leave to Construct Application. (Project Manager)

Environmental Inspection / Post Construction Monitoring

Kitchener-Waterloo West Natural Gas Pipeline (Environmental Inspector)

Kirkwall to Hamilton Natural Gas Pipeline (Environmental Inspector)

David Wesenger B.E.S.

Senior Principal

PUBLICATIONS

P.G. Prier, D.S. Eusebi and D.P. Wesenger.
Environmental Management System Challenge
with Linear Facilities.. *Seventh International
Symposium on Environmental Concerns in Rights-of-
Way Management* p.263 to 266., 2000.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 2.4, Page 2.4

Preamble: The EA Report states:

"Union Gas has determined that over 40% (12m of the 28m total) of the required permanent easement for the project could be overlapped with the existing, previously disturbed pipeline easement."

"It would enable Union Gas and Stantec to make use of the knowledge gained from the 2006 construction of a 48 inch pipeline from Hamilton to Milton."

- a) Please provide a copy of the EA Report for the 2006 Hamilton to Milton pipeline.
- b) Please provide the interim and final monitoring reports for the 2006 Hamilton to Milton pipeline.

Response:

- a) Please see Attachment 1 for the EA report for the 2006 Hamilton to Milton pipeline.
- b) Please see Attachment 2 and Attachment 3 for the interim and final monitoring reports for the 2006 Hamilton to Milton pipeline.

Due to the size of the document files, Attachments 1, 2 and 3 can be found on Union's website at the following link:

Attachment 1

<http://www.uniongas.com/~media/aboutus/regulatory/regulatory-projects/eb-2014-0261-dawn-parkway-expansion-project/BGAPLO22%20Attachment%201.pdf>

Attachment 2

<http://www.uniongas.com/~media/aboutus/regulatory/regulatory-projects/eb-2014-0261-dawn-parkway-expansion-project/BGAPLO22%20Attachment%202.pdf>

Attachment 3

<http://www.uniongas.com/~media/aboutus/regulatory/regulatory-projects/eb-2014-0261-dawn-parkway-expansion-project/BGAPLO22%20Attachment%203.pdf>

Paper copies will be provided to the Board and a CD is available upon request.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.3.3, page 4.27

Preamble: The EA Report states:

"During the construction of a parallel pipeline in 2006, an Environmental Protection Plan was developed that included mitigation measures in wetlands pre, during, and post-construction. As the plan was successful in facilitating construction in 2006, it is recommended that the Plan is updated by Union Gas and reviewed by interested parties prior to the initiation of construction."

- a) Please provide a copy of the Environmental Protection Plan for the 2006 Hamilton to Milton pipeline.
- b) Please provide the Environmental Protection Plan for the proposed pipeline.
- c) Have any updates been made to the Environmental Protection Plan from the 2006 Hamilton to Milton pipeline? If so, please identify the updates.

Response:

- a) Please see Attachment 1. Certain sections of the attached have been redacted to comply with current public disclosure requirements.
- b) The Environmental Protection Plan (also called the Environmental Construction Plan) will be prepared by the spring 2015 and updated as required to incorporate information such as the additional terrestrial and aquatic field surveys planned in the spring and summer of 2015 or any applicable permit conditions associated with the Project.
- c) No. Please see the response to b) above.

**Hamilton to Milton
Environmental Construction
Plan - Contract**

File No.: 160960039

Prepared For:

Union Gas Ltd.
50 Keil Drive
Chatham, ON N7M 5M1



Stantec

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Table 1: Watercourse Crossing Summary Timing. NPS 48 Hamilton to Milton

Appendices

Appendix A: Environmental Alignment Sheets
Appendix B: Watercourse Crossing Plans
Appendix C: Stream Crossing Checklist
Appendix D: Special Mitigation Plans – Islay Lake
Appendix E: Special Mitigation Plans – Bruce Trail Crossing
Appendix F: Special Mitigation Plans – Archaeological Sites
Appendix G: Dewatering and Ground Stabilization for [REDACTED] Property

1.0 ENVIRONMENTAL RESPONSIBILITIES

The Contractor shall perform all work in an environmentally responsible manner. The Contractor shall review and become aware of the various environmental protection and restoration measures included as part of this Contract. These include, but are not limited to:

- Union Gas General Specifications and Standard Drawings;
- Construction Drawings;
- Environmental Construction Plan ("ECP");
- Environmental Alignment Sheets (Appendix "A");
- Permits; and,
- Union Gas and OMNR based Watercourse Crossing Drawings (Appendix "B").

The Contractor shall supply and utilize all environmental materials required to properly implement the various environmental and protection measures. Materials include, but are not limited to, erosion control matting, staples, silt fence, wetland filter bags, labour, etc. Payment for the supply, installation and removal of these materials will be under Item 1 of the Schedule of Unit Prices.

The Contractor shall provide Union Gas (the Company) with the opportunity to review environmental concerns with all foremen working on the project at a pre-construction meeting.

There are a number of locations where site-specific construction procedures or mitigation methodologies are required. These locations and the associated methodologies are addressed in **Section 2.0**.

1.1 WATERCOURSES

Watercourses shall refer to all streams, rivers, ponds, wetlands, drains, etc., as identified in Table 1– Watercourse Crossing Summary Timing. At the beginning of every week, the Contractor shall notify the Company in writing, of any in-water work (access road or pipeline installation etc.) planned for that week, as well as the crossings planned for the following week. The Contractor shall also give seventy-two hours verbal notice prior to any crossing, including any in-stream work and access road installation and removal, in order for the Company to provide satisfactory notification to regulatory agencies. At this time the stream crossing checklist (Appendix C) shall be completed by the Contractor and the Company.

All watercourses shall be crossed during low flow conditions and periods of extended dry weather. The Company will review weather forecasts before giving the Contractor final approval

to commence watercourse crossings. Contingency plans with regard to unfavourable weather conditions shall be discussed at the pre-crossing meeting.

Each crossing shall use a dry crossing technique. All watercourses to be crossed shall be prepared and constructed according to the plans and specifications provided (Appendix "B"). At the pre-crossing meeting, the Company and the Contractor shall review the items highlighted on the watercourse-crossing directions found in Appendix "B."

The Contractor shall not start any work at any crossing unless there is sufficient time to complete the work, including restoration, in the same day. If the Contractor feels that one day is insufficient for a given crossing, the request for additional time shall be included with the Contractor's bid. At the discretion of the Chief Inspector, the Contractor may be allowed to install the dam and pumps the day prior to the crossing.

The clean up of all watercourse crossings at the completion of the job shall be to the satisfaction of the landowner, authority or regulating body having jurisdiction, and the Chief Inspector.

TABLE 1: WATERCOURSE CROSSING SUMMARY TIMING. NPS 48 HAMILTON TO MILTON

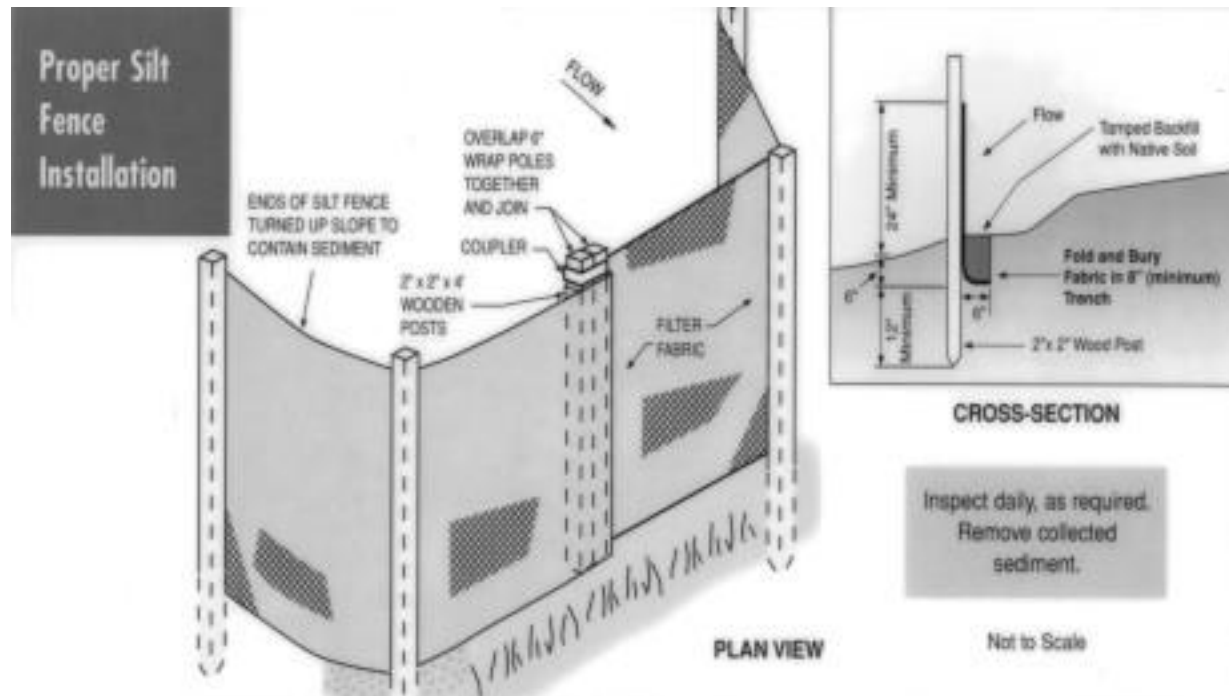
Crossing Name	Crossing Number	Type	Temporary Vehicle Crossing Type	Earliest Date for Culvert Installation	Earliest Date for Pipeline Crossing	Latest Date For Pipeline Crossing	Latest Date for Culvert Removal	Minimum Culvert Size (m)	MDZ (m)	Meeting	Sign
Bronte Creek	SC 1	Dry	Bridge	June 15	June 15	March 31	March 31		TBD	Yes	Yes
Mountsberg Creek	SC 2	Dry	Bridge	June 15	June 15	March 31	March 31		TBD	Yes	Yes
Unnamed Creek	SC 3	Dry	Culvert	June 15	June 15	Sept. 15	Sept.15	0.45	TBD	Yes	Yes
Flamboro Creek	SC 4	Dry	Bridge	June 15	June 15	March 31	March 31		TBD	Yes	Yes
Unnamed Creek	SC 4A	Dry	Culvert	July 1	July 1	March 31	March 31	0.45	TBD	Yes	Yes
Unnamed Pond	SC 4B	Dry		July 1	July 1	March 31	March 31		TBD	Yes	Yes
Kilbride Creek	SC 5	Dry	Bridge	June 15	June 15	March 31	March 31		TBD	Yes	Yes
Islay Lake	SC 5A	Dry		July 1	July 1	March 31	March 31		TBD	Yes	Yes
Unnamed Creek	SC 6	Dry	Culvert	June 15	June 15	Sept. 15	Sept.15	0.26	TBD	Yes	Yes
Unnamed Creek	SC 7	Dry	Culvert	July 1	July 1	March 31	March 31	Two culverts 0.26	TBD	Yes	Yes
Unnamed Creek	SC 7A	Dry	Culvert	July 1	July 1	March 31	March 31	0.26	TBD	Yes	Yes
Unnamed Creek	SC 7B	Dry	Culvert	July 1	July 1	March 31	March 31	0.26	TBD	Yes	Yes
Limestone Creek	SC 8	Dry	Bridge	June 15	June 15	March 31	March 31		TBD	Yes	Yes
Unnamed Pond	SC 8A	Dry		July 1	July 1	March 31	March 31		TBD	Yes	Yes
Unnamed Creek	SC 9	Dry	Culvert	June 15	June 15	Sept. 15	Sept.15	0.65	TBD	Yes	Yes
Unnamed Creek	SC 10	Dry	Culvert	July 1	July 1	March 31	March 31	0.25	TBD	Yes	Yes
Unnamed Creek	SC 11	Dry	Culvert	June 15	June 15	March 31	March 31	0.5	TBD	Yes	Yes
Unnamed Creek	SC 12	Dry	Culvert	June 15	June 15	Sept. 15	Sept.15	0.26	TBD	Yes	Yes
Unnamed	SC 13	Dry	Culvert	June 15	June 15	March 31	March 31	1.10	TBD	Yes	Yes

Crossing Name	Crossing Number	Type	Temporary Vehicle Crossing Type	Earliest Date for Culvert Installation	Earliest Date for Pipeline Crossing	Latest Date For Pipeline Crossing	Latest Date for Culvert Removal	Minimum Culvert Size (m)	MDZ (m)	Meeting	Sign
Creek											
Unnamed Creek	SC 14	Dry	Culvert	June 15	June 15	March 31	March 31	0.8	TBD	Yes	Yes
Unnamed Creek	SC 15	Dry	Culvert	July 1	July 1	March 31	March 31	0.65	TBD	Yes	Yes
Unnamed Creek	SC 16	Dry	Culvert	July 1	July 1	March 31	March 31	0.65	TBD	Yes	Yes
Unnamed Creek	SC 17	Dry	Culvert	July 1	July 1	March 31	March 31	0.65	TBD	Yes	Yes
Indian Creek	SC 18	Dry	Bridge	July 1	July 1	March 31	March 31		TBD	Yes	Yes
Unnamed Creek	SC 19	Dry	Culvert	July 1	July 1	March 31	March 31	0.50	TBD	Yes	Yes
Unnamed Creek	SC 20	Dry	Culvert	July 1	July 1	March 31	March 31	0.26	TBD	Yes	Yes

NOTES:

- Timing: "Earliest" and "Latest" date restrictions includes all in-stream activity
- Meeting: A meeting to review the watercourse crossing checklist found in Appendix "B" with the Chief Inspector and Foreman responsible for the stream crossing must be held 72 hours prior to any crossings identified with a "Yes".
- Type: Dry crossings are those that are completed under dry watercourse condition where all water and aquatic fauna have been removed from the crossing location.
- Culverts: Bridges may be substituted for culverts.
- Culvert size may be modified provided capacity is increased.
- MDZ: Minimum Disturbance Zone is the distance from the top of bank to where the sediment fence is to be constructed. This distance is to be determined (TBD) by the environmental inspector onsite prior to the commencement of construction and shall be a minimum of 3m from the "top of bank".
- Sign: If a sign is required, the Contractor shall be required to place a sign (approximately 1m x 1m in size) on each side of the crossing identifying the name of the watercourse and stating, **"Watercourse. No refueling within 50 metres of watercourse"**.
- NB: Watercourses SC4B to SC18 are located within the Niagara Escarpment Commission (NEC) lands.

Silt fencing reinforced with straw bales on the upstream side of the silt fence shall also be utilized for erosion control. The Environmental Inspector shall determine the location of silt fencing. An example of the appropriate installation of silt fence is provided below.



NB: Straw bales are not shown on the above drawing.

1.2 ENVIRONMENTAL PERMITS

The Company is in the process of obtaining all the environmental permits. The Company will supply the Contractor with the environmental permits prior to construction. Any Contractor requests for changes to the permits shall be made at the pre-construction meeting. The Contractor is advised that the processing of any changes to these permits is expected to take a minimum of four (4) to six (6) weeks.

1.3 DISPOSAL OF DEBRIS

The Contractor shall review with the Chief Inspector, all potential locations where miscellaneous debris and garbage material hauled from the pipeline easement shall be deposited. Miscellaneous material includes, but is not limited to, tile, filter cloth, geotextile material, concrete, lumber, stones, brush, logs, riprap, stumps, empty containers, used pigs, scrap pipe, coating, valving, fittings and other miscellaneous debris/garbage. The above material shall be hauled to a regulated landfill or recycling site. No burning of garbage or debris shall be permitted on the right-of-way. The Company must check all scrap pipes for contaminants prior to removal from the Contractor's yard.

1.4 SOYBEAN CYST NEMATODE

During pipeline construction, equipment will be transported from field to field and, under certain circumstances, equipment will be “floated” or transported from one section of the route to another. There will be potential for transporting soybean cyst nematode (“SCN”) to non-infested fields if soil remaining on construction equipment is infested with SCN or infested soil is imported to adjacent properties. Once a field has been infested, there is significant potential for soybean crop loss.

A pre-construction soil-sampling program will be undertaken by the Company to identify if any fields along the Pipeline ROW are infested with SCN. If there are fields impacted by SCN, locations will be provided to the Contractor.

SCN fields identified along the ROW will require the following mitigation measures during construction:

- Remove soil from equipment before moving to fields that have not been infested by SCN during construction. This may involve thorough washing of equipment before transporting equipment from an infested to non-infested field, especially, if equipment is “floated” (i.e. moved from one section with positive identification of SCN to another with negative identification).
- Where possible, start construction activities on non-infested fields first. Equipment from a non-infested or less-infested field (as determined from soil analysis) could be moved to a more infested field but not vice-versa.
- Imported topsoil used during cleanup will be analyzed by the Company for SCN by collecting a composite sample from the source and reviewing results before any imported topsoil is placed on the easement.

1.5 SPILLS AND CONTAMINATED MATERIALS RESPONSE

The Contractor shall not discharge any substance such as grease, oil, fuel, etc. If such substances are accidentally discharged, the Ministry of the Environment Spills Action Centre (1-800-268-6060) and the Environmental Inspector shall be notified immediately and these substances shall be cleaned up immediately and disposed of in a proper manner at the Contractor's expense. The Contractor shall have available on-site equipment and absorbent material necessary to contain a spill. Unexpected amounts of sediment deposited in-stream shall also be considered a spill and reported to the Spills Action Centre and the environmental inspector.

The Contractor shall submit with the contract bid package 2 copies of the Contractors' spill response procedure. This procedure shall include names and contact information of persons who will be available to address a spill 24 hours a day. The procedure shall also list materials and equipment kept on hand to address any spill that might occur during construction of the project, and shall address proper handling and disposal of these materials.

2.0 SPECIAL ENVIRONMENTAL PROTECTION MEASURES FOR CONSTRUCTION ACTIVITIES

2.1 CARLISLE SETTLEMENT AREA

Construction will be adjacent to residential areas in this pipeline section.

- Roads utilized by construction vehicles shall be cleaned daily;
- During dry conditions the ROW shall be sprayed with water to minimize to the extent possible the movement of nuisance dust off the ROW;
- Signage shall be placed in appropriate locations identifying that the area is designated as a work zone; and
- The sites shall be restored to their pre-construction condition to the extent possible.

2.2 PROTECTION OF TREES ADJACENT TO THE ROW

Most trees and brush will have been cleared prior to the mainline construction start. Additional clearing activities may require the removal of a number of individual trees and portions of hedgerows adjacent to roads and fields.

The following areas have been designated as areas where the removal of additional trees and disturbance to remaining trees shall be minimized to the extent possible:

HM-8. [REDACTED]. South Limit: Preserve if possible hedgerow along fence line at south easement limit. Minimize to the extent possible damage to branches and roots that extend into the construction ROW.

HM-14 [REDACTED]: Preserve if possible hedgerow along fence line at south easement limit. Minimize to the extent possible damage to branches and roots that extend into the construction ROW.

HM-15. [REDACTED]. South Limit: Preserve if possible hedgerow along fence line at south easement. limit Minimize to the extent possible damage to branches and roots that extend into the construction ROW.

HM-17. [REDACTED]. South Limit: Minimize to the extent possible damage to branches and roots that extend into the construction ROW.

HM-20. [REDACTED]. East, West and North Limit: Minimize to the extent possible through the wooded area damage to branches and roots that extend into the construction ROW. Preserve if possible hedgerow along fence line at west easement limit.

HM-26. [REDACTED]. North Limit: Minimize to the extent possible damage to branches and roots that extend into the construction ROW. Specific direction related to the [REDACTED] property is provided in Section 2.3.

All trees shall be felled into the right-of-way. Right-of-way width through woodlot areas shall be restricted in the locations identified above and the Environmental Alignment Sheets (Appendix "A"). Push-outs shall not be permitted within wooded areas. Topsoil shall not be stripped through wooded areas.

Grubbing of tree roots and removal of vegetation (with the exception of hand clearing of trees) near watercourses shall be delayed until just prior to construction of the water crossing. The Environmental Inspector on site will determine the specific setback distance at the time of clearing. Tree stumps must be disposed of in accordance with the requirements of the Ministry of Natural Resources or other applicable government agency.

2.3 [REDACTED]

Construction plans for HM-26 [REDACTED] (Appendix "G") and seeding mixtures for revegetation along the ROW have been developed in consultation with the landowner, the NEC and Conservation Halton. Recommended seed mixtures for the wooded areas of the ROW are provided on the Environmental Alignment Sheets Appendix "A". Specific requirements for environmental mitigation measures through the [REDACTED] property include the following:

- Notify Landowner through the Chief Inspector 48 hours prior to the commencement of construction activities on the property.
- Do not strip topsoil through the non-agricultural portion of the property.
- Install orange safety fence along northern limit of ROW across the entire property.
- Install safety fence around tree(s) to be protected out to the drip line and minimizing damage to the extent possible to any branches and roots that extend beyond the drip line.
- Maintain access across pipeline ROW for duration of pipeline construction activity.
- During dry dusty conditions employ the use of water trucks to minimize nuisance dust to the extent possible.
- Prior to ROW grading in the vicinity of the east pond remove vegetation plugs at direction of the environmental inspector to specified location by west pond.
- Cross the east pond utilizing the construction procedure outlined in Appendix G.

2.4 WETLANDS

The Kilbride Swamp Provincially Significant Wetland is located on properties HM-26 [REDACTED] and HM-27 [REDACTED]. Pipeline construction through these properties shall be required to adhere to the following construction and mitigation measures.

Pre-construction Mitigation

- Clearly mark limits of vegetation clearing.
- Erect silt and/or construction fencing (Environmental Barrier) within areas of vegetation units which exhibit wetland attributes as instructed by the environmental inspector.
- Remove vegetation at ground level, leaving existing root systems in the ground and remove above ground vegetation from wetland. Avoid burning/disposal, or use of excess vegetation materials as riprap.
- Limit tree stump removal and grading activities to directly over the trench line. Do not grade or remove stumps or root systems from the rest of the easement unless the Chief Inspector and Environmental Inspector determine that safety-related construction constraints or site access requirements necessitate removal of tree stumps.
- Construction of temporary access shall be limited to the minimum required for safe pipeline installation.
- Install water control swales as required on ROW to facilitate cross easement water movement using a geotextile base and clean crushed stone in constructed swales.
- Establish travel areas through wet zones by installing swamp mats or geotextile overlain by clean crushed granular material.

During Construction Mitigation

- Where possible, complete pipe fabrication (welding and coating) prior to removal of organic matter over trench and prior to commencing trenching.
- Where the wetland attribute area extends across right-of-way, strip the top 0.15 - 0.30m of topsoil/muck separately from the subsoil in the area disturbed by trenching.
- Install pipeline as quickly as possible and backfill immediately to minimize time of open trench to the extent possible.
- Ensure allowance for spoil pile breaks at constructed cross-easement water control swales if required.
- Regularly inspect the off-easement water regime, monitoring for possible off easement ponding. Adjust cross-easement water control swales as required during construction.
- Storage areas for hazardous materials, chemicals, fuels and lubricating oils shall be located at least 100m outside of the wetland attribute area boundary and be surrounded by a berm and lined with an impermeable membrane to prevent movement of spills from the storage area.
- No vehicle refueling shall be permitted between 100m east of Milborough Line to approximately 200m west of McNiven Road. The Contractor shall provide signs identifying the limits of the non-refueling area.
- Construction equipment traffic in wetland areas shall be kept to the minimum necessary to complete the pipeline construction. Construction equipment should limit use of the temporary access through wetland areas once construction activities in the wetland have been completed.

- During backfilling, spread stockpiled organic/muck soils evenly over the backfilled trench, maintaining a shallow crown over the trench to account for short-term subsidence.

Post Construction Mitigation and Rehabilitation

- Review crown over pipeline trench within two weeks of trench backfill to ensure any remaining shallow crown does not interfere with hydraulic regime of the wetland.
- Remove all temporary water control swales.
- Remove all temporary vehicle access roads (swamp mats and/or geotextile and crushed granular material).
- Re-vegetate disturbed area of wetland with seed mixture identified on the Environmental Alignment Sheets (Appendix "A"). Seed should be broadcast over the disturbed area. It is anticipated that revegetation of the easement shall occur naturally after the first winter following construction. Since the identified wetland features are generally flat and protected by vegetation on both sides of the easement, erosion by wind and water is not expected. The high water table and abundance of seeds and roots in the organic soil shall facilitate natural revegetation.
- Replace small ephemeral ponds, seasonal depressions.

2.5 CROSSING OF THE BRUCE TRAIL

A crossing of the Bruce Trail shall be required at properties HM-33 and HM-34. The Bruce Trail is a Provincial hiking pathway that crosses the ROW from north to south. For the duration of construction activities at the Bruce Trail, the Contractor shall be required to maintain access along the trail across the construction easement. In order to achieve this, some alteration of the current trail route shall be required as well as the posting of signs and/or use of Contractor personnel to direct trail users through the construction area. The Environmental Inspector will notify Trail staff prior to the commencement of construction activity and also to consult with Trail staff as to the final restoration of the trail. Detailed plans for construction activity at the Bruce Trail Crossing are provided in Appendix "E".

2.6 ISLAY LAKE

A crossing of the south end of Islay Lake located at HM-38 [REDACTED] is required. The proposed construction methodology requires the construction of a temporary containment berm between the existing lake and the new pipeline trench location. The southern portion of the lake shall be dewatered once the dyke is in place. The water pumped from the southern portion of the lake shall be released through an approved filter system prior to release to a natural area. Fish and other aquatic fauna trapped in the southern portion of the lake will be recovered and returned to the northern portion of the lake by Company personnel. Specific environmental mitigation requirements for the lake crossing are provided in Appendix "D". A copy of the Golder Associates Ltd. construction specification and associated drawings can be found in the Contract documents.

2.6.1 Restoration

Following the completion of construction the temporary access roads shall be removed and graded to the original ground contours. Following grading the area shall be reseeded to the appropriate seed mix.

The existing dyke areas where the temporary containment berm was constructed shall be reshaped to their original slope contours and reseeded with an appropriate seed mix and protected with appropriate erosion control material.

Prior to the refilling with water of the cutoff section of Islay Lake, the lake bottom shall be smoothed to the original shape and contours except over the pipeline trench where a small crown shall be maintained to allow for trench settling.

2.7 SLOPED AREA IN THE VICINTY OF ISLAY LAKE

To create ROW for the new pipeline, grading shall be required on a steep slope located on the [REDACTED] (HM-38) and [REDACTED] (HM-39) properties east of the Islay Lake crossing. Currently the area is a treed ravine with a small watercourse running north south across the pipeline ROW. The area is characterised by steep slopes west and east of the watercourse, with the east slope being particularly steep. At this location a number of areas of limestone bedrock outcrops occur across the proposed ROW. In addition a number of small springs were observed flowing from the west slope down to the watercourse. It is anticipated that bedrock will need to be removed from this slope to produce a suitable grade and to excavate the pipeline trench. Given the likelihood of water seepage from the west slope trench dewatering will likely be required.

- Following construction the slope shall be graded to a 2 to 1 slope minimum and replanted. Where the cut is large, terracing and trench breakers may be required to minimize erosion and possible slope failure; and,
- Site rehabilitation shall use native species seed mixes approved by Conservation Halton to blend in with the surrounding landscape.

2.8 SPECIAL PLANTING REVEGETATION PLANS

Where the construction ROW passes through natural areas the NEC and Conservation Halton have been consulted to provide appropriate seed mixes to revegetate the ROW following the completion of construction. Details as to where these seedings shall occur, the prescribed method of application and the seed mixes themselves are detailed on the Environmental Alignment Sheets (Appendix "A").

2.9 ARCHAEOLOGICAL AND HERITAGE FEATURES

There are two archaeological sites, the [REDACTED] and [REDACTED] sites that employ special mitigation measures to minimise disturbance to potential archaeological resources. Easement has been narrowed in the proximity of the archaeological sites for a small distance. Precise locations of ROW narrowing are identified on the Environmental Alignment Sheets (Appendix "A"). Topsoil stripped from the site shall be moved outside of the archaeological site area. Snow fencing shall be erected on either side of the construction ROW in the site area and signs

posted identifying the area as an “Environmentally Sensitive Area”. Detailed drawings of the ROW layout for the two sites are provided in Appendix “F”.

During trenching through the archaeological sites the Environmental Inspector must be onsite to monitor construction activities. The Contractor shall notify the Environmental Inspector two days prior to the commencement of construction activities at the archaeological sites.

If deeply buried cultural remains are encountered during construction, all activity shall be temporarily suspended and the project archaeologist through consultation with the Chief Inspector shall contact the Heritage Branch of the Ministry of Citizenship, Culture and Recreation (MCzCR) to determine an appropriate course of action.

2.10 PROTECTION OF WILDLIFE

The Contractor shall ensure that crews do not threaten, harass or injure any wildlife. Harassment of wildlife is prohibited. No Contractor personnel shall be permitted to carry firearms on the ROW or other work areas. Garbage, particularly food wastes shall be properly disposed of to avoid attracting wildlife.

3.0 CONTINGENCY PLANS

3.1 SPILLS AND CONTAMINATED MATERIALS RESPONSE

3.1.1 PREVENTION

The Contractor, including its subcontractors, shall be responsible for storing, handling and disposing of materials in a way that prevents release.

The Contractor shall have a program to inspect its equipment for leaks and damage that could result in failure and release of materials to the environment. In the event of a spill, immediate action to contain and clean up the spill shall be undertaken according to the Contractor's spills and response procedure.

3.2 FIRE

3.2.1 PREVENTION

The Contractor shall operate in a manner that minimizes the risk of fire. The following procedures are necessary preventative measures that shall be taken.

- a) All necessary precautions are to be taken to prevent fire.
- b) All flammable wastes shall be removed from the site on a regular basis.
- c) Flammable materials that need to be onsite shall be stored in approved containers, away from sources of ignition.
- d) Smoking is prohibited around areas where flammable products are stored or used.
- e) Smoking is prohibited on Union Gas properties.
- f) Extreme caution must be taken during periods of high fire hazard.

3.2.2 RESPONSE

Provided it is safe to do so, all personnel are expected to take immediate action to contain and extinguish any fire that results from construction.

Non-Wooded Area Fires:

The following procedures shall be followed in the event of a fire on the ROW.

- a) "Sound the Alarm" – Make all personnel on site aware of the fire.
- b) Take immediate steps to extinguish the fire using appropriate equipment (e.g. extinguishers, fire hoses, sand/earth, tarp.)
- c) If the fire cannot be contained, the appropriate fire department shall be notified by calling 911.
- d) If the fire threatens surrounding wooded areas, the steps outlined under *Fires in Wooded Areas* below shall be followed.

Fires In Wooded Areas:

- a) The fire shall be reported immediately to the appropriate fire department. The following information shall be provided:
 - Name of the person reporting the fire and phone number;
 - Time of detection of the fire;
 - Size of the fire; and,
 - Location of the fire.
- b) In case of related medical emergencies, emergency services shall be notified immediately by calling 911.

3.2.3 EQUIPMENT

The Contractor shall have sufficient fire fighting equipment available to respond to minor fires. This shall include fire extinguishers rated for the type of flammable materials that are on-site. This equipment shall be maintained in accordance with the manufacturer's standards and personnel shall be trained in its use.

3.3 SEDIMENT RELEASE

Erosion and sediment control structures are critical to the protection of aquatic systems (and wetlands) during construction. Unanticipated storm events can weaken and cause the occasional failure of control structures and the release of sediments to watercourses and wetlands. Rapid and effective response to these events is essential to minimize the impact to water bodies and wetlands. Environmental protection procedures, including prevention, response/action plans, and resource lists, are described below.

3.3.1 PREVENTION

- a) Control structures shall be inspected prior to a forecasted rain event to check integrity and make repairs as required.
- b) Control structures shall be inspected daily, particularly following rain events to check integrity and make repairs as required.
- c) Sediments shall be removed when the control structures reach their design capacity, with disposal at an approved location.

3.3.2 RESPONSE

The Contractor shall implement contingency measures to contain accidental releases, if possible, and repair control structures. Contingency measures to be employed during and following the release of sediment to a water body, wetland and down gradient terrestrial environment (forest, field) shall involve:

- a) Installation of straw bales or other suitable material to filter flow or create a barrier to direct flow or provide a containment area:
 - Below a failed sediment control fence;
 - Below a failed check dam; or

- If flow is occurring over the berm of a sedimentation pond.
- b) Trenching to intercept and direct flow to a low-lying and/or vegetated area.
- c) Pumping operations to control and/or direct flow to acceptable areas.
- d) Pumping of water through sediment filters:
 - If a sedimentation pond is breached; and
 - At a check dam location if upgradient structures have failed.
- e) Reconstruction of breached dikes or berms (sedimentation ponds) using sandbags or riprap-sized material in combination with other appropriate materials and measures.

3.4 WASTE MANAGEMENT

3.4.1 WASTE MATERIALS

3.4.1.1 Non Hazardous Waste

Solid, non-hazardous wastes are made up of garbage and debris generated during pipeline construction. These materials are anticipated to be non-toxic in nature and not likely to cause harmful effects. These materials are considered a nuisance. They are made up of the following:

- i. Domestic garbage food and food product wrappings;
- ii. Building and industrial type wastes including
 - Spent welding rods;
 - Grinder discs;
 - Wood;
 - Wire;
 - Survey Stakes and flagging tape;
 - Used geotextile; and
 - Polyethylene and other plastic wraps.

3.4.1.2 INDUSTRIAL WASTES

Industrial wastes generated or encountered during pipeline construction may contain small amounts of residual substances such as oils and greases that if released into the environment, may cause localized contamination of soil, vegetation, surface water or groundwater. These materials include:

- Containers and cans (anti-freeze, oil, greases);
- Contaminated soil and absorbents that may contain oils, hydraulic and/or brake fluid, diesel, gasoline or lube oil;
- Lube filters; and
- Used grease cartridges.

3.4.1.3 LIQUID PRODUCTS AND WASTE

These mobile wastes pose the greatest threat to the environment. Their ability to flow and seep into porous material makes them hard to control and recover. Some materials such as antifreeze and lubricating oils can be toxic to plants and animals. Materials include:

- Fuels such as diesel, gasoline, propane;

- Lubricants such as engine oil, transmission oils, hydraulic oil, greases;
- Coolants (ethylene glycol, propylene glycol);
- Methanol;
- Sewage;
- Paints and solvents; and
- Film processing chemicals.

3.4.2 HANDLING, STORAGE, USE AND DISPOSAL

- i. All Contractors and employees of the Company shall comply with all applicable regulations for the containment, handling and disposal of wastes and potentially hazardous materials.
- ii. Contractors' equipment shall be kept clean and maintained in good operating condition.
- iii. Personnel who will be handling potentially hazardous chemicals shall possess valid WHMIS training.
- iv. All hazardous materials stored on the site shall be labeled according to WHMIS regulations. Material Safety Data Sheets (MSDS) shall be available for each product stored at a particular construction yard or staging area.
- v. Hazardous waste and material storage areas shall be clearly marked and secured.
- vi. Wastes and bulk products shall be stored in construction yards or other designated areas except for quantities generated or required for the daily construction activity. Fuel, oil, or hazardous materials required to be stored on site, shall not be located within 100 m of a watercourse, water body or wetland.
- vii. Bulk storage tanks shall be contained in a bermed area lined with an impervious liner. Containment areas shall be large enough to contain 125% of the largest tank in the containment area. Any rainwater that accumulates in the containment area shall be removed if authorized by the Environmental Inspector. Any water with a visible hydrocarbon sheen shall be collected for proper storage and disposal.
- viii. Each construction crew shall be equipped with adequate garbage receptacles for solid non-toxic wastes and debris. These materials shall be collected on a daily basis and shall be disposed at an approved location.
- ix. Receptacles for industrial wastes generated through pipeline construction shall be provided in order to keep them separated from non-toxic wastes. Used oil and oil filters shall be placed in sealed containers and removed for disposal by a licensed service Contractor.
- x. Portable domestic sewage facilities and vacuum truck services shall be provided on each spread.

Appendix A

Environmental Alignment Sheets

(See separate booklet provided)

Appendix B

Watercourse Crossing Plans

(See separate booklet provided)

Appendix C

Stream Crossing Checklist

Appendix D

Special Mitigation Plans – Islay Lake

Appendix E

Special Mitigation Plans – Bruce Trail Crossing

Appendix F

Special Mitigation Plans – Archaeological Sites

Appendix G

Dewatering and Ground Stabilization for [REDACTED] Property

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.2.3, page 4.9
OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011, Section 6.2.2, page 69, Monitoring Reports

Preamble: The EA Report states: "Union Gas should hire an independent hydrogeologist to assess the need for, and to develop if necessary, a well monitoring program."
The *OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011* include the following guideline with respect to water testing: "Before, during and after construction, a water quantity and quality survey of wells near the pipeline should be conducted in conjunction with the MOE Regional Office."

- a) Will Union Gas Limited agree to implement a pre-, during, and post-construction monitoring program for all drilled and dug wells within 100 metres of the proposed pipeline easement and for any other wells recommended for monitoring by Union Gas Limited's hydrogeology consultant? If not, why not?
- b) Will Union Gas Limited agree to make the monitoring report available to the applicable landowner(s)? If not, why not?
- c) Does Union Gas Limited agree that it will restore or replace any water well that is damaged (with respect to quantity and/or quality) from its pipeline construction and operation? If not, why not?

Response:

- a) As part of Union's standard water well monitoring program, Union will retain the services of a hydrogeologist to review local hydrogeological conditions and existing water well records. Based on this review, the hydrogeologist will develop a well monitoring program. The hydrogeologist will also be available during the construction period in the event that a landowner has a concern about their well or water supply due to construction.

b) Yes.

c) Yes.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.2.4, page 4.9

Preamble: The EA Report states: "The preferred route will not cross lands currently used for resource extraction, or land on which future resource extraction is likely."

- a) On what basis did Stantec determine that the preferred route does not cross lands on which future resource extraction is likely? Please explain.
 - b) Is future resource extraction possible on any of the lands crossed by the preferred route? Please identify any such lands.
-

Response:

- a) The preferred route parallels an existing natural gas pipeline; it is therefore not possible for future resource extraction on these lands. In addition, as per Schedule D of the Rural Hamilton Official Plan, Schedule C of the City of Burlington Official Plan, and Schedules A and B of the Town of Milton Official Plan, the preferred routes does not cross land designated as a Mineral Resource Extraction Area.
- b) Please see part a) above.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.2.5, pages 4.11 and 4.13, Soil and Soil Capability

Preamble: The EA Report states:

"Where equipment is moving from one agricultural field to another there is the potential for the spread of soybean cyst nematode (*Heterodera glycines*) to previously uncontaminated fields. Once a field has been infested there is significant potential for soybean crop loss and there is no effective method of eradication."

"If soybean cyst nematode affected areas are discovered, a plan should be undertaken which will outline the mitigation measures such as the use of machine washing stations."

- a) Please provide Union Gas Limited's plan for dealing with soybean cyst nematode.
 - b) What is Union Gas Limited's plan for the control and containment of other weed and/or disease infestations encountered during construction and operation of the proposed pipeline?
 - c) Was any soybean cyst nematode identified in the previous constructions along this corridor? Please provide details and copies of any reports or studies prepared.
 - d) What is Union Gas Limited's experience with the transfer of soybean cyst nematode and other weed and/or disease infestations from property to property during construction or as a result of construction? Please provide details.
 - e) Please provide details of any landowner complaints received with respect to soybean cyst nematode, weeds or diseases along this corridor. How were these resolved?
-

Response:

- a) As detailed in the Environmental Report (section 4.2.5 Soil and Soil Capability), Union will conduct a pre-construction soil-sampling program to determine the presence of soybean cyst nematode ("SCN") on agricultural lands along the pipeline right of way ("ROW"). If SCN is found, best management practices may include thorough pressure washing of equipment upon leaving an infested field and/or complete topsoil stripping of infested fields. Any imported

topsoil will also be analyzed for SCN prior to placement. The practices selected to address SCN will be determined following SCN testing to determine where and how many properties or fields are impacted by SCN and in consultation with the landowner.

- b) On non-cultivated lands, Union will seed the ROW after restoration is completed to establish a vegetative cover and thus discourage the onset of weeds. Union will monitor the re-growth on the ROW after construction and work with the landowner to eradicate excessive weed growth.
- c) As noted in Union's Interim Monitoring Report, SCN was not found in soils sampled on the ROW prior to the 2006 NPS 48 Hamilton to Milton construction. A copy of Union's Interim Report is attached as Attachment 2 to Exhibit B. GAPLO.22.
- d) Union first undertook measures to minimize the spread of SCN on its Brooke to Strathroy pipeline project (constructed in 2006). Union developed these measures through discussions with the Ontario Ministry of Agriculture, Food and Rural Affairs. Landowners were generally pleased that Union had a SCN protocol in place to address this matter. Union has subsequently used its SCN measures on the Strathroy to Lobo pipeline (constructed in 2007). In the year following construction, Union monitors its ROW to assess the restoration of the construction work area and other associated issues such as weeds. In the event weeds or disease infestations such as SCN are noted or brought to Unions' attention by the landowner, Union would work with the landowner to correct the issue.
- e) To date, Union has not received any landowner complaints regarding SCN along the Hamilton to Milton corridor. Union has recently received complaints about weeds on property owned by Union along Twiss Rd. which has subsequently been addressed by Union. As noted in the Environmental Report (Appendix B5; Project Correspondence), an adjacent landowner has expressed concern about the spread of phragmites and other invasive weeds from the existing Union ROW in the Kilbride wetland to their property. Following recent site visits, Union has confirmed phragmites through portions of the Kilbride wetland on the existing Union ROW. Prior to construction, Union will consult with the Niagara Escarpment Commission, the local MNRF and/or Halton Conservation to develop a plan for managing phragmites and other invasive weeds in the wetland. On cultivated lands, Union will work with the landowner to address any excessive weed growth present on the ROW after construction.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.2.5, page 4.11, Soil and Soil Capability

Preamble: The EA Report states: "Construction activities should be temporarily halted on lands where excessively wet soil conditions are encountered, as per Union Gas' standard wet soils shutdown practice. Union Gas' on-site inspection team should determine when construction activities may be resumed."

Please provide a copy of Union Gas Limited's standard wet soils shutdown practice.

Response:

Please see Attachment 1 for a copy of Union's Wet Soil Shutdown practice for pipeline construction, repair and maintenance on agricultural lands.

SCHEDULE 4

Wet Soils Shutdown

The following sets out the Wet Soils Shutdown practice of Union Gas Limited for pipeline construction, repair and maintenance on agricultural lands.

While constructing the Company's pipeline the Company's senior inspectors inspect right-of-way conditions each day before construction activities commence for that day. If, in the judgment of these inspectors, the right-of-way conditions on agricultural lands are such that construction would have an adverse affect on the soils due to wet soils conditions, the contractor is prohibited from starting construction activities. The inspectors shall consider the extent of surface ponding, extent and depth of rutting, surface extent and location of potential rutting and compaction (i.e., can traffic be re-routed within the easement lands around wet area(s) and the type of equipment and nature of construction proposed for that day. The wet soil shutdown restriction would be in effect until, in the judgment of the Company representatives, the soils would have sufficiently dried to the extent that commencing construction activities would have no adverse affects on the soils.

Wet soils shutdown is a routine part of Union's normal management process for pipeline construction activities. In recognition of this, Union budgets for and includes in contract documents, provisions for payment to the pipeline contractors for wet soils shutdown thereby removing any potential incentive for the contractor to work in wet conditions.

In addition, Union's inspection staff is responsible for ensuring that construction activities do not occur during wet soils shutdown. This would include shutting down construction activities if soils became wet during the day.

It should, however, be recognized that there may be situations when construction activities cannot be carried out during the normal construction period due to delays in project timing and it may become necessary to work in wet conditions in the spring or fall of the year. Where construction activities are undertaken by the Company in wet soil conditions, additional mitigation measures may be put in place to minimize resulting damages. Mitigation measures may, where appropriate, be developed by Union on a site specific basis and may include avoiding certain areas, full easement stripping, geotextile roads, the use of swamp mats, or the use of other specialized equipment where deemed appropriate by Union. Union will authorize work in wet soils conditions only when all other reasonable alternatives have been exhausted.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 5.3, pages 5.2-5.3, Analysis of Cumulative Effects
OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011, Section 4.3.14, pages 44 et ff., Cumulative Effects
OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011, Section 6.2.2, page 68, Monitoring Reports

Preamble: The Stantec EA Report does not appear to include consideration of adjacent pipelines and pipeline easements in its analysis of cumulative effects.

The *OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 6th Edition 2011* include the following guidelines with respect to the assessment of cumulative effects:

Page 44 et ff.: "Cumulative impacts may result from pipeline projects which loop existing systems and should be addressed. This may include an examination of areas of known soil erosion, soil compaction or soil productivity problems. It may mean the examination of impacts associated with continued loss of hedgerows and woodlots in the same area. As well, it could mean the increased loss of enjoyment of property because of disruptions caused by the construction of successive pipelines on a landowner's property. There may also be heightened sensitivities as a result of improper or ineffective practices and mitigation measures in the past."

"Cumulative effects, when identified as part of the assessment process, should be integrated in the appropriate section of the ER (e.g. soil impacts)."

"The following is a list that encompasses some of the cumulative effects of pipeline construction:

- (a) Incremental increase of easement width when adding new parallel pipelines to reinforce the systems;
- (b) Additive effects of vegetation removal including riparian vegetation, forest cover, agricultural crops;
- (c) Repetitive disturbance of soils including soil compaction, drainage systems damages, loss of soil fertility, crop yield reduction;

- (d) Streams and groundwater degradation and effects on water wells;
- (e) Residual effects caused by the removal of forest edge and interior, such as reduced species diversity and other habitat alterations.”

Page 68: “The Final Monitoring Report should address any potential cumulative effects which may arise for pipelines, these may include for example, reduced soil productivity over easements which overlap, land-use restrictions due to increased easement widths or additional above ground facilities and/or the repeated construction through sensitive areas.”

- a) For each of the existing adjacent pipelines, please provide the pipe material and grade, wall thickness, operating pressure, separation distances from each other and from the new pipeline.
- b) Please provide a detailed chronology of pipeline development on the properties affected including: dates of construction, widths of individual easements obtained or acquired, total width of corridor, projected economic life of each pipeline.
- c) Please provide copies of interim and final monitoring reports for the pipelines in the corridor.
- d) Please provide details of damage caused to soils within the corridor and of crop loss suffered within the corridor in connection with previous Union Gas Pipeline construction projects and operations.
- e) What is Union Gas Limited doing to investigate and remediate residual damage from past projects within the corridor?
- f) Has Union Gas studied crop yield effects from previous pipeline constructions in the Dawn to Parkway corridor, including on the lands to be affected by the new construction? Please provide any reports, data, results, conclusions, analyses, etc. in connection with such study.
- g) What are the cumulative effects that would result from the abandonment or discontinuance of operation of one or more of the pipelines within the corridor?

Response:

a)

Pipe Size (NPS)	Minimum Wall Thickness (mm)	Minimum Grade (Mpa)	Maximum Operating Pressure (kPa)
26	7.9	359	6160
34	10.3	359	6160
48	11.7	448	6160

The pipeline separation for each line is not consistent due to unique design and survey characteristics. The separation distances are shown at Exhibit A, Tab 13, Schedule 1.

- b) The majority of the easements in the Hamilton to Milton section were acquired in or around 1957 (NPS 26), 1971 (NPS 34) and, 1991 (NPS 48), 2006 (NPS 48) with construction following this timeframe. There are some replacements that have been completed since the original installation. The easements acquired overlap one another. There is not a consistency of width of easement for each property due to unique survey characteristics from property to property but the easement widths can generally be described as 18 metres for the NPS 26, 23 metres for the NPS 34 pipeline and 28 metres for the existing NPS 48 and proposed.
- c) Please see the response at Exhibit B.GAPLO.22.
- d) No landowner concerns have been expressed regarding soil damage or crop loss from any previous pipeline construction activities in the Hamilton to Milton pipeline corridor. Considering that the oldest of the three existing pipelines was constructed nearly 60 years ago, Union would expect negligible, if any, residual soil damage or crop loss.
- e) Union has not been advised of any non-remediated residual damage from past pipeline projects from any of the landowners in the Hamilton to Milton corridor.
- f) In 1998, Union commissioned a study to review and assess its soil and crop monitoring database along the Dawn Parkway System that Union had been collecting since the late 1970s. The purpose of the study was: 1) provide a historical documentation of the program (soil and crop monitoring program); 2) assess, to the extent possible, the impact that changes in pipeline construction practices have had on restoration of agricultural lands; and, 3) develop conclusions, based on the existing database, with respect to ongoing construction practices and soil/crop monitoring programs. The study concluded that average crop yields

have shown significant improvements from the late 1970s to the late 1990s after construction on the Dawn Parkway System reflecting major changes in pipeline construction practices over that period including implementation of wet soil shutdown policies and improved clean up practices, among others. Union has not collected soil and crop monitoring data along the Hamilton to Milton section. Best management construction practices on agricultural lands including implementation of a wet soil shutdown, topsoil stripping and post construction soil restoration to alleviate compaction will be used on the Hamilton to Milton section and results similar to those presented in previous Union soil and crop monitoring programs are expected.

- g) Due to the length of time that may pass before decommissioning and abandonment are proposed, it is not possible to envision what cumulative impacts may result. Provided that Union complies with the legislation, regulations, codes and guidelines in place at such future time significant cumulative impacts would not be anticipated.

UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Section 4.1.2, page 4.4, Operation

Preamble: Operational activities for the pipeline will include "performing periodic inspection by running electronic tools through the interior of the pipeline to assess for the presence of corrosion or dents and the need for repairs."

- a) Please provide a copy of Integrity Management Plan
- b) Please provide a copy of Corrosion Management Plan
- c) What is Union Gas Limited's plan for electronic tool inspection of the proposed pipeline?
Please provide details of proposed inspections.
- d) Please provide copies of any pipeline integrity reports for the pipeline adjacent to the proposed pipeline.

Response:

- a) Union previously provided information on the Integrity Management Program to the Board in Union's 2013 Rates proceeding (EB-2011-0210, Exhibit B1, Tab 6). As part of this program, Union develops plans for the ongoing assessment of the integrity of its pipeline system. Union also confirms that its Integrity Management Plan is regularly reviewed, updated and reports filed with the Technical Standards Safety Authority ("TSSA"), if required.
- b) Union installs, maintains, and regularly monitors cathodic protection on all existing and proposed Dawn to Parkway pipelines. The combination of coatings and the use of cathodic protection on pipelines, along with an effective monitoring system to ensure that the cathodic protection system is working, is the basis for Union's management plan for the prevention of pipeline corrosion. Please see Attachment 1 for a copy of Union's Standard Operating Practice for Corrosion Control.
- c) As part of its Pipeline Integrity Management Program Union plans to complete in-line inspection of the proposed pipeline within the year after the pipeline is constructed and

subsequently in the 5 to ten-year timeframe. The specific timing will take into account the results of the previous inspection as well as other ongoing surveys and inspections that are completed on the pipeline and its operating environment during this time.

The inspection will consist of tools that identify metal loss that may be associated with corrosion, as well as geometry tools to identify denting or deformation of the pipe that may be associated with construction or excavation damage.

- d) Union can confirm there are no outstanding integrity issues on the pipeline adjacent to the proposed pipeline.

Corrosion Control - Practice

Intention

To provide a Standard Practice for corrosion control on all steel pipeline systems in the Company.

References

- C&M Manual, Section 5 - Corrosion
- Corrosion Control Procedures Manual
- DOM, Section 6 - Pipeline System and Maintenance
- Corrosion Register User Guide

Code or Regulation Reference

CSA Z662-11, Oil and Gas Pipeline Systems

9 Corrosion control

9.1. General

9.1.3

Operating companies shall establish and maintain the procedures necessary to satisfy the requirements of Clause 9, except **when an engineering assessment determines** that specific corrosion control **practices** are not **necessary**. Corrosion control procedures shall be included in the operating company's operating and maintenance manuals.

9.1.4

Piping that is exposed to the atmosphere shall be protected from external corrosion by the application of a protective coating or by the use of corrosion-resistant alloys, unless the operating company can demonstrate that the anticipated extent of corrosion is not detrimental to serviceability.

9.1.5

Piping that is exposed to the atmosphere shall be inspected for corrosion at the intervals outlined in the operating company's operating and maintenance manuals.

9.5 Cathodic protection - Design and installation

9.5.1

Except where allowed by Clause 9.1.3, cathodic protection of new piping shall be applied as soon as practicable, but not later than 1 year after installation, and shall be maintained until the piping is abandoned.

9.5.2

Cathodic protection systems shall provide sufficient current to satisfy the selected criteria for cathodic protection.

Note: *Criteria are given in Annex B of CGA OCC-1.*

Standard Operating Practices

Author(s): John Shore
Approver: Scott Walker
Owner: Engineering, Construction and STO

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9.9 Operation and maintenance of impressed current and sacrificial cathodic protection systems

9.9.1

At regular intervals, operating companies shall verify the satisfactory operation of their cathodic protection systems. CGA OCC-1, Section 4, shall be considered for monitoring and frequency guidelines.

9.9.2

Operating companies shall establish, by means of surveys, that their cathodically protected pipeline systems meet the criteria selected for cathodic protection. Such a satisfactory state of cathodic protection shall be verified at regular intervals and the operating company shall take remedial action to correct any deficiencies found in such surveys.

9.9.3

The intended frequency and content of cathodic protection surveys and verifications shall be documented. Such surveys shall include, but not be limited to, verification of

- (a) proper operation of impressed current systems;
- (b) proper operation of sacrificial anode systems;
- (c) operation of devices (e.g., reverse current switches, diodes, and interference bonds), whose failure would be detrimental to structure protection; and
- (d) the effectiveness of devices (e.g., insulating fittings, continuity bonds, and casing insulators), whose failure would be detrimental to structure protection.

9.9.4

Survey data shall be documented.

Note: Section 6 of CGA OCC-1 provides guidance.

9.9.5

Where a portion of a buried or submerged pipeline system becomes exposed, it shall be visually inspected for corrosion and condition of coating. Where corrosion is found, it shall be assessed and treated as specified in Clause 10.10.2. The description of the coating condition, the corrosion, its assessment, and its disposition shall be recorded.

9.9.6

Techniques (e.g., the use of internal and external electronic inspection equipment) to monitor the effectiveness of the corrosion control program shall be considered.

Notes:

- (1) Guidelines for in-line inspection of piping for corrosion imperfections are contained in Annex D.
- (2) The factors to be reviewed when considering such inspection techniques should include, but not be limited to, the following:
 - (a) the availability and capability of the equipment;
 - (b) the age, condition, and configuration of the piping;
 - (c) the service, leak, and corrosion mitigation history of the piping; and
 - (d) population density and environmental concerns.

Standard Operating Practices

12.9 Corrosion control

12.9.4 Visual inspection

The requirements for the operation and maintenance of impressed current and sacrificial cathodic protection systems specified in Clauses 9.9.5 and 9.9.6 do not apply.

When piping is exposed and operating company personnel are on site, it shall be visually inspected for the condition of the coating and evidence of corrosion. Where corrosion is found, corrosion in excess of the limits defined by the operating company shall be assessed and, where applicable, the piping shall be repaired as specified in Clause 12.10.6.

Compliance

The Utility Services Administration Manager is accountable for monitoring and ensuring compliance for all SOP work. The Planning and Dispatch Manager is accountable for departmental work planning and effective resource application to ensure standard practice work completion.

Definitions

Care or Detention Centre

Care and Detention buildings are those which are occupied by persons who receive special or supervisory care because of cognitive or physical limitations and persons who are under restraint or are incapable of self preservation because of security measures not under their control.

The occupants may not be readily mobile (i.e. seniors, patients) or occupants may be restrained/confined in such a way that they depend on assistance from others to be released.

Care or Detention "Occupancy" Classifications

Jails	Infirmaries
Penitentiaries	Facilities for developmentally handicapped residents
Prisons	Group homes for developmentally handicapped residents
Police stations with detention quarters	Children's custodial homes
Reformatories with detention quarters	Homes for the aged
Reformatories without detention quarters	Nursing homes
Hospitals	Long term care
Psychiatric hospitals with detention quarters	Convalescent homes
Psychiatric hospitals without detention quarters	Residential care facilities
Sanatoriums with detention quarters	
Sanatoriums without detention quarters	

Standard Operating Practices

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 Approver: Scott Walker
 Owner: Engineering, Construction and STO

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Troubleshooting The process of identifying the reason for a pipeline being below the specified cathodic protection level.

Fault The reason a segment of piping is below the specified cathodic protection level.

Down read Refer to the following:

		COATED PIPE	BARE PIPE
		P/S READINGS & REMARKS	P/S READINGS & REMARKS
Priority 1 Anode	An anode that is required as a result of the pipe to soil survey finding a down read and the subsequent troubleshooting determining that an anode is required on the section of pipe.	>(more positive than) -1.00 volt fault condition exists	>(more positive than) -0.85 volt fault condition exists
Priority 2 Anode	An anode that is required as a result of the pipe to soil survey finding a read that indicates the level of cathodic protection is decreasing and it is predicted that the section of pipe will have inadequate protection at time of next survey.	-1.00 volt to -1.05 volt plus estimates and trends indicates that a down read will exist within the next 12 months	-0.85 volt to -0.95 volt plus estimates and trends indicates that a down read will exist within the next 12 months
Priority 3 Anode	An anode that may be required as a result of the pipe to soil survey finding a read that indicates the level of cathodic protection is decreasing and it is predicted that the section of pipe may have inadequate protection within the next 2 years.	-1.06 volt to -1.10 volt plus estimates and trends indicates that a down read will exist within the next 24 months	-0.96 volt to -1.05 volt plus estimates and trends indicates that a down read will exist within the next 24 months

Specific Requirements and Corrective Action or Notification

Surveys will be conducted to determine that the cathodic protection facilities are operated and maintained properly. Survey frequencies will be in accordance with Table 10.1. Any problems that are identified through the survey should be addressed and repaired within the timeframes specified in Table 10.1.

Standard Operating Practices

Author(s): John Shore
Approver: Scott Walker
Owner: Engineering, Construction and STO

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Table 10.1: Survey Frequency

Plant Type	Survey Frequency	Survey and Troubleshoot Within	Fault Repair Timeline **
Coated Pipe < 30% SMYS	Annually	4 months / before end of calendar year	3 months **
Coated Pipe < 30% SMYS in a Wall to Wall Location	Semi - Annually	6 weeks	6 weeks
Bare Pipe < 30% SMYS	Annually	4 months / before end of calendar year	3 months **
Bare Pipe < 30% SMYS in a Wall to Wall Location	Semi - Annually	6 weeks	6 weeks
30% SMYS or greater - Class 1&2	Annually	6 weeks	6 weeks
30% SMYS or greater - Class 3 & 4	Semi - Annually	6 weeks	6 weeks
Coated Isolated Service	Every 3 Years	4 months / before end of calendar year	3 months **
Coated Isolated Service in a Wall to Wall Location or to a Care or Detention Centre	Every 3 Years	6 weeks	3 months
Bare Isolated Service	Annually	4 months / before end of calendar year	3 months **
Bare Isolated Service in a Wall to Wall Location or to a Care or Detention Centre	Annually	6 weeks	3 months

- Only faults notated with ** constitute a Priority 1 anode installation - due June 30th of the next calendar year. Work should commence as early in the construction season as possible. Other faults to be resolved in the year found per indicated timelines.
- Due date for **ALL** Priority 2 anodes is to be Sept 30th of the following calendar year. These should be scheduled for installation after the Priority 1 anodes are completed. Wall to wall Priority 2 anodes should be carefully assessed, referencing read history, and may warrant installation in the year identified (current year).
- Meter set faults # 1, 2, 3, 4 and 5 that do not require locates or excavation shall be repaired within 30 days.

Note 1: Any extension to the troubleshooting and fault repair timelines must be supported by an approved SOP non-compliance form - providing reason for the request and the mitigation plan to be followed.

Standard Operating Practices

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Visual Inspection of All Exposed Piping

All exposed piping will be protected by approved paint or coating and inspected during the leak survey of that line.

Rectifier Survey

All rectifiers will be monitored on a monthly basis from May to September and bi-monthly from October to April, as set up in GL Essentials, to ensure that they are operating properly. This monthly monitoring shall include voltage and amperage reads.

On an annual basis, all rectifiers will undergo a major rectifier survey. This survey shall include a much more detailed inspection of the rectifier's operating condition as well as the condition of the equipment itself.

Any faults on rectifiers will be repaired within one month.

Critical Bond Survey

All critical bonds will be surveyed every 2 months. Any problems identified with these bonds shall be troubleshoot and repaired within 1 month of detecting the problem.

Retention of Records

All records, including inspections, surveys, and repairs, will be maintained for the life of the plant.

Standard Operating Practices

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UNION GAS LIMITED

Answer to Interrogatory from
Gas Pipeline Landowners of Ontario ("GAPLO")

Reference: Stantec EA Report, Tab B5, Public Comment 24 Response and Public Comment 25 Response

Preamble: Jeff Wesley of Union Gas Limited advises that most of the 26" and 34" lines have already been replaced.

- a) Please provide records of replacement and repair for other pipelines within the same corridor.
 - b) Please provide a copy of Union Gas Limited's policy and/or procedures for investigative, maintenance or repair digs along the corridor.
 - c) Does Union Gas Limited's Integrity Dig Agreement as endorsed by Union Gas Limited and GAPLO apply to the lands along the Hamilton to Milton pipeline? If not, why not?
-

Response:

- a)-b) The requested documents are not relevant to this proceeding.
- c) Yes.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 3, page 5

At line 10 the evidence states that the Union North in-franchise rates classes will have a rate increase, while at line 16 the evidences says that a residential customer in Union North would have a bill impact that is a decrease of \$1.69 per year. Please reconcile.

Response:

The rate increase described at Exhibit A, Tab 3, page 5, line 10 refers to the overall increase in costs allocated to Union North in-franchise rate classes as a result of the Project and the increase in Union North demands on the Dawn Parkway system. The overall increase in costs allocated to Union North in-franchise rate classes is approximately \$0.9 million, as provided at Exhibit A, Tab 10, Schedule 2, column (a), line 23.

Of the \$0.9 million increase to Union North rate classes, Rate 10 and Rate 20 are increasing by \$1.2 million while Rate 01, Rate 100 and Rate 25 are decreasing by \$0.3 million.

The increase in costs allocated to Rate 20 includes approximately \$1.0 million associated with the new Dawn-based storage service for Union North T-service customers. Accordingly, the Rate 20 increase in costs is directly attributable to the new service. The Rate 10 increase is the result of the allocation of Project costs of approximately \$0.5 million and existing Dawn-Parkway costs of \$0.1 million, which are only partially offset by the reduction in the allocation of indirect costs and Project-related taxes (\$0.3 million).

The Rate 01 rate class is allocated approximately \$1.8 million in costs associated with the Project and \$0.5 million of existing Dawn-Parkway costs. These costs of \$2.3 million are more than offset by a reduction of \$2.4 million in indirect costs and Project-related taxes. As a result, the costs allocated to the Rate 01 rate class decrease by approximately \$0.1 million.

Accordingly, for the average Rate 01 residential customer the bill impact is a decrease of approximately \$1.69 year.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 7, page 7

The evidence states that Enbridge will provide Union notice on or before December 15, 2014 of the amount of the 70,000 GJ/d to commence November 1, 2016. Please update the evidence to reflect the amount agreed to by Enbridge.

Response:

On December 15, 2014, Enbridge notified Union that the 70,000 GJ/d will commence November 1, 2016. Therefore, the entire 170,000 GJ/d for Enbridge will commence November 1, 2016 as assumed in the pre-filed evidence (Please see Exhibit A, Tab 8, p.5).

UNION GAS LIMITED

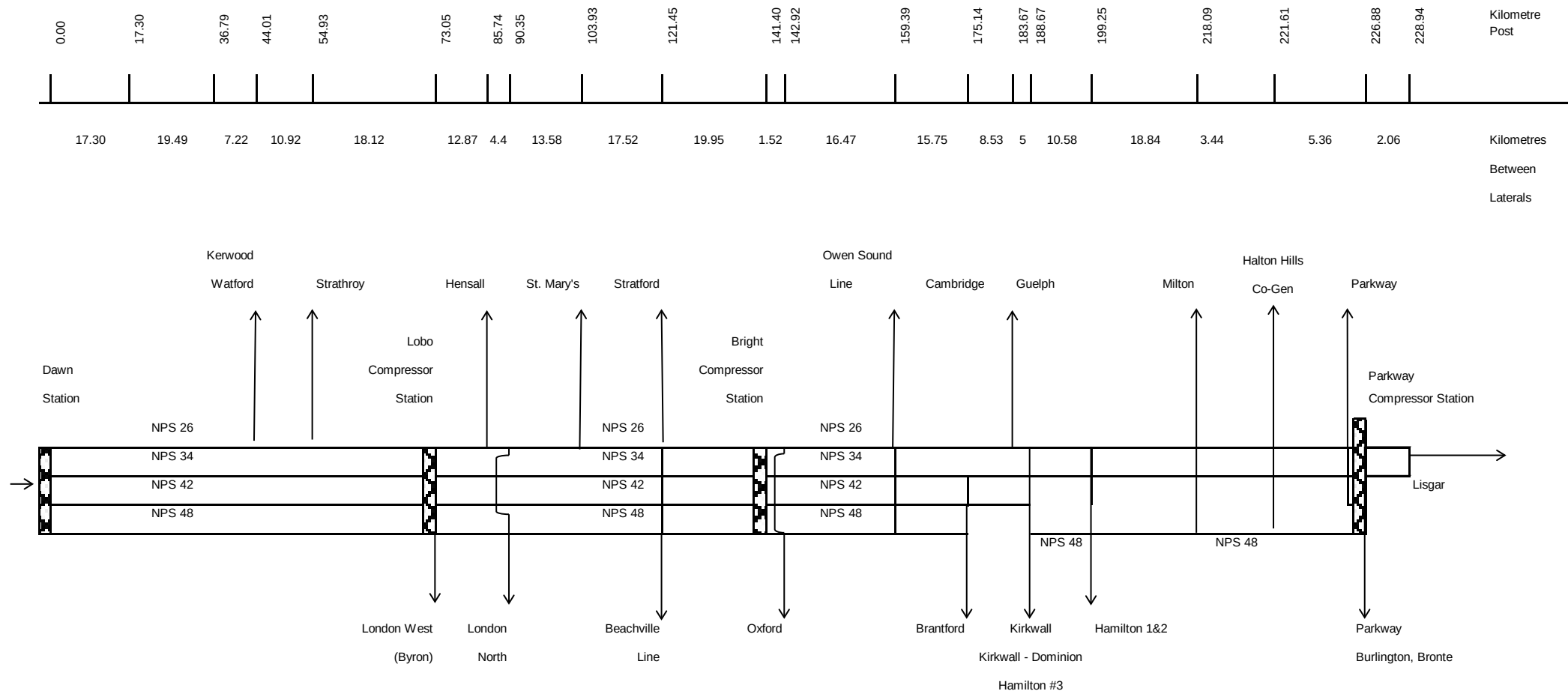
Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 8, Schedule 1

Please provide a similar diagram including design day demands for winter design day for the Dawn-Parkway system for the winter of 2014/15.

Response:

Please see Attachment 1.



Design Day Demands		
	Southern Ontario	(GJ/d)
U N I O N M A R K E T S	Forest, Watford	11563
	Strathroy	8865
	London West	102699
	Hensall	52479
	London North	95934
	St. Mary's	7706
	Stratford	48631
	Beachville	54648
	Oxford Line	49117
	Owen Sound Line	248674
	Cambridge	75456
	Brantford	104188
	Kirkwall - Dominion	94304
	Guelph	88493
	Hamilton 3	66793
S H A M P S O N	Hamilton 1&2	253096
	Milton	73221
	Halton Hills	144228
	Parkway (Greenbelt)	42642
	Burlington, Bronte	144246
	Total Southern Ontario	1,766,983
	North and Eastern Ontario	262,587
M I D D L E	Kirkwall	549,455
	Parkway TCPL	2,433,852
	Parkway Cons/Lisgar	1,638,085
	Total M12	4,621,392
2	Total Design Day Demands	6,650,962

System Capacity	(GJ/d)
Total System Capacity	6,841,973
(Including Firm Service Receipts of 478,450 GJ/d)	
Total Requirements	6,650,962
Total (Shortfall) Surplus	191,011
Union Markets	
M12 Transportation	
Kirkwall	
Lisgar, Parkway	191,011

Compressor Stations			
Operating Conditions at Peak Hour			
STATION	LOBO	BRIGHT	PARKWAY
Power Available (MW)	36.8	93.5	52.2
Power Required (MW)	36.8	93.5	52.2
Pressure			
Suction (kPa)	4,500	3,796	3,658
Discharge (kPa)	5,270	5,945	6,453
Compression Ratio	1.17	1.57	1.76
Flow (GJ/d)	6,084,779	5,884,249	2,553,923
Daily Fuel (GJ/d)	11,517	22,760	10,443

WINTER DESIGN DAY
DAWN-PARKWAY SYSTEM
WINTER 2014/15

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 8, Schedules 1 & 2

- a) How has the impact of DSM programs been taken into account in forecasting the design day demands for Union South and Union North demands?
 - b) Please provide the reduction in design day demands for each of Union South and Union North based on DSM programs for each of the 2015/16 and 2016/17 winters as compared to the previous winter.
-

Response:

- a) Union has been delivering Demand Side Management ("DSM") programs since the 1990s. Union's DSM programs include:
 - i) Resource acquisition programs that seek to achieve direct, measurable natural gas savings on a customer-by-customer basis;
 - ii) Low-income programming designed to address the specific needs of this customer segment to achieve energy savings; and,
 - iii) Market Transformation programs that seek to make a permanent change in the marketplace to increase the market share for high-efficiency products or services.

DSM programs delivered to General Service and Distribution Contract rate classes across Union's franchise area are primarily focused on reducing customers' annual natural gas consumption requirements. As outlined in its submission to the Board in EB-2014-0134¹, Union plans to study the potential for DSM to avoid or defer infrastructure investment. The results of this study will be presented to the Board and stakeholders within the mid-term review of Union's 2015-2020 DSM Plan. It is premature to consider the impact DSM could have on the design day requirement forecast of any part of Union's system, including the Dawn Parkway System, until the study is complete.

Approximately 70% of the volume transported on the Dawn Parkway system is for ex-franchise customer's transportation contracts. Union's DSM programs have no impact on reducing these ex-franchise volumes.

¹ EB-2014-013, Union Submission on Draft Framework and Guidelines, October 15, 2014, p.28.

The design day demands for Union South and Union North take into account existing DSM program volume reduction since the design day demands are based on the previous winter's actual daily measured volumes. Any impact of in place DSM programs will be reflected in the actual daily measured volumes. Company forecasts which include, for example, reduction of contract rate customer's volumes due to known energy efficiency changes, are also included in the calculation of forecast design day demand.

- b) Union does not currently have a method to measure the impact on design day demands attributable to DSM programs.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 10, Schedule 1

Please show the calculation of the average investment and depreciation expense based on the monthly in-service additions assumed.

Response:

Please see Attachment 1 for the calculation of average investment and Attachment 2 for the calculation of depreciation expense.

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Average Investment Calculation

Line No.	Particulars (\$000's)	Opening Balance (a)	Capital Additions (b)	Closing Balance (c)=(a)+ (b)	Accumulated Depreciation (d)	Net Plant (e)=(c)-(d)	Average (f)
1	December 2015	-	-	-	-	-	
2	January	-	-	-	-	-	-
3	February	-	-	-	-	-	-
4	March	-	-	-	-	-	-
5	April	-	-	-	-	-	-
6	May	-	-	-	-	-	-
7	June	-	-	-	-	-	-
8	July	-	-	-	-	-	-
9	August	-	-	-	-	-	-
10	September	-	-	-	-	-	-
11	October	-	-	-	-	-	-
12	November	-	393,248	393,248	2,420	390,828	195,414
13	December 2016	393,248	<u>9,985</u>	403,233	4,839	398,394	394,611
14	Total		<u><u>403,233</u></u>				
15	Average - 2016			49,572	2,420		47,152
16	Cash working capital - 2016						<u>57</u>
17	Average investment - 2016						<u><u>47,209</u></u>

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Average Investment Calculation

Line No.	Particulars (\$000's)	Opening Balance (a)	Capital Additions (b)	Closing Balance (c)=(a)+ (b)	Accumulated Depreciation (d)	Net Plant (e)=(c)-(d)	Average (f)
1	December 2016			403,233	4,839	398,394	
2	January	403,233	110	403,343	5,654	397,689	398,041
3	February	403,343	3,111	406,454	6,469	399,985	398,837
4	March	406,454	242	406,696	7,285	399,411	399,698
5	April	406,696	391	407,087	8,100	398,987	399,199
6	May	407,087	2,613	409,700	8,915	400,785	399,886
7	June	409,700	2,613	412,313	9,730	402,583	401,684
8	July	412,313	2,565	414,878	10,545	404,333	403,458
9	August	414,878	391	415,269	11,360	403,909	404,121
10	September	415,269	111	415,380	12,175	403,205	403,557
11	October	415,380	111	415,491	12,990	402,501	402,853
12	November	415,491	111	415,602	13,805	401,797	402,149
13	December 2017	415,602	113	415,715	14,620	401,095	401,446
14	Total		<u>12,482</u>				
15	Average - 2017			410,974	9,730		401,244
16	Cash working capital - 2017						58
17	Average investment - 2017						<u>401,302</u>

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Average Investment Calculation

Line No.	Particulars (\$000's)	Opening Balance (a)	Capital Additions (b)	Closing Balance (c)=(a)+ (b)	Accumulated Depreciation (d)	Net Plant (e)=(c)-(d)	Average (f)
1	December 2017			415,715	14,620	401,095	
2	January	415,715	-	415,715	15,444	400,271	400,683
3	February	415,715	-	415,715	16,268	399,447	399,859
4	March	415,715	-	415,715	17,091	398,624	399,036
5	April	415,715	-	415,715	17,915	397,800	398,212
6	May	415,715	-	415,715	18,739	396,976	397,388
7	June	415,715	-	415,715	19,562	396,153	396,565
8	July	415,715	-	415,715	20,386	395,329	395,741
9	August	415,715	-	415,715	21,209	394,506	394,917
10	September	415,715	-	415,715	22,033	393,682	394,094
11	October	415,715	-	415,715	22,857	392,858	393,270
12	November	415,715	-	415,715	23,680	392,035	392,446
13	December 2018	415,715	-	415,715	24,504	391,211	391,623
14	Total		-				
15	Average - 2018			415,715	19,562		396,153
16	Cash working capital - 2018						59
17	Average investment - 2018						396,212

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Depreciation Expense Calculation

Line No.	Particulars (\$000's)	2016 (a)	2017 (b)	2018 (c)
	<u>Transmission Plant</u>			
	<u>Land</u>			
	Gross Plant			
1	Opening	-	5,253	8,253
2	Additions	5,253	3,000	-
3	Closing	5,253	8,253	8,253
	<u>Land Rights</u>			
	Gross Plant			
4	Opening	-	4,132	4,132
5	Additions	4,132	-	-
6	Closing	4,132	4,132	4,132
7	Average	2,066	4,132	4,132
8	Depreciation Rate	1.76%	1.76%	1.76%
9	Depreciation Expense ⁽¹⁾	36	73	73
	<u>Structures and Improvements</u>			
	Gross Plant			
10	Opening	-	13,195	13,195
11	Additions	13,195	-	-
12	Closing	13,195	13,195	13,195
13	Average	6,598	13,195	13,195
14	Depreciation Rate	2.03%	2.03%	2.03%
15	Depreciation Expense ⁽¹⁾	134	268	268

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Depreciation Expense Calculation

Line No.	Particulars (\$000's)	2016 (a)	2017 (b)	2018 (c)
	<u>Mains</u>			
	Gross Plant			
1	Opening	-	236,576	244,658
2	Additions	236,576	8,082	-
3	Closing	236,576	244,658	244,658
4	Average	118,288	240,617	244,658
5	Depreciation Rate	1.98%	1.98%	1.98%
6	Depreciation Expense ⁽¹⁾	2,342	4,764	4,844
	<u>Compressor Equipment</u>			
	Gross Plant			
7	Opening	-	144,077	145,477
8	Additions	144,077	1,400	-
9	Closing	144,077	145,477	145,477
10	Average	72,039	144,777	145,477
11	Depreciation Rate	3.23%	3.23%	3.23%
12	Depreciation Expense ⁽¹⁾	2,327	4,676	4,699
	<u>Total</u>			
	Gross Plant			
13	Opening	-	403,233	415,715
14	Additions	403,233	12,482	-
15	Closing	403,233	415,715	415,715
16	Depreciation Expense	4,839	9,781	9,884

Note:

(1) Depreciation Expense = Average Gross Plant x Depreciation Rate

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 10, Schedule 5

- a) Please provide a version of the M1 cost impacts for each of a small M2 customer and an average sized M2 customer.
 - b) Please provide a version of the M1 cost impacts for a small M4 customer.
-

Response:

- a) For a small Rate M2 sales service customer in Union South consuming 60,000 m³ per year, the bill impact is a decrease of approximately \$410.92. For a small Rate M2 direct purchase customer consuming 60,000 m³ per year, the bill impact is an increase of approximately \$8.81.

For an average Rate M2 sales service customer in the Union South consuming 155,000 m³ per year, the bill impact is a decrease of approximately \$1,046.94. For an average Rate M2 direct purchase customer consuming 155,000 m³ per year, the bill impact is an increase of approximately \$37.39.

Please see Attachment 1.

- b) For a small Rate M4 sales service customer in the Union South consuming 875,000 m³ per year and a firm contract demand of 4,800 m³ per day, the bill impact is a decrease of approximately \$5,791.86. For a small Rate M4 direct purchase customer consuming 875,000 m³ per year and a firm contract demand of 4,800 m³ per day, the bill impact is an increase of approximately \$329.31.

Please see Attachment 2.

UNION GAS LIMITED
2018 General Service Bill Impacts
Includes Hamilton-Milton Pipeline and Lobo C Compressor Project and Estimated Gas Cost Savings
Small M2 - Annual Consumption of 60,000 m³

Line No.	Rate M2 Small - Particulars	EB-2013-0365 Approved 01-Jan-14 Total Bill (1)	EB-2014-0261 Proposed 01-Jan-18 Total Bill	Bill Impact	
		(\$) (a)	(\$) (b)	(\$) (c) = (b - a)	(%) (d) = (c / a)
	<u>Delivery Charges</u>				
1	Monthly Charge	840.00	840.00	-	
2	Delivery Commodity Charge	2,148.59	2,166.83	18.23	
3	Storage Services	397.44	388.02	(9.42)	
4	Total Delivery Charge	3,386.03	3,394.85	8.81	0.3%
	<u>Supply Charges</u>				
5	Transportation to Union	2,069.94	1,414.02	(655.92)	
6	Commodity & Fuel	10,751.70	10,987.88	236.18	
7	Total Gas Supply Charge	12,821.64	12,401.90	(419.74)	
8	Total Bill (line 4 + line 7)	16,207.67	15,796.75	(410.92)	-2.5%
9	Impacts for Customer Notices - Sales (line 8)			(410.92)	
10	Impacts for Customer Notices - Direct Purchase (line 4)			8.81	

Average M2 - Annual Consumption of 155,000 m³

Line No.	Rate M2 Average - Particulars	EB-2013-0365 Approved 01-Jan-14 Total Bill (1)	- Proposed 01-Jan-18 Total Bill	Bill Impact	
		(\$) (a)	(\$) (b)	(\$) (c) = (b - a)	(%) (d) = (c / a)
	<u>Delivery Charges</u>				
1	Monthly Charge	840.00	840.00	-	
2	Delivery Commodity Charge	5,420.06	5,481.78	61.72	
3	Storage Services	1,026.72	1,002.39	(24.33)	
4	Total Delivery Charge	7,286.78	7,324.16	37.39	0.5%
	<u>Supply Charges</u>				
5	Transportation to Union	5,347.35	3,652.89	(1,694.45)	
6	Commodity & Fuel	27,775.22	28,385.35	610.13	
7	Total Gas Supply Charge	33,122.57	32,038.25	(1,084.32)	
8	Total Bill (line 4 + line 7)	40,409.34	39,362.41	(1,046.94)	-2.6%
9	Impacts for Customer Notices - Sales (line 8)			(1,046.94)	
10	Impacts for Customer Notices - Direct Purchase (line 4)			37.39	

Note:

(1) Calculated as per Appendix A, EB-2013-0365.

UNION GAS LIMITED
2018 General Service Bill Impacts
Includes Hamilton-Milton Pipeline and Lobo C Compressor Project and Estimated Gas Cost Savings
Annual Consumption of 875,000 m³ - Firm Contract Demand 4,800 m³ per Day

Line No.	Rate M4 Small - Particulars	EB-2013-0365 Approved 01-Jan-14 Total Bill (1)	EB-2014-0261 Proposed 01-Jan-18 Total Bill	Bill Impact	
		(\$) (a)	(\$) (b)	(\$) (c) = (b - a)	(%) (d) = (c / a)
	<u>Delivery Charges</u>				
1	Demand Charge	26,973.79	27,197.22	223.43	
2	Delivery Commodity Charge	9,039.11	9,144.98	105.88	
4	Total Delivery Charge	36,012.90	36,342.20	329.31	0.9%
	<u>Supply Charges</u>				
5	Transportation to Union	30,186.63	20,621.17	(9,565.46)	
6	Commodity & Fuel	156,795.60	160,239.89	3,444.29	
7	Total Gas Supply Charge	186,982.23	180,861.06	(6,121.16)	
8	Total Bill (line 4 + line 7)	222,995.13	217,203.27	(5,791.86)	-2.6%
9	Impacts for Customer Notices - Sales (line 8)			(5,791.86)	
10	Impacts for Customer Notices - Direct Purchase (line 4)			329.31	

Note:

(1) Calculated as per Appendix A, EB-2013-0365.

UNION GAS LIMITED

Answer to Interrogatory from
London Property Management Association ("LPMA")

Reference: Exhibit A, Tab 7, pages 5-6

- a) What is the impact on the Union projects and/or the proposed timelines if the new TransCanada facilities to be built for November 2016 in-service are delayed by 1 month, 2 months, or 1 year?
- b) A number of projects are noted in the evidence as being needed to be completed before the new Union projects could proceed. For each of those projects listed, please indicate the impact on the Union projects and/or proposed timelines if those projects were delayed by 3 months, or by 1 year.

Response:

- a) Union does not expect a delay in the completion of TransCanada's 2016 expansion facilities.

A one month to three month delay in TransCanada's 2016 facilities would not impact Union's 2016 expansion facilities project schedule. Union would continue to construct the facilities (Hamilton to Milton Pipeline and Loco C Compressor) to ensure that pipelines and compressors are built in suitable weather conditions. Union expects that the Lobo C Compressor will be under construction commencing summer 2015 with the compressor unit scheduled to arrive February 2016.

A one year delay in TransCanada's 2016 facilities would require Union to assess several factors as to whether to continue with the project schedule, including timing of when the one year delay is known, cost of a project delay, construction to date, the nature of the facilities (compression vs. pipeline) and the impact to shippers.

- b) Please see the responses at Exhibit B.APPrO.1 a), b) and c); Exhibit B.Staff.1; and, Exhibit B.LPMA.7 a).

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Schedule 1; EB-2013-0074, Schedule 8-2, Page 1.

1. The Total Southern Ontario design day demands for Winter 2015/16 increased from 1,646,924 GJ in the EB-2013-0074 application to 1,788,013 GJ in this application.
 - a) Please explain the increase.
 - b) How does the increase in projected Total Southern Ontario design day demands affect the expansion facilities proposed in this application?
 - c) For facilities planning, is all of the 141,089 GJ increase in design day demands assumed to be supplied from Dawn?

Response:

- a) At the time of the EB-2013-0074, design day demands were calculated based on Winter 2010/2011 volumes and Company forecasts to estimate demands for Winter 15/16 facilities. The design day demands in the current application are calculated based on Winter 2013/2014 volumes and updated Company forecasts. The differences between the values result from forecast changes which provide a more updated reflection of the growth in Union South in-franchise volumes. In addition, the amount of energy contained within the gas, called the heating value, has changed over the three years. The increase attributable to the heating value change, although very small on the overall Dawn to Parkway demand, results in a 20% of the increase of 141 TJ.
- b) While the Union South design day demands has increased by approximately 141 TJ/d, the net increase to the Dawn Parkway System shortfall is only approximately 30 TJ/d as all the demand does not move the entire distance to Parkway. This change does not impact the proposed facilities.
- c) Yes.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Schedule 1

We want to understand what is included in Firm Service Receipts.

- a) Please provide a detailed breakdown of the Firm Service Receipts quantity for Winter 2015/16, including design day receipts for sales customers and bundled Direct Purchase customers, and the Parkway Delivery Obligations of Direct Customers with and without M12 capacity.
- b) Does the Firm Service Receipts quantity include all of the 60,000 GJ that Union transports through Parkway using the TCPL Dawn to Union CDA FT contract?

Response:

- a) A detailed breakdown of the Firm Service Receipts quantity of 481,444 GJ/d for Winter 2015/16 by customer type is provided in the table below:

Winter 2015/2016
Firm Service Receipts Summary
(GJ/d)

System	106,855
Bundled-T	75,228
ABC-T	25,045
T-Service	268,828
Unbundled	5,488
Total	<u>481,444</u>

The forecasted Winter 2015/16 Parkway Delivery Obligation for Direct Purchase customers with M12 capacity is 117 TJ/d and without M12 capacity is 228 TJ/d. Union does not know with certainty that those customers are using this capacity to meet their Parkway Delivery Obligation.

- b) The Firm Service Receipts quantity in part a) includes 54,799 GJ/d of the 60,000 GJ/d TransCanada Dawn to Union CDA FT contract with the difference being the capacity required by Union North to meet design day demands.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Schedule 2

Please provide a detailed breakdown of the Firm Service Receipts for Winter 2016/17, including design day receipts for sales customers and bundled Direct Purchase customers, and the Parkway Delivery Obligations of Direct Customers with and without M12 capacity.

Response:

A detailed breakdown of the forecasted Parkway Firm Service Receipts quantity of 277,400 GJ/d for Winter 2016/17 by customer type is provided in the table below:

Winter 2016/2017 Parkway Firm Service Receipts Summary (GJ/d)	
Sales Service	10,950
Bundled Direct Purchase	101,186
T-Service	265,123
Unbundled	5,488
Subtotal	<u>382,747</u>
Less: Forecasted Parkway Delivery Obligation (PDO) reduction not allocated to customer group	<u>- 105,347</u>
Total	<u>277,400</u>

The components of the Forecasted Parkway Delivery Obligation reduction are outlined in the evidence at Exhibit A, Tab 8, p. 9 of 13 (lines 1-9). This forecast was completed in the August 2014 time frame.

The forecasted Winter 2016/17 Parkway Delivery Obligation for Direct Purchase customers with M12 capacity is 81 TJ/d and without M12 capacity is 158 TJ/d. Union does not know with certainty that these customers are using this capacity to meet their Parkway Delivery Obligation.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 6

Please update Schedule 1 and Schedule 2 to reflect the actual Dawn-Kirkwall contract renewals for 2016.

Response:

Please see the response at Exhibit B.TCPL.1.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 7, Page 8; EB-2013-0074, Section 7, page 14.

The three contracts that Gaz Metro has executed for 144,941 GJ for service starting November 1, 2016 are in addition to 543,000 GJ of Dawn to Parkway service that Gaz Metro currently has under contract.

- a) Please provide the contract quantity and expiration date for each of Gaz Metro's existing Dawn to Parkway transportation contracts.
- b) When Enbridge acquired additional Dawn to Parkway service starting November 1, 2015, Enbridge agreed to extend the primary term of its largest Dawn to Parkway transportation contract to October 31, 2022 and increase the termination notice period from the standard two years to five years. Did Union attempt to negotiate a similar term extension for any of Gaz Metro's existing Dawn to Parkway transportation contracts? If not, why not?

Response:

- a) Please see response to Exhibit B.TCPL.2
- b) The increase in termination notice period from two to five years was a specific commercial negotiation between Enbridge and Union and involved the largest Dawn to Parkway transportation contract of 1.7 PJ/d. That specific M12 transportation contract represents 33% of the total M12 Dawn to Parkway transportation contracts as of November 1, 2015.

Union did not attempt to negotiate a similar term extension for any existing Dawn to Parkway transportation contracts held by Gaz Métro or any other party.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Page 10

Does the 2016/2017 System Shortfall assume that TCPL will continue to contract for 60,000 GJ of Dawn to Parkway M12 service after Union's contract for 60,000 GJ of Dawn to Union CDA FT service expires? If so, is this a change from Union's previous forecast for Dawn-Parkway turnback? If Union has assumed the TCPL M12 contract expires on November 1, 2016, please explain how this is reflected in Table 8-2.

Response:

Yes. Union has assumed TCPL continues to contract 60,000 GJ/d in previous and current forecasts.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Page 11.

Union states that each of the nine listed facilities was analyzed separately and in combination.

- a) How much Additional Capacity is created if only the Hamilton to Milton NPS 48 Pipeline (19.5 km) is constructed?
- b) How much Additional Capacity is created if only the Lobo C Compressor (44,500 ISO HP) is constructed?

Response:

- a) In order to serve the demand contracted for Winter 2016/2017 both the Lobo C Compressor and Hamilton to Milton are required to be constructed. The capacity of Hamilton to Milton is 243,184 GJ/d if constructed without the Lobo C Compressor.
- b) The capacity of the Lobo C Compressor is 334,300 GJ/d without Hamilton to Milton constructed. The capacity of Hamilton to Milton is influenced by the capacity of the Lobo C Compressor and the combination of the two projects results in a total capacity of 442,770 GJ/d.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8, Page 12.

Please explain what is meant by "Additional Capacity" as this term is used in Table 8-3. Is this the incremental capacity to transport gas from Dawn to Parkway(TCPL), or is this number based on a mix of receipts at Dawn and Kirkwall and a mix of deliveries at Parkway and other upstream delivery points?

Response:

The term "Additional Capacity" and the values shown refer the increase in total system capacity of the Dawn Parkway System created by the installation of facilities shown in Exhibit A, Tab 8 Table 8-3 in Winter 2016/2017 and are based on the demands and location as shown in Exhibit A, Tab 8, Schedule 8-2.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 7 and Tab 8.

We want to understand how Union will replace the gas that is currently sourced at Empress.

- a) For facilities planning purchases, does Union assume that system sales gas that is being delivered using TCPL services from Empress to Union NDA and Union CDA will be sourced at Dawn beginning November 1, 2016?
- b) How much do Union's design day purchases at Dawn increase for Winter 2016/17 as a result of the termination of the TCPL services from Empress?
- c) Is the requirement for additional Dawn-Parkway system facilities for Winter 2016/17 reduced if the gas that is currently sourced from Empress is received at Kirkwall? Please explain.
- d) Does Union Gas plan to contract for additional TCPL FT service from Niagara or Chippawa to Kirkwall?
- e) When comparing a new contract for transportation service from Niagara or Chippawa to Kirkwall to other alternatives, does Union Gas consider the incremental costs of on-system transmission facilities would be required, or avoided, depending on where gas is received? Please explain.

Response:

- a) Yes. The current assumption is Dawn supply. Prior to November 1, 2016 Union will make a determination whether to acquire the supply or a portion of that supply at Dawn or a location upstream of Dawn as appropriate.
- b) If all of the supply was purchased at Dawn, Union's design day purchases at for Winter 2016/2017 would increase by 78,800 GJ. However it is likely that all or some portion would be sourced upstream of Dawn for November 1, 2016.

- c) If Union were to replace 74,800 GJ/d of Empress sourced gas at Kirkwall instead of Dawn as shown in Exhibit A, Tab 7, Table 7-3, the shortfall at Parkway would decrease by 67,248 GJ/d. Both the Lobo C Compressor and Hamilton Milton pipeline will be fully utilized on design day. Union would not change the facilities as proposed in this application.
- d) Union is not currently planning to contract for additional TransCanada FT service from Niagara or Chippawa to Kirkwall. However, Union is always looking at its portfolio and may consider future purchases from Niagara or Chippawa.
- e) When evaluating options for new transportation services Union considers all of its guiding principles including the impacts of the delivery point on Union's facilities.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 8; EB-2013-0074, Section 7, Page 12.

Union agreed to shift 400,000 GJ of Enbridge's firm delivery entitlement under existing Dawn to Parkway transportation contracts from the suction side of Parkway compression to the discharge side of Parkway compression, effective November 1, 2015. How much is the Additional Capacity required for Winter 2016/17 reduced if one-half of the shift (200,000 GJ of the 400,000 GJ) is pushed back to November 1, 2017?

Response:

The additional capacity required for Winter 2016/2017 is not reduced. The Enbridge "shift" volume of 400,000 GJ/d is currently transported to the suction side of Parkway and Union has the required facilities in place between Dawn and Parkway. The shift only requires the completion of Parkway D compression scheduled to be in service November 1, 2015.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")
Federation of Rental-housing Providers of Ontario ("FRPO")
and Canadian Manufacturers & Exporters ("CME")

Reference: Exhibit A, Tab 10, Schedule 1

Please provide the projected revenue requirement for the first 15 years of service.

Response:

Please see Attachment 1.

UNION GAS LIMITED
Hamilton-Milton Pipeline and Lobo C Compressor Project Revenue Requirement

Line No.	Particulars (\$000's)	2016 (a)	2017 (b)	2018 (c)	2019 (d)	2020 (e)	2021 (f)	2022 (g)	2023 (h)	2024 (i)	2025 (j)	2026 (k)	2027 (l)	2028 (m)	2029 (n)	2030 (o)
	<u>Rate Base Investment</u>															
1	Capital Expenditures	403,233	12,482	-	-	-	-	-	-	-	-	-	-	-	-	2,500
2	Average Investment	47,209	401,302	396,212	386,329	376,447	366,564	356,682	346,799	336,917	327,035	317,152	307,270	297,388	287,505	280,103
	<u>Revenue Requirement Calculation:</u>															
	<u>Operating Expenses:</u>															
3	Operating and Maintenance Expenses (1)	187	1,128	1,150	1,173	1,197	1,221	1,245	1,270	1,295	1,321	1,348	1,375	1,402	1,430	1,459
4	Depreciation Expense (2)	4,839	9,781	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,884	9,924
5	Property Taxes	191	1,149	1,172	1,195	1,219	1,244	1,268	1,294	1,320	1,346	1,373	1,400	1,428	1,457	1,486
6	Total Operating Expenses	<u>5,217</u>	<u>12,058</u>	<u>12,206</u>	<u>12,252</u>	<u>12,300</u>	<u>12,348</u>	<u>12,397</u>	<u>12,447</u>	<u>12,499</u>	<u>12,551</u>	<u>12,604</u>	<u>12,659</u>	<u>12,714</u>	<u>12,771</u>	<u>12,869</u>
7	Required Return (6.031% x line 2) (3)	2,847	24,202	23,895	23,299	22,703	22,107	21,511	20,915	20,319	19,723	19,127	18,531	17,935	17,339	16,892
	<u>Income Taxes:</u>															
8	Income Taxes - Equity Return (4)	519	4,415	4,359	4,250	4,141	4,033	3,924	3,815	3,706	3,598	3,489	3,380	3,272	3,163	3,081
9	Income Taxes - Utility Timing Differences (5)	<u>(7,739)</u>	<u>(9,853)</u>	<u>(8,449)</u>	<u>(7,110)</u>	<u>(5,937)</u>	<u>(4,908)</u>	<u>(4,005)</u>	<u>(3,211)</u>	<u>(2,510)</u>	<u>(1,892)</u>	<u>(1,346)</u>	<u>(863)</u>	<u>(434)</u>	<u>(53)</u>	<u>235</u>
10	Total Income Taxes	<u>(7,220)</u>	<u>(5,438)</u>	<u>(4,090)</u>	<u>(2,860)</u>	<u>(1,796)</u>	<u>(876)</u>	<u>(81)</u>	<u>605</u>	<u>1,196</u>	<u>1,705</u>	<u>2,143</u>	<u>2,517</u>	<u>2,838</u>	<u>3,110</u>	<u>3,317</u>
11	Total Revenue Requirement (line 6 + line 7 + line 10)	<u>845</u>	<u>30,821</u>	<u>32,011</u>	<u>32,691</u>	<u>33,207</u>	<u>33,579</u>	<u>33,827</u>	<u>33,967</u>	<u>34,014</u>	<u>33,979</u>	<u>33,874</u>	<u>33,707</u>	<u>33,487</u>	<u>33,220</u>	<u>33,078</u>
12	Incremental Project Revenue (6)	<u>1,568</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>	<u>9,407</u>
13	Net Revenue Requirement (line 11 - line 12)	<u>(723)</u>	<u>21,414</u>	<u>22,603</u>	<u>23,284</u>	<u>23,799</u>	<u>24,171</u>	<u>24,419</u>	<u>24,560</u>	<u>24,606</u>	<u>24,572</u>	<u>24,467</u>	<u>24,300</u>	<u>24,079</u>	<u>23,812</u>	<u>23,671</u>

Notes:

- (1) Expenses include salaries and wages, employee-related expenses, fleet costs, materials and operating expenses.
- (2) Depreciation expense at 2013 Board-approved depreciation rates.
- (3) The required return of 6.031% assumes a capital structure of 64% long-term debt at 4.4% and 36% common equity at the 2013 Board-approved return of 8.93% (0.64 * 0.044 + 0.36 * 0.0893)
- (4) Taxes related to the equity component of the return at a tax rate of 25.5%.
- (5) Taxes related to utility timing differences are negative until after 2029 as the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.
- (6) Project revenue assumes an estimated M12 Dawn-Parkway rate of \$2.560 GJ/mth and an M12 Kirkwall-Parkway rate of \$0.450 GJ/mth.
The 2017-2030 revenue is calculated as follows: M12 Dawn-Parkway demands of 270,733 GJ x \$2.560 x 12 / 1000 = \$8.317 million plus
M12 Kirkwall-Parkway demands of 36,301 GJ x \$0.450 x 12 / 1000 = \$0.196 million plus
Union North T-Service demands of 29,115 GJ x \$2.560 x 12 / 1000 = \$0.894 million

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers (“OGVG”)

Reference: Exhibit A, Tab 7, Page 3

Respecting that this was a confidential, commercial negotiation, please provide the high-level terms where agreement could not be reached with TransCanada.

Response:

The reference refers to negotiations and commercial arrangements between TransCanada and its prospective shippers that bid in TransCanada’s New Capacity Open Season. TransCanada requested capacity on Union’s Dawn Parkway System to facilitate a service on the TransCanada system for those prospective shippers (commonly known as a TBO arrangement - Transportation by Others). TransCanada’s bid in Union’s open season for Dawn Parkway System capacity was therefore dependent upon TransCanada reaching a commercial arrangement with its shippers. Union understands that suitable terms could not be reached between TransCanada and its prospective shippers. Union did not participate in those negotiations between TransCanada and its prospective shippers.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")

Reference: Exhibit A, Tab 7, Page 7

What amount of the 70,000 GJ/day will commence November 1, 2016? If zero, could the Hamilton to Milton pipe be shortened (i.e., some pipe deferred)?

Response:

Please see the response at Exhibit B.LPMA.2.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers (“OGVG”)

Reference: Exhibit A, Tab 7, Page 14

Please provide a more extensive description of why the upstream diversions were not available.

Response:

Authorization of upstream diversions is at TransCanada’s sole discretion. TransCanada cited operational constraints that resulted in discretionary services being interrupted. TransCanada reiterated that this is always a potential issue with any discretionary service.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers (“OGVG”)

Reference: Exhibit A, Tab 7, Page 19

Please summarize the contracting changes (annual or monthly quantities), at the margin, that were evaluated to determine the estimated savings of \$25 million.

Response:

The following contracting changes are included in the estimated savings for Union North customers:

Turnback:

100,000 GJ/d (36.5 PJs annual) of TransCanada Empress to Union NDA capacity
33,000 GJ/d (7.1 PJs annual) of TransCanada Union NDA STS Injections

Acquire:

100,000 GJ/d (36.5 PJs annual) of TransCanada Parkway Belt to Union NDA capacity

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers (“OGVG”)

Reference: Exhibit A, Tab 7, Page 24

If the Board does not approve this application, who would be responsible for the cost of the TransCanada capacity from Parkway to the delivery areas?

Response:

If the Board did not approve the facilities requested in this application, then each individual contract holder with TransCanada would therefore be unable to fulfill their Shipper Authorization obligations to TransCanada as noted in the TransCanada 2016 Precedent Agreements (“2016 PA”), whereby it states:

“as applicable, obtain, or have others obtain, such certificates, permits, orders, licenses and authorizations from regulators or other governmental agencies in the United States and Canada, as the case may be, as are necessary to enable Shipper, or others designated by Shipper, to receive and make use of the Requested Service...”

This would then result in an Event of Cancellation which would be declared by TransCanada or each Shipper. In the case of an Event of Cancellation, there would be no Firm Transportation contracts and each Shipper would be responsible for their share of the Cancellation Costs which TransCanada is obligated to use commercially reasonable efforts to minimize. Each Shipper would then apply to their respective regulators to recover their prudently incurred costs, including costs that interconnecting pipelines would have also incurred.

UNION GAS LIMITED

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")

Reference: Exhibit A, Tab 8, Page 12

Please expand Table 8-3 to include Length of Pipeline (where applicable) and the Capacity increase per unit length of the pipeline section and Cost per Unit Length

- a) Please incorporate the results for Alternative 4) Kirkwall to Hamilton
- b) Please provide a list of major factors which increase the cost of Alternative 4) relative to Alternative 5).
- c) Why would the choice not be to build the pipeline between Kirkwall and some reasonable point between Milton and Hamilton? Please provide specific reasons why this alternative cannot be considered and evaluated.

Response:

- a) To serve the contracted demands the installation of the NPS 48 Milton to Parkway pipeline in addition to the NPS 48 Kirkwall to Hamilton pipeline will be required and is reflected in the table below.

Alternative	Additional Capacity (GJ/d) (a)	Capital Cost (\$ Million) (b)	Cost per Unit of Capacity (\$/GJ/d) (c)	Modelled Length of Pipeline (km) (d)	Capacity Increase per Unit Length of Pipeline (GJ/d per km) (e) = (a) / (d)	Cost per Unit Length (\$Million per km) (f) = (b) / (d)
Lobo C Compressor and NPS48 Hamilton Milton and Parkway E Compressor	491,248	524	1067	18.6	26411	28.17
Lobo C Compressor and Bright C Compressor and Parkway E Compressor	455,888	497	1090			
Lobo C Compressor and NPS48 Dawn to Enniskillen and Parkway E Compressor	397,315	440	1107	17	23371	25.88
Lobo C Compressor and NPS 48 Kirkwall to Hamilton and Milton to Parkway and Parkway E Compressor	500,954	551	1099	19.3	25956	28.55

(Note: cost per unit of capacity (column c) is the appropriate measure to compare projects)

- b) To serve the contracted demands the installation of the NPS 48 Milton to Parkway pipeline in addition to the NPS 48 Kirkwall to Hamilton pipeline would be required. As compared to the Hamilton to Milton pipeline alone, these projects carry additional costs related to the construction of two shorter pipeline segments and tie-ins to two additional valve sites.
- c) The proposed Hamilton to Milton pipeline provides sufficient capacity while utilizing existing valve site infrastructure. If Union were to build a pipeline from Kirkwall past Hamilton, it would be approximately the same length as the proposed Hamilton to Milton pipeline with the additional disturbance and cost to both install and later remove a temporary tie-in facility. Constructing valve site to valve site eliminates the need for temporary tie-ins that add costs to the project.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, Tab 3, page 2

Preamble: *"The Kings North Connection Pipeline Project, Brantford to Kirkwall Pipeline and TransCanada's 2016 expansion facilities will require approval of the Settlement Agreement by the National Energy Board ("NEB") in RH-001-2014."*

Please provide details of the TransCanada 2016 expansion facilities. Are these facilities TransCanada's Energy East Mainline Project?

Response:

To accommodate the transportation contracts executed in TransCanada's 2016 New Capacity Open Season, TransCanada requires the Vaughan Loop Project to be constructed in 2016. The Vaughan Loop Project consists of approximately 13 kilometres of NPS 42 pipe extending from the end of TransCanada's proposed King's North Project (2015) to the existing NPS 42 Mainline pipe south and west of Maple. These facilities are underpinned by 469 TJ/d of new firm short haul contracts on the TransCanada Mainline.¹

Union's view is that the Vaughan Loop Project is not associated with TransCanada's Eastern Mainline Project². The Vaughan Loop Project can be constructed, placed into service and utilized without the Eastern Mainline Project and the Energy East Project being constructed. In other words, Union understands that absent the Energy East Project, TransCanada would not have to expand the Mainline downstream of Maple to accommodate the 2016 New Capacity Open Season requests. The Vaughan Loop Project will be the subject of a TransCanada application submitted to the National Energy Board in 2015 for approval to construct.

The Eastern Mainline Project is the subject of a dispute raised by the Eastern LDCs (Enbridge, Gaz Métro and Union) to the National Energy Board on November 18, 2014. Shippers that executed contracts for capacity from Parkway to delivery points in eastern Ontario and Québec as part of the TransCanada 2016 New Capacity Open Season were required to provide financial backstopping for the Vaughan Loop Project as well as the Eastern Mainline Project. Due to the capacity requested in TransCanada's 2016 New Capacity Open Season, the size and scope of

¹ Information provided by TransCanada at the LDC Forum in Toronto (November 11, 2014).

² As part of TransCanada's Energy East Project, 1.2 PJ/d of natural gas pipeline capacity is being removed between North Bay and Ottawa (on the North Bay Shortcut). TransCanada's Energy East Proposal includes replacing part of the removed natural gas capacity (575 TJ/d) as part of the Eastern Mainline Project)

TransCanada's Eastern Mainline Project increased³. This implies from TransCanada's perspective that the Vaughn Loop and the Eastern Mainline Project are linked in some fashion. TransCanada has already applied to the National Energy Board for approval of its Eastern Mainline Project.

³ After removal of the North Bay Shortcut from natural gas service (1.2 PJ/d) TransCanada did not have enough capacity to serve firm contract demands effective November 1, 2015. Therefore the capacity of the Eastern Mainline Project represents that shortfall plus the capacity requests of the 2016 New Capacity Open Season.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition (“SEC”)

Reference: Exhibit A, Tab 6-7

TransCanada’s Energy East application before the National Energy Board includes a proposal to convert certain natural gas pipeline assets in the Eastern Ontario Triangle to oil, and to replace that capacity with a new pipeline (Energy East Mainline Project). Please discuss Union’s view on any potential impacts that such a proposal may have on demand for the capacity on the Dawn to Parkway system in short, medium and long term.

Response:

The Energy East Project and the resulting Eastern Mainline Project would have no impact on demand for Dawn to Parkway capacity. One of the key features of the Settlement Agreement between TransCanada and the Eastern LDCs was increased access to Dawn and Niagara which may require the construction of new infrastructure on the TransCanada Mainline. For new infrastructure, market support through short haul transportation contracts is required¹. Based on this commitment, shippers requiring capacity from Dawn or Niagara/Chippawa would be able to obtain the capacity on TransCanada that they seek, independent of the Energy East Project.

Some market participants seeking firm transportation capacity on the TransCanada Mainline have participated in the TransCanada 2015 New Capacity Open Season and the 2016 New Capacity Open Season. TransCanada has issued a 2017 New Capacity Open Season for Mainline transportation capacity (December 12, 2014) that is being co-ordinated with a Union Gas open season for Dawn Parkway System capacity commencing November 1, 2017. Some customers in eastern Canada have utilized discretionary services on the TransCanada Mainline and secondary market services to transport natural gas supply to their delivery area. Some industrial and institutional customers have not participated in the 2015 and 2016 open seasons for various commercial reasons. Market participants seeking firm transportation on the TransCanada Mainline, including the Eastern Triangle, and/or on the Union Dawn Parkway System now have the opportunity to secure transportation capacity effective November 1, 2017.

¹ Settlement Agreement, Sections 2.2(e), 2.3 (b) and 2.3 (c).

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, Tab 7, pages 23-24

Please provide copies (or relevant excerpts) of the references contained in footnotes 13-15.

Response:

This question refers to the following excerpt From EB-2014-0261, Exhibit A, Tab 7 pg23-24;

At the same time, Union is also faced with trying to manage turn back risk. Any further turn back will be used to reduce the obligation of in-franchise customers to deliver natural gas to Parkway.¹² There is also risk of turn back on the Dawn to Parkway path – primarily from U.S. Northeast utilities that have been sourcing supply and transportation from Dawn since 2006. It is unlikely that these customers would turn back all of their capacity.¹³ U.S. Northeast utilities find the Dawn Hub a valuable market hub in terms of liquidity and access to storage, and would like increased access to Dawn.¹⁴ These customers have recently indicated a need for additional capacity¹⁵, and may participate in Union's planned open season process for transportation capacity commencing as early as November 1, 2017. If the U.S. Northeast utilities do elect to turn back capacity, Union would use that capacity to offset future Dawn Parkway System expansions.

Footnotes are from Hearing Order RH-001-2013 Transcripts Volume 6, September 10, 2013 and Hearing Order RH-001-2014 Transcripts Volume 6, September 16, 2014.

Footnote 13:

6619. **MR. RUDIAK:** At this time, we understand the ANE LDCs have no plans to not renew our TransCanada capacity.

Footnote 14

6492. **MR. YATES:** Okay. And as LDCs, you always are considering options for supply? That's part of your obligation, correct?

6493. **MR. RUDIAK:** As LDCs, we engage in planning processes and we attempt, over the long-term and the short-term to have a portfolio that's diverse and reliable, and have various alternatives for receiving the gas. For example, we like the TransCanada pipeline system because, for example, receiving gas from Dawn and Parkway is a significant amount of gas storage at Dawn. There's multiple sellers.

6494. We think it's a good point to be receiving gas. We think it's a point that we have enjoyed using since the 2006-2007 timeframe. It's worked well and we also think over the long-term that gas supply, such as the Marcellus and the Utica and supplies like that will be there and can be routed into the northeast over the long-term.

MR. RUDIAK:

7102. And in terms of this gas supply, we see many projects that are taking gas supply from the Marcellus also to the Dawn area. The Rover project and several other projects -- the Nexus project, et cetera, are proposed to take gas from the Utica and the Marcellus area into the Dawn area.

7103. And that's why we like Dawn so much as a market hub. It's a great place where there is a lot of liquidity, there's multi-pipelines, there's gas storage there, prolific gas storage. And there's likely to be a significant amount of Dawn gas in the future.

Footnote
15

6619. **MR. RUDIAK:** At this time, we understand the ANE LDCs have no plans to not renew our TransCanada capacity.

6620. I mentioned earlier that certain of the LDCs were interested in the open season of adding capacity. Another fact that -- to make everything clear for the Board and for everybody else is that certain of the LDCs on the ANE system have been increasing their capacity from Waddington, including as recently as this year.

7143. **MR. CARMICHAEL:** I can't speak for the LDCs in Ontario, but I can speak for us, and we would like increased access to Dawn.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition (“SEC”)

Reference: Exhibit A, Tab 8, Schedules 1-2

Please explain how the impact of DSM been incorporated into forecasting design day demand requirements.

Response:

Please see the response at Exhibit B.LPMA.4.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, Tab 11

Does Union expect the cost of the proposed Lobo C compressor to be different than the cost of the Parkway C and D compressors as forecasted in the EB-2012-0433/EB-2013-0074? If so, please explain.

Response:

Yes, Union expects the cost of the Lobo C compressor to be different than the cost of Parkway C and D compressors. The cost comparison between Lobo C and Parkway C for the compressor plant alone is very similar (aside from cost escalation due to different years of construction) as these plants follow a consistent design. The overall Lobo C project includes additional costs to modify existing facilities at Lobo A1, Lobo A2 and Lobo B, and the station yard piping which are different than the project scope at Parkway West.

UNION GAS LIMITED

Answer to Interrogatory from
School Energy Coalition ("SEC")

Reference: Exhibit A, Tab 11

Please provide a comparison of forecasted costs for the Parkway West Project (EB-2012-0433) and the Brantford-Kirkwall/Parkway D Project (EB-2013-0074), and any updated forecasted costs. Please explain how any changes in forecasted costs of those projects, have been considered, if at all, in determining the forecasted costs for the proposed project.

Response:

	Forecast Capital Costs (\$000's)		<u>Difference</u>
	<u>Approved</u>	<u>Current</u>	
Parkway West Project	219,430 ¹	231,188 ³	11,758
Brantford-Kirkwall / Parkway D Project	204,000 ²	212,087 ³	8,087
Totals	423,430	443,275	19,845

¹ Parkway West forecast (EB-2013-0433) - Revised Capital Cost
2014/08/23 Update

² Parkway D and Brantford to Kirkwall forecast (EB-2013-0074)

³ Parkway D and Brantford to Kirkwall current forecast based on
updates identified in EB-2014-0271 filing.

The difference between approved costs and current forecast costs for these projects reflects:

- 1) A shift of approximately \$11.8 million of costs from Parkway D to Parkway West. As noted in EB-2014-0271 Exhibit B.EnergyProbe.1c), the total forecast cost for Parkway West and Parkway D has not changed; and
- 2) An approximately \$19.8 million increase to Brantford-Kirkwall costs due to increased contractor prices since the filing, as per EB-2014-0271 Exhibit B.Staff.3.

Union has considered contractor price escalation in determining the forecasted costs for the proposed projects.

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipeline ("TCPL")

Reference: Exhibit A, Tab 6, Schedules 1-3.

Preamble: Union provides M12 Dawn to Kirkwall Contracts with End Dates and Termination Dates.

Please provide updates to Exhibit A, Tab 6, Schedules 1, 2 and 3 to reflect the most up to date information including all elections received to date.

Response:

Please see Attachment 1 for the updated schedules.

Schedule 6-1

All M12 Dawn to Kirkwall Contracts

SHIPPER	Contract Identifier	Contracted Quantity (GJ/d)	Start Date	Primary End Date
TransCanada PipeLines Limited	M12157	53,440	01-Nov-10	31-Oct-13
TransCanada PipeLines Limited	M12122	463,560	01-Nov-08	31-Oct-14
Enbridge Gas Distribution Inc.	M12079	32,123	01-Apr-04	31-Mar-15
TransCanada PipeLines Limited	M12012	125,297	01-Nov-94	31-Oct-15
TransCanada PipeLines Limited	M12123	533,191	01-Nov-08	31-Oct-15
Dynegy Gas Imports, LLC	M12170	38,306	01-Nov-08	31-Oct-15
Enbridge Gas Distribution Inc.	M12175	35,806	01-Nov-10	31-Oct-15
Consolidated Edison	M12162	31,746	01-Nov-11	31-Oct-16
National Fuel	M12196	10,791	01-Nov-10	31-Oct-17
KeySpan Gas East Corporation	M12116	138,600	01-Nov-07	31-Oct-18
National Fuel	M12211	15,904	01-Nov-10	31-Oct-20
Thorold CoGen	M12129	49,500	01-Sep-09	31-Aug-29
Total		1,528,264		

M12 Dawn to Kirkwall Contracts - Turnback (Effective Today)

SHIPPER	Contract Identifier	Quantity (GJ/d)	Start Date	End Date	Termination Date
TransCanada PipeLines Limited	M12122	317,000	01-Nov-08	31-Oct-14	31-Oct-11
TransCanada PipeLines Limited	M12012	62,695	01-Nov-94	31-Oct-15	31-Oct-12
TransCanada PipeLines Limited	M12123	375,188	01-Nov-08	31-Oct-15	31-Oct-12
TransCanada PipeLines Limited	M12157	53,440	01-Nov-10	31-Oct-13	31-Oct-13
TransCanada PipeLines Limited	M12122	133,324	01-Nov-08	31-Oct-14	31-Oct-13
TransCanada PipeLines Limited	M12122	13,336	01-Nov-08	31-Oct-14	31-Oct-14
TransCanada PipeLines Limited	M12123	23,926	01-Nov-08	31-Oct-15	31-Oct-14
Total		978,909			

M12 Dawn to Kirkwall Contracts - Turnback (Notice Received Not Yet Effective)

TransCanada PipeLines Limited	M12012	62,602	01-Nov-94	31-Oct-15	31-Oct-15
TransCanada PipeLines Limited	M12123	62,239	01-Nov-08	31-Oct-15	31-Oct-15
Dynegy Gas Imports, LLC	M12170	38,306	01-Nov-08	31-Oct-15	31-Oct-15
TransCanada PipeLines Limited	M12123	12,060	01-Nov-08	31-Oct-15	31-Oct-16
Total		175,207			

M12 Dawn to Kirkwall Contracts - Turnback Via Reverse Open Season (Notice Received Not Yet Effective)

National Fuel	M12196	10,791	01-Nov-10	31-Oct-17	31-Oct-15
KeySpan Gas East Corporation *	M12116	138,600	01-Nov-07	31-Oct-18	31-Oct-15
National Fuel	M12211	15,904	01-Nov-10	31-Oct-20	31-Oct-15
Total		165,295			

M12 Dawn to Kirkwall Contracts - Renewal Forecast to 2019

SHIPPER	Contract Identifier	Quantity (GJ/d)	Start Date	End Date
Enbridge Gas Distribution Inc.	M12079	32,123	01-Apr-04	31-Oct-16
Enbridge Gas Distribution Inc.	M12175	35,806	01-Nov-10	31-Oct-16
Thorold CoGen	M12129	49,500	01-Sep-09	31-Aug-29
Total		117,429		

Schedule 6-2

M12 Dawn to Kirkwall Contracts - Forecasted Turnback

SHIPPER	Contract Identifier	Quantity (GJ/d)	Start Date	End Date	Forecasted Turnback Date
TransCanada PipeLines Limited *	M12123	71,838	01-Nov-08	31-Oct-16	31-Oct-16
Consolidated Edison *	M12162	31,746	01-Nov-11	31-Oct-16	31-Oct-16
Total		103,584			

Of this forecasted turnback, actual elections received on October 31, 2014 effective for November 1, 2016 were as follows:

- TransCanada PipeLines Limited turned back 12,060 GJ/d (as reflected in updated Schedule 6-1 above).
- Consolidated Edison renewed their entire quantity for a one-year term.

* Utilized to reduce the Parkway Delivery Obligation per Board's decision in EB-2013-0365.

Schedule 6-3

Long Term M12-X Transportation Contracts

SHIPPER	Contract Identifier	Quantity (GJ/d)	Start Date	End Date
TransCanada PipeLines Limited	M12X004	50,000	01-Sep-11	31-Aug-21
TransCanada PipeLines Limited	M12X005	78,316	01-Sep-11	31-Aug-21
Enbridge Gas Distribution Inc.	M12X006	200,000	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12X013	62,695	01-Nov-12	31-Oct-23
1425445 Ontario Limited o/a Utilities Kingston	M12X015	5,000	01-Apr-14	31-Mar-24
Total		396,011		

Long Term C1 Kirkwall to Parkway Transportation Contracts

SHIPPER	Contract Identifier	Quantity (GJ/d)	Start Date	End Date
TransCanada PipeLines Limited	M12219	88,497	01-Nov-12	31-Oct-22
TransCanada PipeLines Limited	M12220	174,752	01-Nov-13	31-Oct-23
Emera Energy Incorporated	M12221	36,751	01-Nov-12	31-Oct-22
Total		300,000		

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipeline ("TCPL")

Reference: Exhibit A, Tab 6 and Exhibit I.A1.UGL.TCPL.1 attachments 1 and 2 in Union's /EB-2012-0433/EB-2013-0074 proceeding (see the attached for reference).

Preamble: Union provides various levels of information on M12, M12-X and C1 contracts. TransCanada would like to see all M12, M12-X and C1 contracts assembled into one document.

- a) Please provide updates to Attachments 1 and 2 referenced above including all M12, M12-X and C1 contracts on the Dawn-Parkway system that have a term of 1 year or longer in pdf and excel format in effect as of Nov01, 2014.

Please sort the contracts by expiry date and by customer as shown in the Attachments.

- b) Please provide the same information with respect to all M12, M12-X and C1 contracts that Union believes will be in effect as of Nov01, 2016 in accordance with this application.

Please sort the contracts by expiry date and by customer as shown in the Attachments.

Response:

Please see Attachment 1 which shows Union's M12, M12X and C1 contracts for November 1, 2014 and November 1, 2016.

New contracts for November 1, 2014 and November 1, 2016

Customer Name	Contract Identifier	Receipt Point	Delivery Point	Contracted Quantity (GJ)	Start Date	End Date
Vermont Gas Systems Inc	M12224	Dawn	Parkway	8,100	01-Nov-14	31-Oct-24
Seneca Resources Corporation	C10109	Kirkwall	Dawn	388,261	01-Nov-16	31-Mar-23
TransCanada PipeLines Limited	M12230	Kirkwall	Parkway	36,301	01-Nov-16	31-Oct-31
Enbridge Gas Distribution	M12234	Dawn	Parkway	170,000	01-Nov-16	31-Oct-31
Gaz Metro Limited Partnership	M12232	Dawn	Parkway	39,507	01-Nov-16	31-Oct-31
Gaz Metro Limited Partnership	M12233	Dawn	Parkway	19,754	01-Nov-16	31-Oct-31
Gaz Metro Limited Partnership	M12237	Dawn	Parkway	85,680	01-Nov-16	31-Oct-31

UNION GAS LIMITED

Answer to Interrogatory from
TransCanada Pipeline ("TCPL")

Reference: i) Exhibit A, Tab 3.

ii) Exhibit A, Tab 9.

iii) EB-2007-0606 /EB-2007-0615, Exhibit JTA.24 (see the attached for reference)

Preamble: Union provides a project summary and project costs and economics in Tabs 3 and 9.

Please provide an update to Exhibit JTA.24 (attached) that includes each expansion of the Dawn to Parkway system since 2007 including the expansion requested in this application using a similar format to that shown in Exhibit JTA.24. Please show originally estimated and actual Design Day Capacity values, originally estimated and actual Capital Cost Values and originally estimated and actual Capital Cost per Unit Capacity Added with supporting references where possible in a format similar to that shown in Exhibit JTA.24 Attachment.

Response:

Please see Attachment 1.

Transmission Facilities Expansion Program

Long Term Expansion Plan for the Dawn - Parkway System
Additional Capital Investments to complete the 4th Loop and Compression at Lobo and Bright

	Original Estimate			Actual		
	Design Day Capacity Added (GJ/d)	Facility Capital Costs (\$000's)	Capital Cost per Unit Capacity Added (\$/GJ/d)	Design Day Capacity Added (GJ/d)	Facility Capital Costs (\$000's)	Capital Cost per Unit Capacity Added (\$/GJ/d)
Existing Dawn - Parkway Facilities Net Plant Source: EB-2011-0210, Updated as per EB-2013-0365	6802651	923912	135.8			
2008 Projects Bright A1 and A2 Compressor Upgrade	342454	57400	168	335587	73244	218
2011 Projects Dawn J plant Compression to replace retired Dawn A Plant	0	41719	-	0	40555	-
2015 Projects Parkway D and Brantford to Kirkwall 2 Parkway C LCU Compressor 1	433000 0	204000 219430	471 -			
2016 Projects Lobo C and Hamilton to Milton 3	442770	415700	939			

- 1 Parkway C estimate from EB2013-0433 - Revised Capital Cost
2 Parkway D and Brantford to Kirkwall as per EB-2013-0074 filing
3 Lobo C and Hamilton Milton as per EB-2014-0261 filing

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (“VECC”)

Reference: Exhibit A, Tab 3, Page 2

Preamble: The referenced page states:

“The expansion of pipeline facilities within Ontario remains critical for Ontario remains critical for Ontario, Quebec and U.S. Northeast consumers to access ...the diversity and security of new, cost competitive supply from the nearby Marcellus and Utica shale formations.”

Does the business case for any of the approvals sought in the subject application depend critically on the assumption that production from the Marcellus and Utica shale formations will not decline materially from current estimates of future production from these formations for any reason? Please explain.

Response:

No, the business case for Union’s 2016 expansion facilities does not depend on the assumption that production from the Marcellus and Utica shale formations will not decline materially from current estimates of future production.

The business case for Union’s 2016 expansion facilities is based on the executed contracts for new capacity. Shippers that have contracted for the capacity on Dawn to Parkway is based on sourcing gas at the liquid Dawn Hub.

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (“VECC”)

Reference: Exhibit A, Tab 3, Pages 7-8

Do the forecasted bill impacts for sales service customers in Union’s South and North service areas resulting from the projects significantly depend on any assumptions with respect to future production forecasted from the Marcellus and Utica shale formations?

Response:

No, the forecasted bill impacts for sales service customers in Union’s South and North service areas resulting from the projects do not depend on any assumptions with respect to future production forecasted from the Marcellus and Utica shale formations. The bill impacts are reflective of Dawn supply. As indicated at Exhibit B.OGVG_FRPO_CME.9 a) and b), prior to November 1, 2016 Union will make a determination whether to acquire the supply or a portion of that supply at Dawn or a location upstream of Dawn as appropriate

UNION GAS LIMITED

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (“VECC”)

Reference: Exhibit A, General

- a) Can Union confirm that the projects’ economics are independent of the price of oil, currently and over the life of the projects?
- b) Are there any plausible scenarios under which one or more of the subject projects might not ultimately be completed and put into service but for which Union would incur significant costs to be recovered from ratepayers?

Response:

- a) The contracts awarded in the open season are with TransCanada, Enbridge, Gaz Metro and for Union’s in-franchise use. Each of the third party contracts are for a term of 15 years (see Exhibit A, Tab 7, Table 7-2). TransCanada is using the capacity as part of their integrated delivery services. Union understands that the majority of the capacity for both Enbridge and Gas Metro is for existing gas demands that will be a replacement of existing transport from other supply basins. Union’s in-franchise use is for existing demands and matched with a 15-year transportation contract with TransCanada. Union is not aware of any market forecaster who is forecasting a conversion of existing gas load to oil. As such, Union does not expect the price of oil to have any direct relationship to economics of the Project.
- b) No. Union does not foresee a scenario where it would incur significant costs to be recovered from ratepayers but not complete and place the proposed Project into service.