uniongas
A Spectra Energy Company

August 14th, 2007

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

Dear Ms. Walli:

Re: Union Gas Limited
East Windsor Cogeneration Centre Pipeline Project
Board File # EB-2007-0708

Enclosed please find two (2) copies of Union's Application for the above-noted project.

Please note that also included in the Evidence are CD copies of the Environmental and Socio-Economic Impact Assessment for your ease of use.

In the event you have any questions on the above or would like to discuss in more detail, please do not hesitate to contact me at (519) 436-5457.

Sincerely,

"Original signed by"

William T. Wachsmuth,
Administrator, Regulatory Projects
:mjp
Encl.

cc: Neil McKay, Manager Facilities Applications *(neil.mckay@oeb.gov.on.ca)*
Zora Crnojacki, Project Advisor *(zora.crnojacki@oeb.gov.on.ca)*
Giovanna Dragic, Senior Case Administrator *(giovanna.dragic@oeb.gov.on.ca)*

East Windsor Cogeneration Centre Pipeline Project

Application

Prefiled Evidence

Schedules

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.O. 1998, c.15, Schedule B;

AND IN THE MATTER OF an Application by Union Gas Limited for an Order pursuant to Section 90.(1) of the *Ontario Energy Board Act, 1998*, granting leave to construct a natural gas pipeline and ancillary facilities in the City of Windsor, in the County of Essex.

UNION GAS LIMITED

1. Union Gas Limited (the "Applicant") hereby applies to the Ontario Energy Board (the "Board"), pursuant to Section 90.(1) of the Ontario Energy Board Act (the "Act"), for an Order granting leave to construct five kilometres of NPS 12 natural gas pipeline and ancillary facilities in the City of Windsor (the "Proposed Facilities"), to meet the natural gas service requirements of the East Windsor Cogeneration Centre (the "Plant").

2. Attached hereto as Schedule 'A' is a map showing the general location of the proposed pipeline and the municipalities, highways, railways, utility lines and navigable waters through, under, over, upon or across which the pipeline will pass.

3. A list of parties who, to the best of the Applicant's knowledge, are affected by this Application is found in Schedule 'B', attached hereto.

4. The construction of the pipeline will allow the Applicant to meet the natural gas requirements of the Proposed Facilities.

5. The Applicant therefore applies to the Board for an Order granting leave to construct the Proposed Facilities.

Dated at Municipality of Chatham-Kent this 2nd day of August, 2007.

Per: Dan Jones
Assistant General Counsel
for Union Gas Limited

Comments respecting this Application should be directed to:

William T. Wachsmuth
Administrator, Regulatory Projects
Union Gas Limited
50 Keil Drive North
Chatham, Ontario N7M 5M1
Telephone: 519-436-5457
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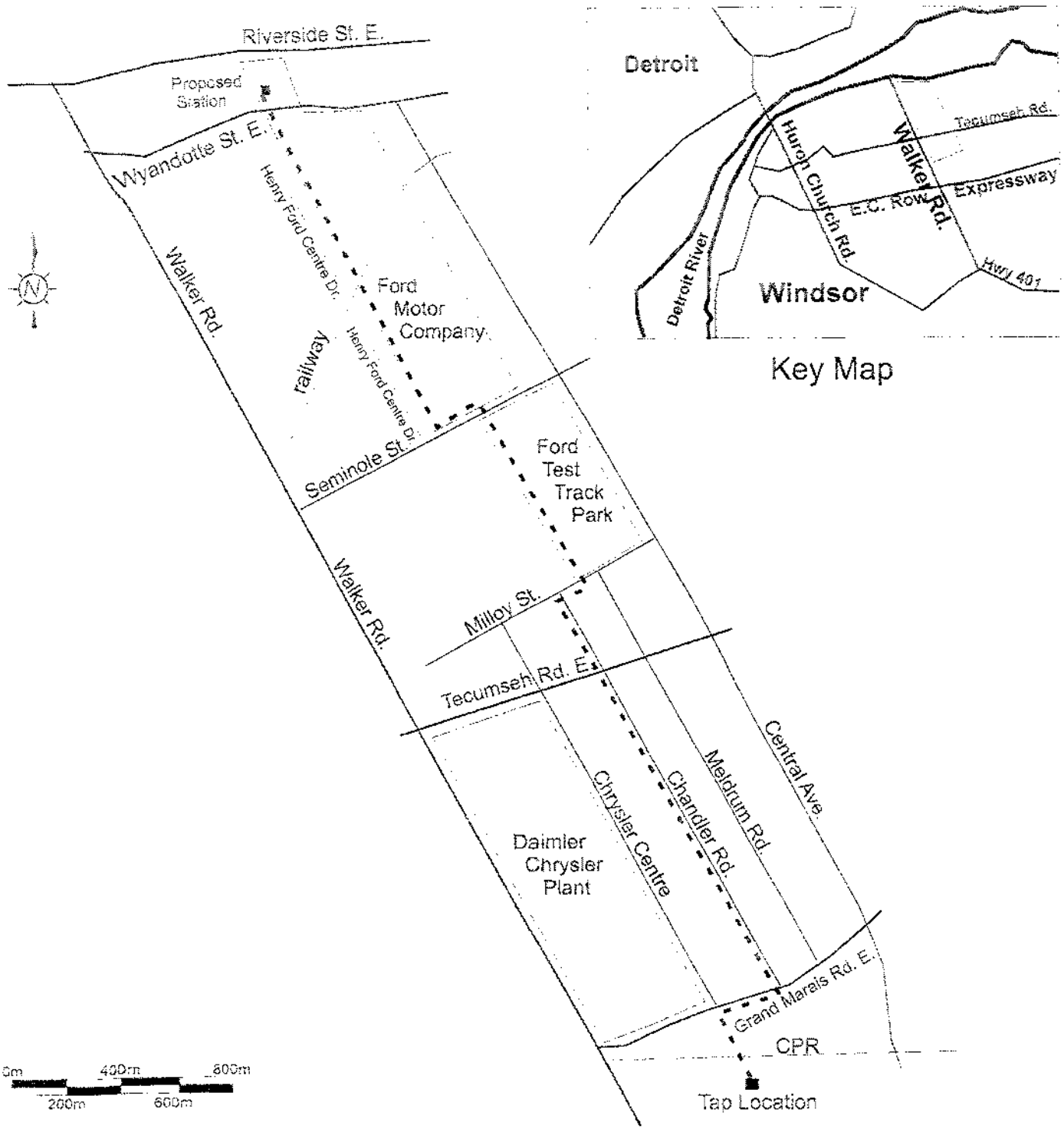
Schedule "A"



Proposed Gas Supply To East Windsor Cogeneration Centre | FIGURE 1

Union Gas Limited

Legend:

Proposed Pipeline Route

Schedule B

East Windsor Cogeneration Centre Pipeline Project

List of Interested Parties

Pristine Power Inc. Suite 1450, Encor Place 645 – 7th Avenue SW Calgary, Alberta T2P 4G8 Att'n: Suzanne Morrison	Her Majesty the Queen in Right of Ontario as represented by The Minister of Public Infrastructure c/o Ontario Realty Corporation 11th Floor, Ferguson Block, Queen's Park, 77 Wellesley Street West Toronto, Ontario M7A 1N3 Att'n: Patrick Grace, General Manager,	Hydro One Networks Inc. 185 Clegg Road, P.O. Box 4300 Markham, Ontario L6G 1B7 Att'n: Mr. Roman Dorfman, Facilities and Real Estate
Essex Terminal Railway 1601 Lincoln Road, P.O. Box 2186 Walkerville Windsor, Ontario N8Y 4R8 Att'n: Teresa Boutet	TransAlta Energy Corporation 2600 Temple Drive Windsor, Ontario N8W 5J5 Att'n: Max Autio	Canadian National Railway Corporation 4 Welding Way off 1 Administration Road Concord, Ontario L4K 1B9 Att'n: Nicholas LeRoy
Canadian Pacific Railway 1290 Central Parkway West, Suite 800 Mississauga, Ontario L5C 4R3 Att'n: Jack Carello	Lafarge North America c/o Lafarge Canada Inc. 7880 Keele Street, 3rd Floor Concord, Ontario L4K 4G7 Att'n: Paul Murphy, Leasing/Property Tax Manager, Eastern Canada	The Corporation of the City of Windsor Public Works Department 350 City Hall Square West, 3rd Floor, Room 302, Windsor, Ontario N9A 6S1 Att'n: Mr. Jim Venus, Manaager of Right-of-Way
The Corporation of the City of Windsor 350 City Hall Square West, 3rd Floor, Room 302, Windsor, Ontario N9A 6S1 Att'n: Mr. John Skorobohacz, CAO	Enwin Utilities Ltd., 787 Ouellette Ave., Windsor, Ontario N9A 5T7 Att'n: Mr. Steve Jacobson	Windsor Utilities Commission 787 Ouellette Avenue Windsor, Ontario N9A 5T7 Att'n: Mr. Steve Jacobson
Ford Motor Company of Canada, Limited 330 Town Center Drive, Suite 1100 Dearborn, Michigan, USA 48126 Att'n: Mr. Gordon Hauk, Ford Land Services Corporation	Ford Motor Company of Canada, Limited Powertrain Operations – Windsor Site 1000 Henry Ford Centre Drive, Windsor, Ontario N9A 7E8 Att'n: Mr. Marian A. Kulka, Project Engineering Team Manager	

PROJECT SUMMARY

1. In response to a request for natural gas service from the East Windsor Cogeneration Centre ("EWCC"), Union Gas Limited ("Union"), applies to the Ontario Energy Board ("Board") pursuant to Section 90(1) of the Ontario Energy Board Act, 1998, for leave to construct approximately five kilometres of NPS 12 natural gas pipeline in the City of Windsor (the "Proposed Facilities"), to meet the natural gas service requirements of the facility. The location of the proposed facilities is shown on Schedule 1.

2. In April 2006, the Ontario Government announced that EWCC had been selected to develop and construct an 84 MW natural gas combined-cycle generation facility in the City of Windsor to provide electricity to the Ontario Power Authority ("OPA").

3. Union has existing natural gas transmission, and distribution facilities in the City of Windsor. Union holds the necessary franchise and certificate rights to distribute natural gas in the city and has a longstanding history of reliable natural gas service to the area.

4. The total project costs including pipeline, station, and interest during construction ("IDC") are estimated to be $5.346 million.

5. Union expects to execute a 20 year T-1 Contract Carriage Service Agreement with EWCC in the third quarter of 2007.

6. An economic analysis has been completed in accordance with the requirements of the Board's guidelines in the E.B.O. 188 report on Natural Gas System Expansion. It has been concluded from this analysis that the proposed facilities are in the public interest.

7. An Environmental Study Report ("ER") has been prepared for the proposed facilities. The ER concludes there will be minimal environmental impacts associated with constructing these facilities given Union's standard construction procedures and the mitigation measures recommended in the ER.

8. The ER has included extensive consultation with interested parties. This consultation has included newspaper notices, letters to directly and indirectly affected landowners and a public open house.

9. Union plans to construct the proposed facilities in the spring of 2008 in order to provide EWCC with commissioning gas by July 1st, 2008. EWCC is contracted with OPA to be in full commercial operation by January 1, 2009.

MARKET REQUIREMENTS

Overview

10. East Windsor Cogeneration LP, an Ontario limited partnership, ("EWC") is owned equally by Fort Chicago Energy Partners LP and Pristine Power Inc. EWC is a limited partnership formed for the purpose of developing, owning and operating the Project, with Fort Chicago Energy Partners LP and Pristine Power Inc. as its limited partners and East Windsor Cogeneration Inc., as its general partner.

11. EWCC has entered into a 20 year combined heat and power ("CHP") contract with the OPA to build and operate an 84 MW natural gas-fired power plant. The CHP contract was awarded to EWCC through the recent Ontario Power Authority's request for proposal process that sought

1,000 MW of high efficiency combined heat and power projects across Ontario. The CHP contract is guaranteed by the OPA.

12. The EWCC Project involves the installation of cogeneration facilities at the Powerhouse located adjacent to the engine plant owned by Ford Motor Company of Canada, Limited ("Ford") located at Windsor, Ontario. The cogeneration facility will sell steam to Ford and 84 MW (average) of electricity by delivery to Hydro-One Networks. The EWCC will operate commercially under the terms of a Combined Heat and Power ("CHP Contract) with the Ontario Power Authority ("OPA") for a term of 20 years.

13. When it is operating, the EWCC will consist of two GE LM6000 gas turbine generators, each coupled with an IST once-through steam generator that will use heat contained within the gas turbine exhaust stream to provide an aggregated volume of up to 235,000 lbs/hr high pressure and medium pressure steam to the Ford Powerhouse, allowing Ford to generate electricity for internal Ford needs, and process steam for use at Ford's Windsor Engine Plant, which is located adjacent to the Powerhouse and EWCC.

14. In 2006, EWCC began discussions with Union concerning service to a proposed power plant in Windsor. A T-1 Contract Carriage Service agreement is expected to be executed in the third quarter of 2007 with EWCC.

Natural Gas Requirements

15. EWCC has indicated that the peak natural gas demand for the generating station will be 660,000 m^3/day. On any given day, gas required by the plant could range from 0 to 660,000 m^3.

16. The customer has requested as high a delivery pressure as feasible. The minimum contracted delivery pressure is 1482 kPag.

17. Union has discussed the natural gas service requirements with EWCC. Union was advised that to meet the requirements of the CHP contract, EWCC requires 31,400 m^3/hr of natural gas service.

18. Union's T-1 service provides firm and interruptible transportation service to the customer's facility, firm storage space and firm injection and withdrawal capability, into and out of storage.

19. The T-1 service offers both the firm service and operational flexibility required by EWCC to meet its obligations under the CHP contract. The T-1 service has evolved since its inception in 1989 to meet the changing requirements of customers.

20. Currently, the T-1 service is utilized by 50 large volume customers using over 135 Bcf of natural gas annually. Included in these customers, are five existing large natural gas fired power producers.

PROPOSED FACILITIES

Existing Facilities

21. The natural gas customers in the City of Windsor are served by an existing network of distribution piping throughout the system. The supply to the City of Windsor is provided by Union's existing Panhandle System which extends from Union's Dawn Station in Lambton County to the Detroit River. In the area of the EWCC the existing facilities consist of

distribution piping, with MOP's of 1250 and 420 kPag, which serve the existing residential, commercial and industrial customers. A schematic of Union's existing facilities serving the EWCC area can be found in Schedule 2.

Proposed Facilities

22. The EWCC will be located on Ford Motor company property on Riverside Drive in the city of Windsor. The EWCC will have a natural gas demand of 660,000 m^3/day at a minimum delivery pressure of 1482 kPag. The existing distribution network is adequate to serve the existing demands in the area but is not able to serve the natural gas demands of the EWCC. Therefore, additional facilities are required. To meet the EWCC demands Union proposes to install approximately five kilometres of NPS 12 pipeline, from Union's existing Panhandle system to the EWCC site. The maximum operating pressure of the proposed pipeline will be 4140 kPag.

23. In addition to the pipeline, Union will construct a new metering facility at the proposed EWCC site, and make modifications to its existing Windsor Ford Line Station take off which is located adjacent to the Panhandle system.

24. These facilities are adequate to meet the EWCC requirements. A schematic showing the operation of the proposed facilities can be found in Schedule 3.

Alternatives

25. To meet the requirements of EWCC, an NPS 12 lateral to serve the plant is proposed with an estimated capital cost of $5.346 million. Union investigated two other alternatives before selecting the preferred alternative.

26. The two alternatives reviewed were:

    i) serve EWCC from the existing system;

    ii) installation of a smaller diameter pipeline.

27. Serve EWCC from the existing system - Analysis of the existing system showed the existing facilities did not have adequate capacity to serve the requirements of EWCC. Therefore, reinforcement of the system would be needed. The facilities required included: NPS 12 and NPS 8 pipe as well as existing distribution station modifications. The additional facilities and station modifications were estimated to cost approximately $5.512 million. This alternative was not selected as it had a higher capital cost.

28. Installation of a smaller diameter pipeline - The minimum sized pipeline to serve EWCC was determined to be NPS 10. The estimated cost of this alternative was $5.130 million. This alternative was not selected as; (1) it was only slightly less costly than the proposed facilities ($0.216 million or 4.0%) and, (2) it did not provide as much flexibility as the NPS 12 to serve any potential demands in the EWCC area.

29. Union chose the NPS 12 size to meet the requirements of the EWCC and to allow for growth to an area designated by the City of Windsor for future industrial expansion.

DESIGN AND PIPE SPECIFICATIONS

30. The design and pipeline specifications are outlined in Schedule 4. Design, installation and testing of the distribution pipeline will conform to the requirements of *Ontario Regulation*

210/01 under the *Technical Standards and Safety Act 2000, Oil and Gas Pipeline Systems.* This regulation governs the installation of pipelines in the Province of Ontario.

31. The CSA Z662-03 Oil and Gas Pipeline Systems code includes a classification system on land use and population density to determine appropriate design factors. A class location unit is defined as the area that extends 200 metres on either side of the centreline of any continuous 1.6 kilometre length of pipeline.

32. A Class 1 location contains 10 or fewer dwellings intended for human occupancy within the class location unit. A Class 2 location contains between 10 and 46 dwellings intended for human occupancy within a class location unit or small well defined outside area that is occupied by 20 or more persons during normal use. A Class 3 location contains 46 or more dwellings intended for human occupancy within a class location unit. The proposed pipeline will be designed to meet the requirements of a Class 3 location due to the development in the area.

33. The NPS 12 pipe has an outside diameter of 323.9 mm and a wall thickness of 7.1 mm. The pipe was manufactured by the electric resistance weld process and has specified minimum yield strength of 414 MPa. The pipe was manufactured to the CSA Z245.1-98 *Steel Line Pipe Standard for Pipeline Systems and Materials.*

34. The pipeline will be tested in accordance with the CSA Z662-03 Oil and Gas Pipeline Systems code requirements.

35. The minimum depth of cover will be specified to be 1.0 metre to the top of the pipe. Additional depth will be provided to accommodate existing or planned underground facilities, or in areas as specified in Section 4.7 of CSA Z662-03.

PROJECT COSTS AND ECONOMICS

Project Costs

36. The total estimated cost for the project, including pipeline, station, and IDC is $5.346 million. Estimated costs for the proposed pipeline and station facilities can be found in Schedules 5 and 6 respectively.

Project Economics

37. Union has employed an economic feasibility test consistent with the Board's recommendations in the E.B.O. 188 report on Natural Gas System Expansion, to assess the economics of this project.

38. The Board has found that new distribution facilities are in the public interest if no undue burden is placed on existing customers. When the proposed facilities are included in Union's 2007 new business investment portfolio the resulting Profitability Index ("P.I.") would be 1.47. Similarly, including the proposed facilities in Union's rolling portfolio as at June 30, 2007 would result in a P.I. of 1.74.

39. To provide the Board with additional information, a stand alone Discounted Cash Flow ("DCF") analysis has been completed. It can be found at Schedule 7. This schedule indicates

that the proposed facilities have a Net Present Value ("NPV") of $0.312 million and a P.I. of 1.06.

40. Union, therefore, submits that the distribution of natural gas by Union to EWCC is economically feasible and in the public interest.

Other Public Interest Considerations

41. There are a number of other public interest factors for consideration as a result of the addition of the proposed facilities. These additional public interest considerations include the following:

i) **Reduced Air Emissions** - Natural gas, because of its cleaner-burning properties compared to other fossil fuels, has an increasingly important role to play in reducing the environmental impacts of energy use. Emissions, per unit of energy basis, from the combustion of natural gas are less than other fossil fuels. Some of the inherent advantages of natural gas are as follows:

- Unlike the combustion of both coal and cheaper grades of fuel oil for electrical power generation, natural gas combustion produces virtually no sulphur dioxide - the most significant component to acid rain formation.
- Natural gas combustion also emits significantly lower amounts of reactive hydrocarbons and nitrogen oxides - the key photochemical agents in the formation of urban smog.
- Natural gas, when compared to coal, emits greatly reduced amounts of CO_2 which is a greenhouse gas.

ii) **Utility Taxes -** A decision to proceed with this project will result in Union paying taxes directly to various levels of government. Income, capital and municipal taxes paid by Union as a direct result of the project are included as costs in the economic analysis. These taxes are not true economic costs of the project, but rather represent transfer payments within the economy, as they are available for redistribution by the federal, provincial and municipal governments. Since these taxes have been included as a cost in the analysis, they must also be considered as a benefit in order to reflect the appropriate economic benefit on an overall basis.

iii) **Employment** - The construction of this project will result in additional direct and indirect employment. There will be additional employment of persons directly involved in the construction of the project and manufacture of pipe. There are also substantial indirect benefits or multiplier effects related to these activities. Therefore, as a result of the construction of the proposed facilities, the Ontario economy would receive a positive employment benefit.

CONSTRUCTION OF PROPOSED FACILITIES

42. Approximately five kilometres of NPS 12 steel pipeline will be constructed from Union's existing Panhandle system to the EWCC customer station.

43. The proposed facilities will be constructed using Union's standard practices and procedures and will be in compliance with the mitigation measures identified in the ER. Schedule 8 describes the general techniques and methods of construction that Union will employ for the construction of the proposed facilities.

44. Material is readily available for the project and Union's alliance contractor will complete the proposed construction. Construction contract documents will be prepared at a later date. The ER will be included as part of the contract documents.

45. Schedule 9 provides the proposed project schedule. Construction is expected to begin in April 2008.

46. Union has worked with the City of Windsor during the planning of the project and foresees no problems in obtaining the necessary approvals from the City, and other governing bodies for the installation of this pipeline.

ENVIRONMENTAL

47. Azimuth Environmental Consulting prepared an ER for the proposed pipeline. The results of the ER indicate that the location of the proposed pipeline is environmentally acceptable. Union believes that by following its standard construction practices and adhering to the mitigation measures identified in the ER, construction of this project will have negligible impacts on the environment. No significant cumulative effects are anticipated from development of the proposed pipeline. A copy of the ER can be found at Schedule 10.

48. The ER has been prepared to meet the intent of the Ontario Energy Board's document *"Environmental Guidelines for Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario"* [May 2003]. Union will comply with all mitigation measures recommended in the ER.

49. The objectives of the ER were to:

    a) Document existing environmental features;

    b) Identify agency and public concerns;

    c) Identify potential environmental impacts as a result of construction;

    d) Present mitigation techniques to minimize environmental impacts; and

    e) Provide pipeline contractors and environmental inspectors involved in the construction of the pipeline with general and site-specific guidelines for environmental protection that supplement Union's construction specifications.

50. A letter was sent out on May 4th, 2007 to all landowners in the study area to inform them of the project and of the public open house.

51. To solicit input from the general public, First Nations and other interested parties with respect to the project, a project notice was published in local newspapers and a public Open House was held. The Open House, which identified the preliminary preferred pipeline route as well as viable alternative routes along with potential mitigation measures, was held on May 23, 2007 at Most Precious Blood Church in Windsor, Ontario. During the Open House, general comments centred on safety and construction related issues. No concerns were identified that could not be mitigated through application of Unions' Construction and Maintenance Procedures for pipeline construction.

52. Copies of the completed ER were submitted to the Ontario Pipeline Coordinating Committee ("OPCC"). Copies of the ER were also submitted to the City of Windsor and all interested parties who requested a copy. A summary of the comments and Union's response to concerns from agencies and interested parties will be filed, when received, as Schedule 11.

53. The total estimated environmental mitigation costs associated with the construction of the proposed facilities are identified in Schedule 12. These costs are identified as pre-construction related, construction-related and post-construction related. The estimated total environmental costs are $144,700. These costs are included in the pipeline costs found at Schedule 5.

54. There is one natural water course which will be crossed during construction of this project.

55. No blasting is anticipated along the route.

56. The majority of construction will take place within the road allowance. To minimize disturbance to the adjacent residents, Union is proposing to directionally drill (HDD), where possible, beneath the road allowance. This will limit disturbance from road excavation to approximately every 150 to 200 metres where the HDD equipment will be set up to drill and receive the pipe along the route.

57. Union will ensure that the recommendations in the ER, commitments and the conditions of approval are followed. An environmental inspector will monitor construction activities and ensure that all activities comply with all conditions of approval.

58. The results of the ER indicate that the environmental and socio-economic effects associated with construction of the project are generally short-term in nature and minimal.

LAND MATTERS

59. The proposed pipeline will be installed in road allowance and on easements on privately owned lands.

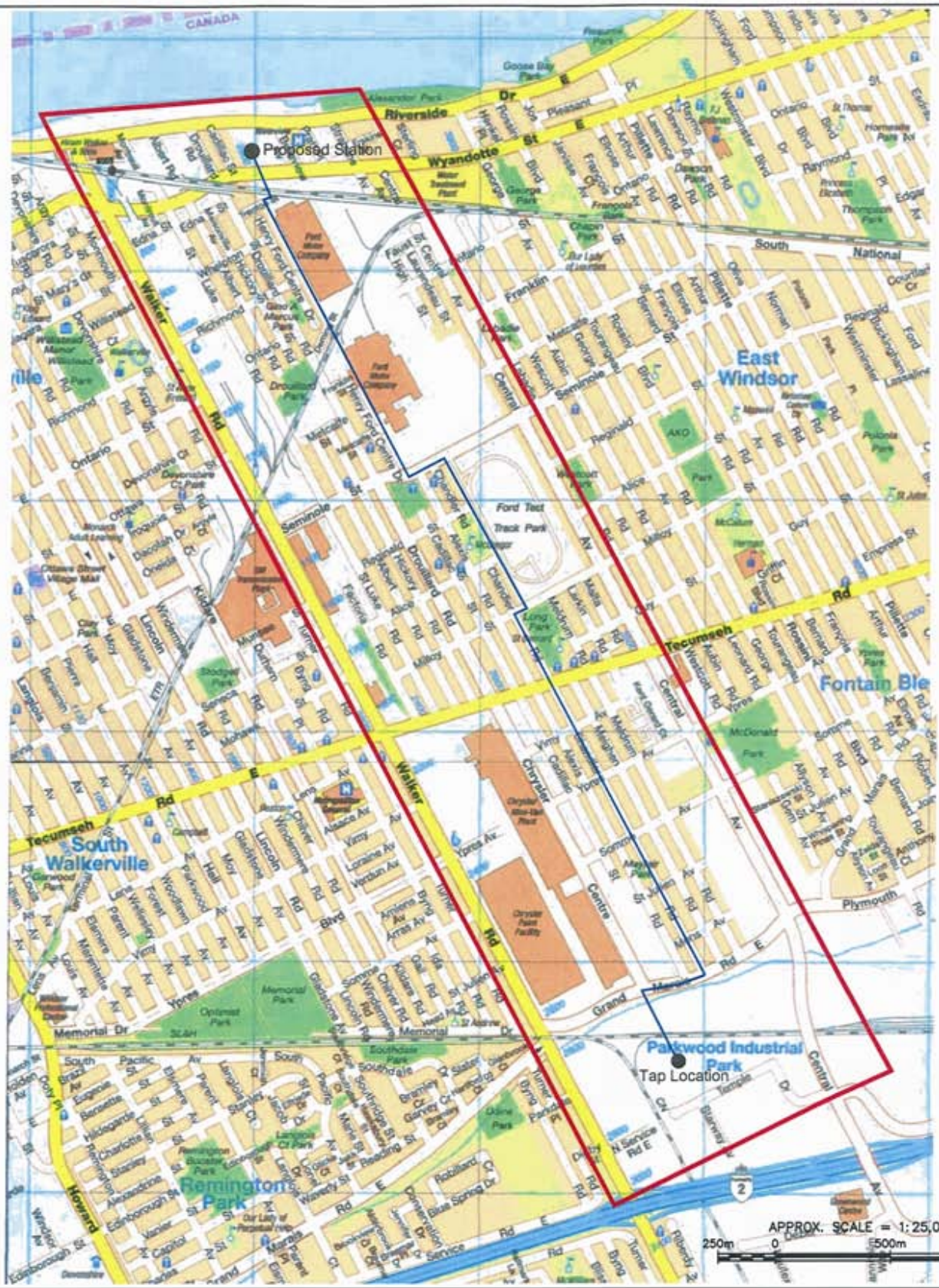
60. Union's grant of easement form is attached as Schedule 13. This easement form was most recently utilized in the Brighton Beach Cogeneration Project approved by the Board in RP-2002-0111.

61. The following companies, municipalities and private landowners may be affected by this project:

- Hydro One Networks Inc. (Her Majesty The Queen, In Right of Ontario, as represented by The Minister of Public Infrastructure Renewal);
- Lafarge North America;
- The Corporation of the City of Windsor;
- Ford Motor Company of Canada, Limited.

62. Individual negotiations with the directly affected landowners to obtain the necessary land rights to construct the proposed pipeline have been initiated.

63. Discussion has taken place between Project Engineering personnel and the Manager of Right-of-Way for the Corporation of the City of Windsor concerning the required review and approval of the road allowance locations under the franchise agreement with the City of Windsor. The road allowance locations have been chosen based on those discussions, and the suitability of the road allowance locations for the proposed installation, including consideration of the infrastructure already located within the road allowances that were considered.



Legend:

- Study Area
- Preferred Route

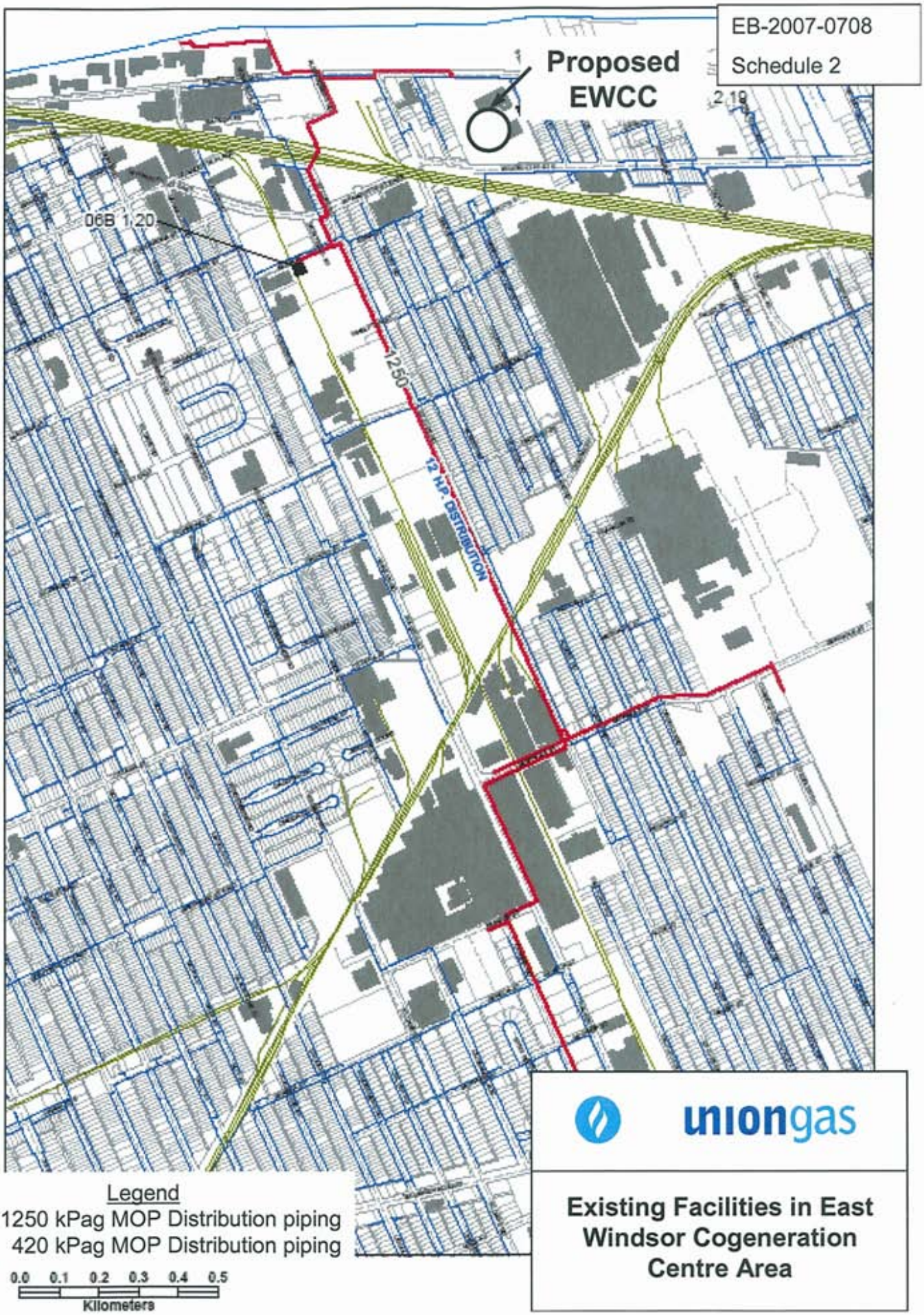
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

STUDY AREA/PREFERRED ROUTE

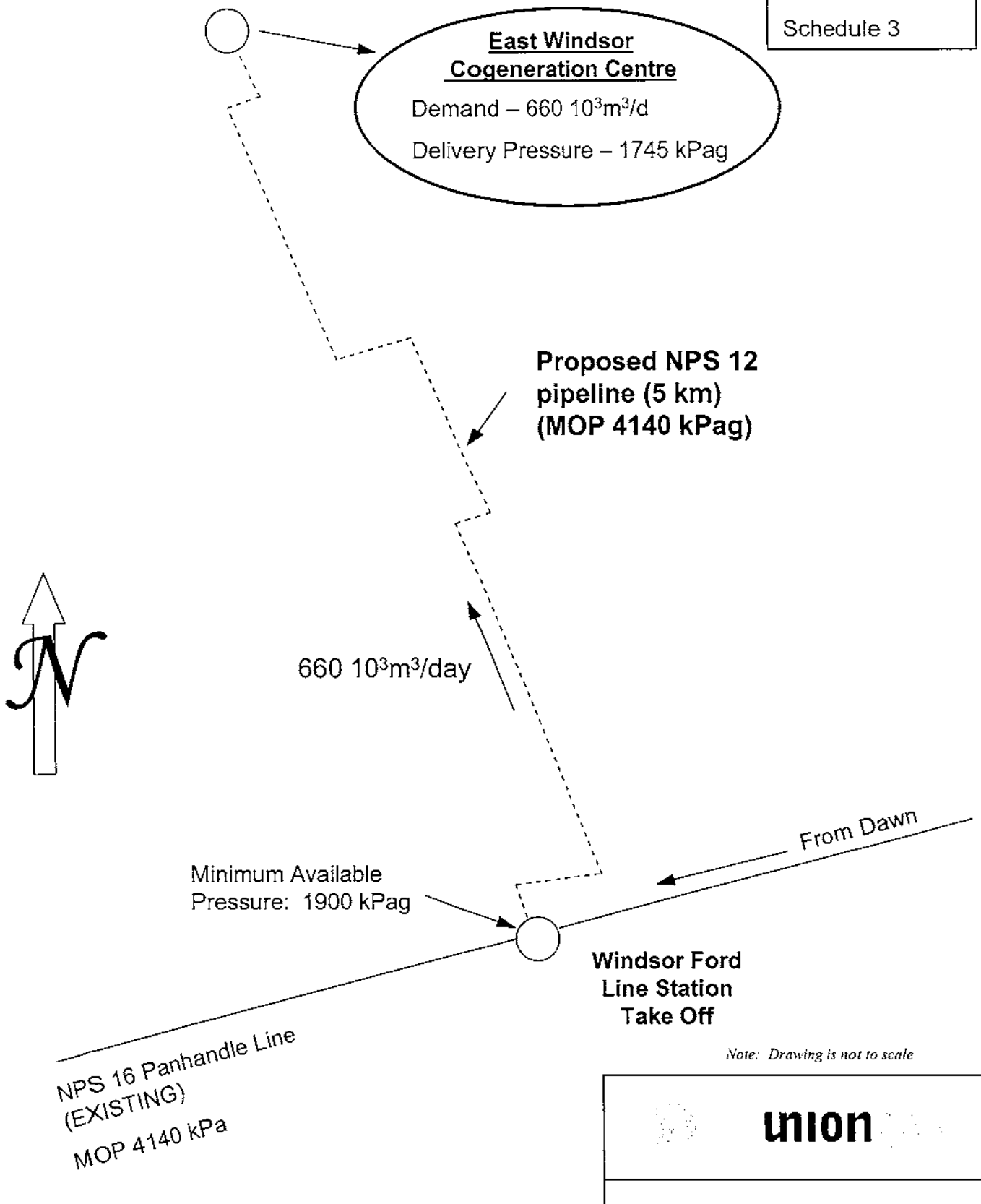
Date Issued:	July 2007
Created By:	PHD
Project No.	07-023
File Name:	Figure 1

East Windsor
Cogen Centre
Pipeline Project

Figure No. 1


EB-2007-0708
Schedule 2
Proposed
EWCC
06B 1.20
1250
12 H.P. DISTRIBUTION
Legend
1250 kPag MOP Distribution piping
420 kPag MOP Distribution piping
0.0 0.1 0.2 0.3 0.4 0.5
Kilometers
uniongas
Existing Facilities in East
Windsor Cogeneration
Centre Area

EB-2007-0708
Schedule 3



Note: Drawing is not to scale

union

East Windsor Cogeneration Centre Pipeline Project

Design Day Operations

EAST WINDSOR COGENERATION CENTRE: NATURAL GAS PIPELINE PROJECT

DESIGN AND PIPE SPECIFICATIONS

Design Specifications:

4140 kPa Operating Pressure

	Class 3
Design Factor	0.800
Location Factor (General)	0.700
Location Factor (Roads)	0.625
Maximum Design Pressure	4140 kPa
Maximum Operating Pressure	4140 kPa
Test Medium	Water
Test Pressure	5796 kPa min
Valves	PN 100
Minimum Depth of Cover	1.0 m

Pipe Specifications (for Classes and Maximum Operating Pressures specified above):

Size	NPS-12	
Wall Thickness / Grade	**7.1 mm / Grade 414 MPa**	
Type	Electric Resistance Weld	
Description	C.S.A. Standard Z245.1-02	
Category	**Cat. II, M5C**	
Coating	**Fusion Bond Epoxy**	
% SMYS	**4140 kPa operating pressure**	**23%**

Total Estimated Pipeline and Service Capital Costs
East Windsor Cogeneration Centre Pipeline Project
2008 Construction

Main				
Pipe and Material				
323.9 mm O.D. x 7.1 mm W.T. Pipe, Coated 5000 metres	$	560,000		
Valves, Fittings and Miscellaneous Material	$	40,000		
Total Pipe and Material			**$**	**600,000**
Construction and Labour				
To lay 5000 metres of 323.9 mm O.D. Pipe	$	1,943,425		
Company Labour, X-Ray, Construction Survey, Legal, Inspection and Consultants	$	420,000		
Easements, Lands & Damages	$	142,600		
Temporary Facilities	$	209,880		
Total Construction and Labour			**$**	**2,715,905**
Total Pipe, Material, Construction and Labour			**$**	**3,315,905**
Contingencies and Company Overheads			$	621,205
Interest During Construction			$	72,000
Total Estimated Pipeline Capital Costs – 2008 Construction			**$**	**4,009,110**

Total Estimated Customer Meter Station and Valve Nest Capital Costs
East Windsor Cogeneration Centre Pipeline Project
2008 Construction

Valve Nest

Material		
Valves, Fittings and Miscellaneous Material	$	114,444
Land	$	20,000
Total Pipe, Valves and Land	**$**	**134,444**
Construction and Labour		
Prime Contractor	$	130,000
Company Labour, X-Ray, Miscellaneous Labour	$	30,000
Total Construction and Labour	**$**	**160,000**
Total Pipe, Valves and Land and Construction and Labour	**$**	**294,444**
Contingencies	$	29,444
Total Estimated Town Border Station Capital Costs	**$**	**323,888**

Customer Sales Meter Station

Material		
Valves, Fittings and Miscellaneous Material	**$**	**490,817**
Construction and Labour		
Prime Contractor	$	350,000
Company Labour, X-Ray, Miscellaneous Labour	$	80,200
Total Construction and Labour	**$**	**430,200**
Total Material and Construction and Labour	**$**	**921,017**
Contingencies	$	92,102
Total Estimated Customer Station Capital Costs	**$**	**1,013,119**

UNION GAS LIMITED
EAST WINDSOR COGENERATION CENTRE PIPELINE PROJECT
DCF Analysis

Project Year ($000's)	1	2	3	4	5	6	7	8	9	10	11
Cash Inflow											
Revenue	533	657	657	657	657	657	657	657	657	657	657
Expenses:											
O & M Expense	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Municipal Tax	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)
Capital Tax	(15)	(11)	(7)	(3)	-	-	-	-	-	-	-
Income Tax	(102)	(134)	(134)	(136)	(139)	(142)	(144)	(146)	(148)	(150)	(152)
Large Corporation Tax	-	-	-	-	-	-	-	-	-	-	-
Net Cash Inflow	370	466	470	472	472	470	467	465	463	461	459
Cash Outflow											
Incremental Capital	5,346	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	0	-	-	-	0	-	-	-	-	-	-
Cash Outflow	5,346	-	-	-	0	-	-	-	-	-	-
Cumulative Net Present Value											
Cash Inflow	361	791	1,202	1,594	1,965	2,315	2,645	2,957	3,251	3,529	3,791
Cash Outflow	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346
NPV By Year	(4,986)	(4,555)	(4,144)	(3,752)	(3,381)	(3,031)	(2,701)	(2,389)	(2,095)	(1,817)	(1,555)
Project NPV	312										
Profitability Index											
By Year PI	0.07	0.15	0.22	0.30	0.37	0.43	0.49	0.55	0.61	0.66	0.71
Project PI	1.06										

UNION GAS LIMITED
EAST WINDSOR COGENERATION CENTRE PIPELINE PROJECT
DCF Analysis

Project Year ($000's)	12	13	14	15	16	17	18	19	20	21
Cash Inflow										
Revenue	657	657	657	657	657	657	657	657	657	329
Expenses:										
O & M Expense	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Municipal Tax	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)	(45)
Capital Tax	-	-	-	-	-	-	-	-	-	-
Income Tax	(154)	(156)	(158)	(159)	(161)	(162)	(164)	(165)	(167)	(61)
Large Corporation Tax	-	-	-	-	-	-	-	-	-	-
Net Cash Inflow	457	455	454	452	450	449	447	446	445	222
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	-	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	4,039	4,272	4,493	4,702	4,899	5,085	5,261	5,427	5,584	5,659
Cash Outflow	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346	5,346
NPV By Year	(1,307)	(1,074)	(853)	(644)	(447)	(261)	(85)	81	238	312
Project NPV										
Profitability Index										
By Year PI	0.76	0.80	0.84	0.88	0.92	0.95	0.98	1.02	1.04	1.06
Project PI										

GENERAL TECHNIQUES AND METHODS OF CONSTRUCTION

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

Locating Running Line

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

Clearing and Grading

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

Stringing

8. The pipe is strung adjacent to the running line. The joints of pipe are laid end-to-end on supports that keep the pipe off the ground to prevent damage to the pipe coating.

Welding

9. The pipe is welded into manageable lengths. The steel pipe welds are radiographically inspected, if required, and the welds are coated.

Burying

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

Trench Method: Trenching is done by using a trenching machine or hoe excavator depending upon the ground conditions. Provisions are made to allow residents access to their property, as required. All drainage tiles that are cut during the trench excavation are flagged to signify that a repair is required. All tiles are measured and recorded as to size, depth, type and quality. This information is kept on file with Union. If a repair is necessary in the future, Union will have an accurate method of locating the tile. Next, the pipe is lowered into the trench. For steel pipe, the pipe coating is tested using a high voltage electrical tester (Jeep) as the pipe is lowered into the trench. All defects in the coating are repaired before the pipe is lowered in. Next, if the soil that was excavated from the trench is suitable for backfill, it is backfilled. If the soil is not suitable for backfill (such as rock), it is hauled away and the trench is backfilled with suitable material such as sand. After the trench is backfilled, drainage tile is repaired. Tile repairs are made by excavating back into the bank along the tile run and placing clear stone as a foundation for a perforated steel or high strength plastic drainage pipe. A new drainage tile is cut to the appropriate length and installed between the two exposed tile ends. Prior to the actual setting of the perforated drainage tile, the existing tile run is checked to ensure that it is clear and undamaged within the limits of the work area. If it is not, further tile is excavated and the damaged tile is replaced to the edge of the work area. A company inspector inspects each tile

repair and acts as a liaison between the contractor and the landowner or municipality. If required, the landowner or municipal representative is requested to inspect tile repairs prior to backfill completion. Union undertakes that it is responsible for the tile repair and will be accountable for the tile repairs at any future date after construction of the pipeline.

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

Trenchless Method: Trenchless methods are alternate methods used to install pipelines under railways, roads, sidewalks, trees and lawns. There are two trenchless methods that could be used for the proposed NPS 12 pipeline, depending on the soil conditions, and the length and size of the installation. These methods are boring (auguring) and directional drilling.

Tie-Ins

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

Cleaning and Testing

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

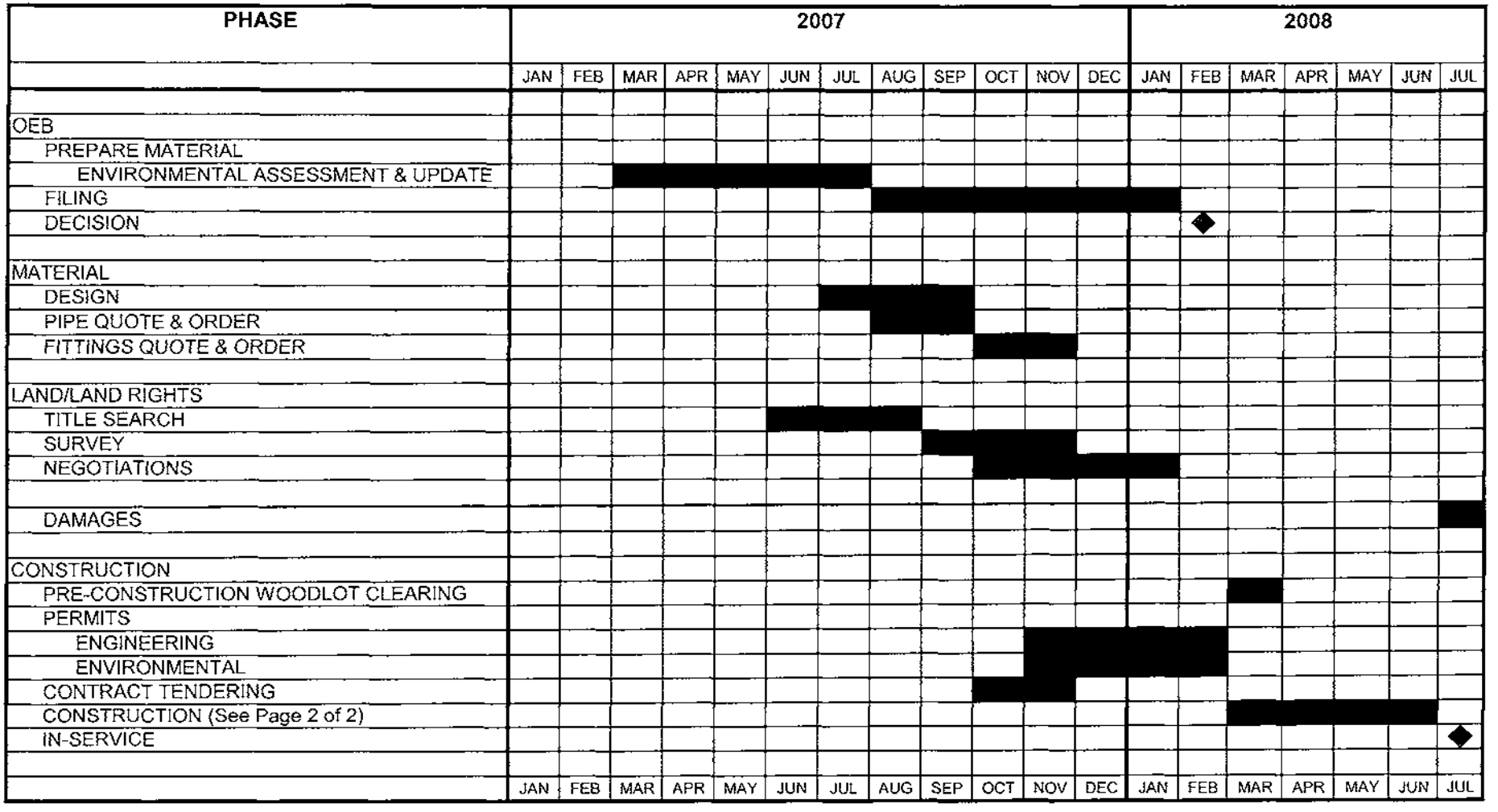
Restoration

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

EAST WINDSOR COGENERATION CENTRE: NATURAL GAS PIPELINE PROJECT

PROJECT SCHEDULE

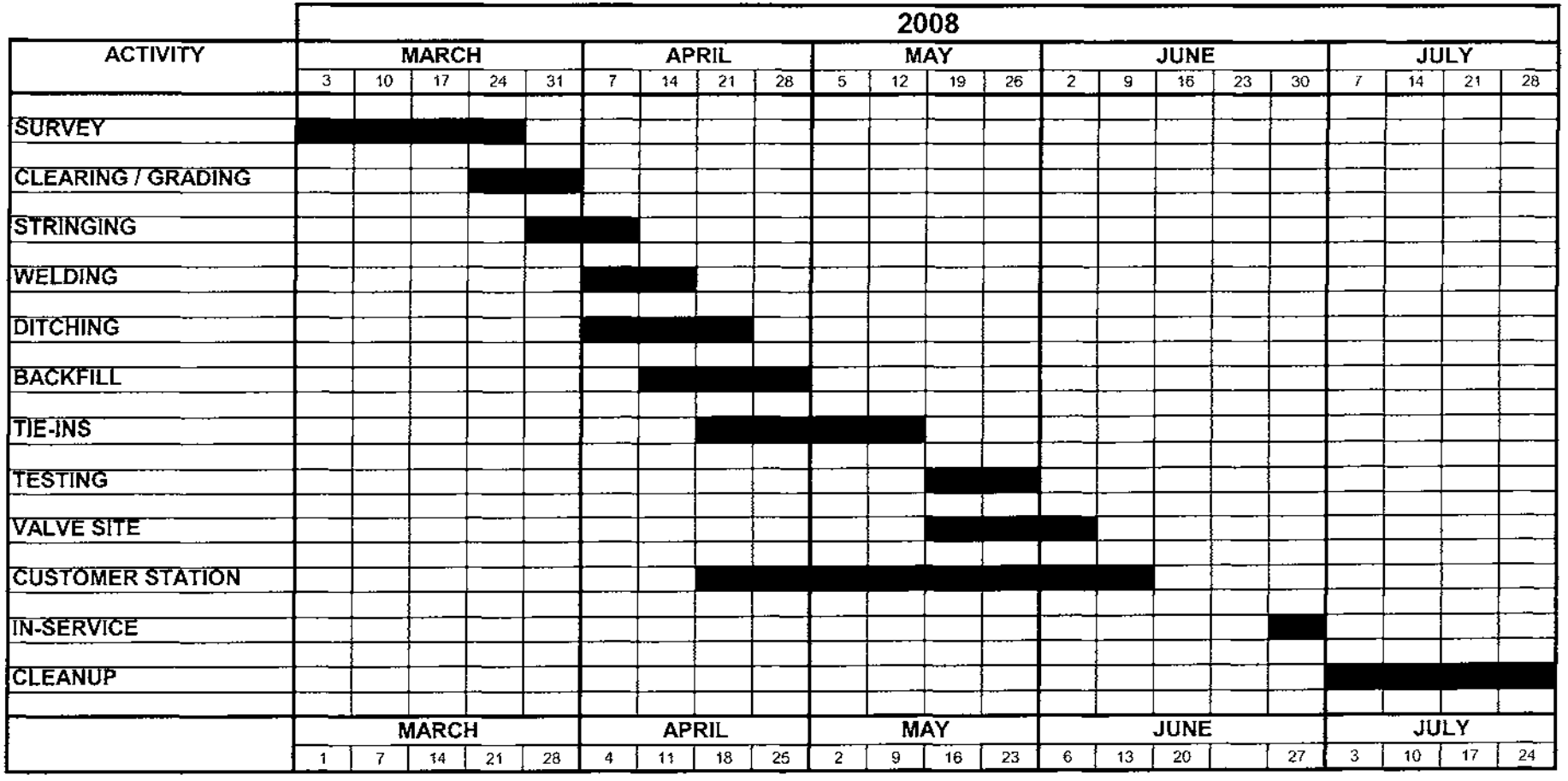
2008 Construction



EAST WINDSOR COGENERATION CENTRE: NATURAL GAS PIPELINE PROJECT

PROPOSED CONSTRUCTION SCHEDULE

2008 Construction



East Windsor Cogen Centre Pipeline Project
Environmental Report

Prepared For:
Union Gas

Prepared By:
Azimuth Environmental
Consulting, Inc.

July 2007

AEC 07-023

EXECUTIVE SUMMARY

Introduction

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is proposing to construct a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor. Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a NPS 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street.

Azimuth Environmental has been retained to undertake a route selection study and impact assessment in compliance with or meeting the intent of the Ontario Energy Board's, *Environmental Guidelines For The Location, Construction and Operation of Hydrocarbon Pipelines And Facilities In Ontario, Fifth Edition, May 2003*. At the completion of the route selection study and impact assessment, a preferred route was selected.

This report documents the route selection process undertaken by Union Gas and Azimuth Environmental to identify the preferred route alignment and the detailed impact mitigation study along the preferred route.

The study was undertaken in two steps; Step 1, Identification of the Preferred Pipeline Route, and Step 2 Impact Mitigation on the preferred route.

Step 1, Identification of the Preferred Pipeline Route, involves a land use and environmental inventory at a scale of 1:10,000 to identify the environmental constraints in the study area. Based on the aforementioned information, criteria are developed to identify and evaluate the alternative routes. The preliminary preferred route is reviewed by the affected property owners, the general public, government agencies, and the affected municipality to identify their concerns with the route alignment. To ensure the route locations do not compromise safety and engineering standards, Union Gas engineering staff reviewed the preferred alignment to ensure they are technically acceptable.

Step 2, Impact Mitigation involves a field assessment of the preferred route and contact with the directly affected property owners. Field assessments were undertaken on the road allowances, existing rights-of-way and urban areas lands along the preferred route. The impacts were assessed and impact management techniques are determined in consultation with the directly and indirectly affected property owners and the appropriate

government agency, to ensure impacts are minimized or avoided. Based on these discussions, the net environmental impacts of constructing the pipelines are described for the entire route length.

Environmental Setting

The study area limits are shown in Figure E1.

The study area is within the City of Windsor, dominated by residential, industrial and commercial land uses. Natural environmental features are limited to landscape trees on the municipal boulevards and residential properties and one municipal drain that is a tributary to Turkey Creek. Wildlife found in the study area is typical of urban landscapes through southern Ontario.

Socio-economic activities involve the Daimler Chrysler and Ford Motor Company assembly plants and associated small support industrial and commercial activities. The surrounding lands are residential with a large publicly owned sports park.

Utilities, such as a natural gas pipeline, are a permitted use in all land use designations.

Route Selection

The identification of alternative routes utilized land use and environmental data information and the route selection criteria to delineate reasonable routing opportunities within the study area. The city street network has municipal road allowances that provided the opportunity to place the pipeline within the road allowance. This meant the alternative routes could be identified within the road allowances resulting in minimal effect on the adjacent private properties.

An evaluation and comparison of the alternative routes was undertaken to determine the preferred route taking into account the features affected, public and agency concerns, and the technical and engineering requirements for pipeline construction. The evaluation determined all the alternative routes were environmentally acceptable, and could be constructed without significant adverse impacts, through the application of standard construction procedures and the associated mitigation/restoration measures.

Selection Of The Preferred Route

The preferred route (see Figure E1) would go north out of the existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway to Grand Marais Road East. It would go east along Grand Marais to Chandler Road where it would turn north and follow Chandler to Milloy Street. It would then go east on Milloy to the Ford Test

Track Park where it would be placed on the western edge of the park. At the north end of the park the pipeline would turn west along Seminole Street where at the west side of the Ford Motor Company property it would turn north through the Ford property along the west side of the property crossing Wyandotte Street East to access the East Windsor Cogeneration Centre electricity generation facility. All sections of the proposed pipeline running through residential areas would be located within the municipal road allowance. Other sections would be located on easement within the City of Windsor Ford Test Track Park and the industrial lands on the Ford Motor Company, Hydro One and Lafarge lands. This route was selected as the preferred route for the following reasons:

- Uses municipal road allowances with sufficient space to accommodate the pipeline without interference with existing municipal services and infrastructure.
- Minimizes disturbance to residential areas through use of Ford Motor Company and City-owned parkland.
- The City of Windsor and the Ford Motor Company, which are directly affected landowners, are in agreement with the preferred route alignment. Information has been exchanged with directly affected Lafarge and Hydro One, and discussions will continue. The proposed locations will not adversely impact the continued use of any of the directly affected properties.
- Shortest route from the tap to station with limited potential for increased costs or engineering concerns.
- Standard Union Gas mitigation measures/construction procedures (e.g. directional drilling, post-construction restoration) will be applied to address concerns of adjacent residents.

Public/Agency Consultation

The public consultation program for this project involved provincial and municipal government consultation, contact with directly/indirectly affected property owners. Letters were sent to the affected municipalities and the provincial ministries notifying them of the study, requesting their input and applicable land use and environmental information and informing them of the selection of the preferred route. Letters were mailed and hand delivered to directly/indirectly affected property owners to inform them of the study, solicit their input on the alternative routes and the preliminary preferred route, and inform of the selection of the preferred route following the public open house.

On May 23, 2007, a public open house was held in the centre of the study area at a local church hall from 6:00 to 9:00 p.m. It was attended by five property owners adjacent to the preliminary preferred route and 19 interested citizens/government representatives, indirectly affected property owners or their representatives, to discuss the route selection process, the alternative routes and the rationale for the preliminary preferred route and address adjacent property owners concerns.

Following the public open house, changes were made to the preliminary preferred route in response to information from Daimler Chrysler that they may want to purchase Chrysler Centre from the City of Windsor if the plant was expanded in the future. If the pipeline were placed in the Chrysler Centre road allowance it would restrict their ability to expand the plant or require relocation of the pipeline to an adjacent residential street. The City staff confirmed that they would seriously consider the Daimler Chrysler request. Considering the economic importance of the automotive industry to the city the decision was made to move the route from Chrysler Centre to Chandler Road. Letters were hand delivered to the residents of Chandler Road informing them of the rationale for the change and contacts should they wish to discuss their concerns. To date we have received only seven responses from over 200 letters. Concerns will be alleviated prior to or during construction.

Impact Management Along The Preferred Route

An assessment of the preferred route was undertaken to assess the potential impacts, and recommend mitigation measures. No significant environmental or land use impacts along the preferred route were identified that could not be readily mitigated through application of Union's standard construction specifications. The affected areas along the route are maintained as lawn, municipal street or industrial lands. The preferred route affects one municipal drain, Grand Marais Drain, which is a tributary of Turkey Creek. The Essex Region Conservation Authority indicated the drain is in a degraded condition due to urban storm water inputs. The conservation authority identified no sensitive or designated significant fisheries. The proposed method of crossing is to directionally drill under the drain eliminating any physical disturbance to the watercourse.

The preferred route does not conflict with any current provincial policy regarding land use planning. Construction and operation of the preferred route will not adversely impact any environmental or land use features protected under the existing provincial planning policies.

Construction of the pipeline will occur at the same time as the Walker Road closing to reconstruct Walker Road under the CPR railway within the study area. As a result traffic will be detoured down Chrysler Centre and east along Grand Marais Road. To avoid increases to traffic congestion in this area the pipeline will be directionally drilled under Grand Marais without the need for any lane restrictions.

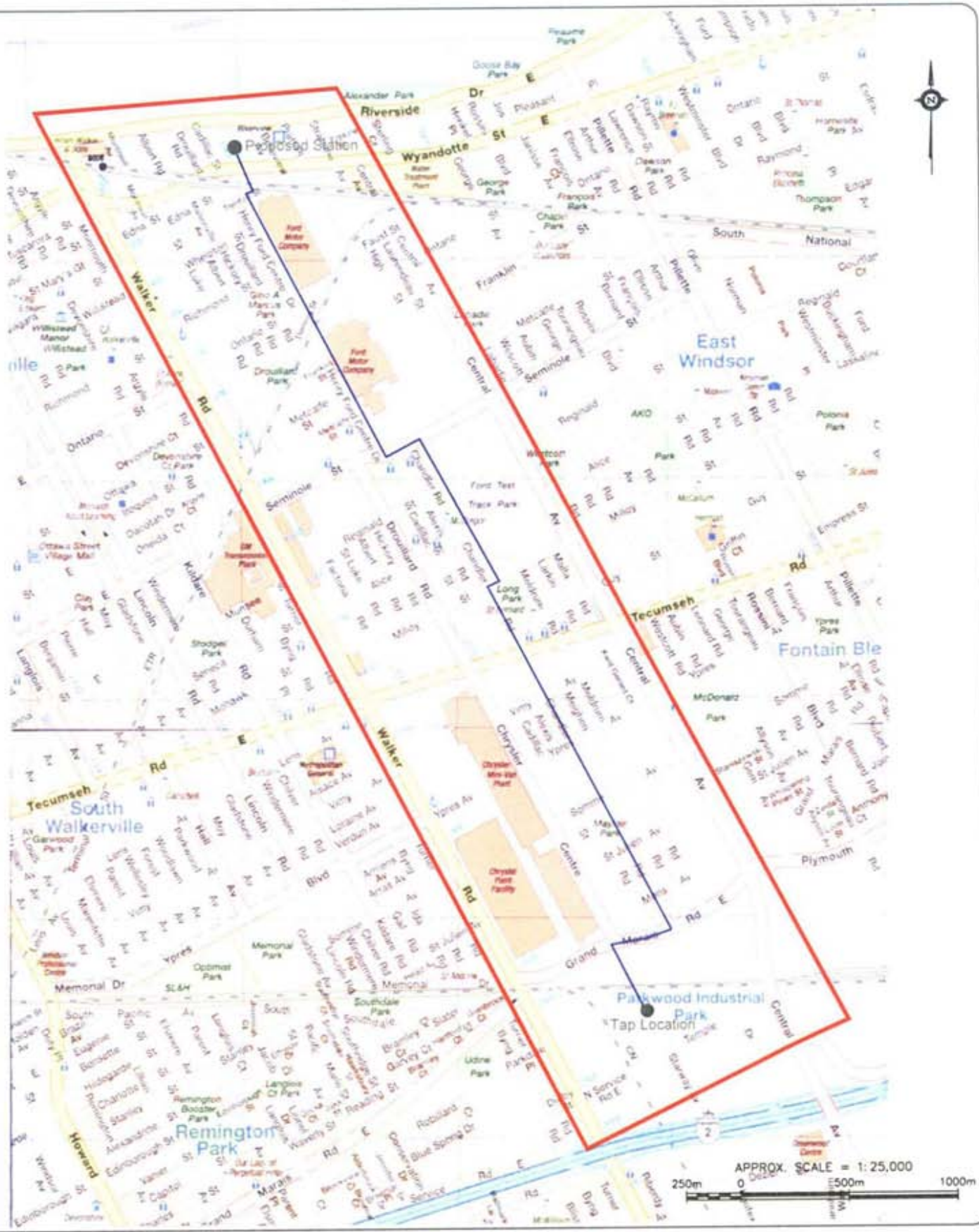
A cumulative impact assessment was undertaken on the preferred route having regard for the potential impacts. Through the use of road allowances, public park and industrial lands the preferred route does not directly impact any designated environmentally sensitive areas or residential properties. Construction of the pipeline to supply the East

Windsor Cogeneration Centre facility with natural gas supply will benefit local industry through generation of electricity and surplus steam heat for their energy needs.

Conclusion

Based on consultation with the directly and indirectly affected or adjacent property owners, government agencies and the affected municipality, it is clear that the preferred route is acceptable and represents a minimal impact on the environment, land use and the community.

The preferred route location will not adversely affect the adjacent land use and has no adverse socio-economic effects on the community. City of Windsor staff support the construction of the pipeline within the municipally-owned road allowances and public park to provide the natural gas supply for the East Windsor Cogeneration Centre electricity generation facility. The proposed route locations will not adversely impact the continued use of any of the directly affected properties. The majority of adjacent property owners accept the use of road allowances as a reasonable alternative with no adverse environmental or community impacts. Construction of the pipeline within the municipal boulevard is consistent with use of the municipal road allowances for utilities within urban areas throughout the province and will have no significant long-term impacts on the affected community.



Legend:

- Study Area
- Preferred Route

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

PREFERRED ROUTE

Date Issued:	July 2007
Created By:	PHD
Project No.	07-023
File Name:	Figure E1

East Windsor
Cogen Centre
Pipeline Project

Figure No.
E1

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

July 31, 2007 07-023

Union Gas Ltd.
P.O. Box 2001
50 Keil Drive North
Chatham, Ontario
N7M 5M1

Attention: Norm Dumouchelle
Environmental Planner

RE: East Windsor Cogen Centre Pipeline Project

Dear Mr. Dumouchelle:

Azimuth Environmental is pleased to submit our Environmental Report for the natural gas pipeline to supply the East Windsor Cogeneration Centre electricity generation facility. The preferred route will not affect any sensitive environmental features. Use of municipal road allowances, a public park and private industrial land for the entire route will result in no significant environmental impacts. Agencies and the public have not identified any concerns regarding the preferred route alignment that cannot be easily mitigated through Union Gas' standard construction and pipeline engineering practices. Construction of the pipeline to supply the cogeneration facility will have a positive economic effect on the local industry and the community through supplying electricity and surplus heat to meet their energy needs.

Please call if you have any questions. We thank you for providing Azimuth Environmental with the opportunity to work with Union Gas on this project.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc.Agr.
Vice-President
PCN:

229 Mapleview Drive East, Unit 1, Barrie, Ontario L4N 0W5
telephone: (705) 721-8451; fax: (705) 721-8926 info@azimuthenvironmental.com

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1.0 INTRODUCTION

1.1 Description Of The Proposed Facility

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is proposing to construct a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor. Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a NPS 12 inch diameter natural gas pipeline from an existing Union Gas station. This station is positioned east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street.

Azimuth Environmental has been retained to undertake a route selection study and impact assessment in compliance with our meeting the intent of the Ontario Energy Board's, *Environmental Guidelines For The Location, Construction and Operation of Hydrocarbon Pipelines And Facilities In Ontario, Fifth Edition, May 2003*. A preferred route was selected at the completion of the route selection study and impact assessment. The preferred route (see Figures 1-4) would go north out of the existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway to Grand Marais Road East. It would go east along Grand Marais to Chandler Road where it would turn north and follow Chandler to Milloy Street. It would then go east on Milloy to the Ford Test Track Park where it would be placed on the western edge of the park. At the north end of the park the pipeline would turn west along Seminole Street until the west side of the Ford Motor Company property where it would turn north through the Ford property along the west side of the property crossing Wyandotte Street East to access the East Windsor Cogeneration Centre electricity generation facility. All sections of the proposed pipeline running through residential areas would be located within the municipal road allowance. Other sections would be located on easement within the City of Windsor Ford Test Track Park and the industrial lands on the Ford Motor Company, Hydro One and Lafarge properties.

1.2 Purpose Of The Report

This report documents the route selection process undertaken by Union Gas and Azimuth Environmental to identify the preferred route alignment described above and the associated detailed impact mitigation study. The report documents the planning process that will result in the submission of an Environmental Report (ER) to the Ontario Energy Board.

2.0 STUDY APPROACH

Our study approach encompasses two steps; Step 1, Identification of the Preferred Pipeline Route, and Step 2 Impact Mitigation on the preferred route.

Step 1, Identification of the Preferred Pipeline Route, involves a land use and environmental inventory at a scale of 1:10,000 and a windshield survey of the study area to identify the environmental constraints in the study area. Based on the aforementioned information, route selection criteria are developed. These criteria are used to identify and evaluate the alternative routes. The alternative routes and the preliminary preferred route are reviewed by the affected property owners, the general public, government agencies, and the affected municipality to identify their concerns with the route alignments. To ensure the route locations do not compromise safety and engineering standards, Union Gas engineering staff reviewed the alternative routes to ensure they are technically acceptable.

Step 2, Impact Mitigation, involves a field assessment of the preferred route and direct contact with the affected property owners. Field assessments were undertaken on the watercourse crossing and road allowances. The affected areas on this project are limited to urban/industrial land uses. Natural features along the preferred route are limited to the manicured grass and landscape trees within the municipal road allowance boulevard, and a watercourse that functions as a municipal storm drain. As a result, the environmental impacts associated with the pipeline construction are very limited. The features identified during this assessment were then mapped on 1:10,000 aerial photograph map base along the preferred route. The impacts were assessed and impact management techniques are determined in consultation with the affected property owners and the appropriate government agency, to ensure impacts are minimized or avoided. Based on these discussions, the net environmental impacts of constructing the pipeline are described for the entire route length.

Prior to the initiation of data collection and route identification, Azimuth Environmental and Union Gas environmental, engineering and lands staff undertook a windshield survey of the area to identify potential constraints and opportunities for route selection. It was evident that an acceptable range of alternative routes were available that could be constructed entirely within the road allowances or industrial lands (e.g. Ford Motor Company plant). This provided the opportunity to eliminate any direct impacts on urban residential properties in the study area. The *Environmental Guidelines For The Location, Construction and Operation of Hydrocarbon Pipelines And Facilities In Ontario, 2003* states in Section 4.0 Route and Site Selection, Section 4.2.1 Study Area:

> ”The level of detail of the information will vary with the study area, its sensitivity and the type of features found within it. For example, when it is possible to generate an acceptable range of alternative routes to be constructed entirely within

road allowance, the description of features may be limited to features that are affected by the proposed routes. A more comprehensive inventory may not be required."

The most reasonable routing alternative within the urban study area was the road allowances, public parklands and industrial properties because the remainder of the area is high-density residential lots. Therefore the environmental inventory and description of features was generally limited to the features that could be affected by the use of road allowances or existing linear rights-of-way for alternative routes.

Generally the assessment of the preferred route at the Impact Mitigation stage requires larger scale mapping to identify and evaluate site-specific impacts. Upon review of the potential environmental impacts associated with use of the municipal road allowance for the preferred route, it was decided that more detailed mapping was not required to evaluate the impacts. The available high-resolution aerial photography provided sufficient detail to assist the reviewer in identifying the nature of the affected environment. The construction of a pipeline using directional drilling in a totally urbanized environment represents a situation lacking ecological diversity and having very predictable impacts within an existing disturbed area. Therefore, small-scale mapping is not required to define potentially sensitive environmental features and appropriate mitigation measures. The use of the maintained road allowance/boulevard eliminated any potential adverse environmental impacts, limiting the only significant environmental features affected along the route to a watercourse crossing. More detailed studies would be undertaken at the one watercourse/municipal drain crossing as part of the post approval process with the Essex Region Conservation Authority (ERCA) to obtain a permit for each watercourse crossing in compliance with the Federal *Fisheries Act* and the ERCA's *Ontario Regulation 158/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. Consequently, it was decided that more detailed mapping along the preferred route was not required to ensure the impacts are fully evaluated in accordance with the Ontario Energy Board Guidelines.

3.0 ENVIRONMENTAL SETTING

3.1 Study Area Boundary

The criteria that directed the establishment of the study boundaries were:

- The location of the existing station for the tap location and the proposed station that will be used to supply the new generating station;
- Location of major north-south urban collector roads that represented a limitation to routing alternatives due to high traffic volumes and the ability of the urban

development each side of the collector road to provide better routing opportunities;

- Land use features within the urban landscape that provided the opportunity to minimize community disruption (e.g. existing industrial land, parkland); and
- The study area limits should encompass reasonable opportunities for route selection without unduly increasing the community disruption or number of affected property owners.

Based on the aforementioned, the study area as shown in Figure 1 was developed.

The northern boundary is in proximity to the proposed location for the East Windsor Cogeneration Centre electricity generation facility. Utilizing Riverside Drive, the most northerly east-west road, provided a routing opportunity within the existing municipal road allowance.

The southern boundary encompasses the Parkwood Industrial Park, which is the location of the existing station that will act as the tap for the natural gas supply. The road network within the industrial park was included to provide the option of using the road allowances to access Central Avenue along the easterly boundary of the study area.

The easterly boundary is located along Central Avenue, a major north-south road. The southern portion of Central Ave is predominately commercial and provided a potential routing opportunity through a non-residential area.

The westerly study area limit was located along Walker Road, a major north-south road. Walker Road was selected as the westerly boundary because the lands to the west were predominately residential. The land east of Walker Road has industrial land uses that provided routing opportunities to minimize the effect on residential areas. The homogeneity of the urban land use east and west of the study meant the potential impacts would be comparable in municipal road allowances throughout the urban area. Therefore expanding the study area to potentially reduce the impacts associated with pipeline construction in a municipal road allowance had no definable benefit.

3.2 Physical Environment

3.2.1 Geologic Conditions

The study area is located in the St. Clair Clay Plain. The limestone formation is Middle Devonian Detroit River limestone. Surficial geology in the study area is primarily a flat till plain with lacustrine clay overburden. The clay overburden extends 100-200 feet over the limestone bedrock. The topography is flat throughout the study area.

3.2.2 Agriculture

No agricultural lands are located within the study area.

3.2.3 Aggregates

No significant sand or gravel deposits are present in the study area.

3.3 Biological Environment

3.3.1 Surface Water Hydrology and Fisheries

The Grand Marais Drain, a tributary of Turkey Creek that discharges to the St. Clair River, is the only watercourse in the study area. The watercourse is impacted by urban runoff and refuse is present within the watercourse and along its banks. Please see Photos 1 & 2 and Figure 2.

The Essex Region Conservation Authority (ERCA) Watershed Report Card indicates the Turkey Creek watershed scoring is "D". This is the lowest score in the ERCA scoring system and represents a watercourse in a degraded condition due to urban development and associated storm water inputs. Fish sampling done by ERCA in 2001 approximately 1km downstream of the study area found only fathead minnow, green sunfish and emerald shiner in the Grand Marais Drain.

3.3.2 Forest Resources

The study area lies within the Deciduous Forest Region (Rowe, 1972). In this region, hardwood or deciduous trees found in the more southern Carolinian areas are present due to the moderate climate. Examples of Carolinian species present in this region include Horse Chestnut (*Aesculus hippocastanum*), Cucumber-Tree (*Magnolia acuminata*), Tulip (*Liriodendron tuplipifera*), Papaw (*Asimina triloba Dunal*), Sycamore (*Platanus occidentalis*), Kentucky Coffee Tree (*Gymnocladus dioicus*) and Black Gum (*Nyssa sylvatica Marsh*).

Species identified along the residential streets within the study area include; White Cedar (*Thuja occidentalis*), Norway Spruce (*Picea abies*), White Ash (*Fraxinus Americana*), Norway Maple (*Acer platanoides*), Lilac Tree (*Syringa*), Black Cherry (*Prunus serotina Ehrh*), Siberian Elm (*Ulmus pumila*), Silver Maple (*Acer saccharinum*), White Oak (*Quercus alba*), White Birch (*Betula papyrifera*), Tree of Heaven (*Ailanthus altissima*), Sycamore (*Platanus occidentalis*), Cucumber-Tree (*Magnolia acuminata*). All of the trees in the study area are landscape trees associated with the urban development and are not part of a natural woodlot.

A query of the Ministry of Natural Resources Natural Heritage Information Centre did not reveal any significant forest regions or vegetation cover within the study area (Natural Heritage Information Centre, (NHIC) 2005).

3.3.3 Provincially Significant Wetlands

The study area has no wetlands.

3.3.4 Wildlife

Wildlife present in the study area would be typical of urban landscapes. Species typically found in urban areas include: Raccoon (*Procyon lotor*), Eastern Gray and Red Squirrel (*Sciurus carolinensis* and *Tamiasciurus hudsonicus*), and Striped Skunk (*Mephitis mephitis*) and other small mammals, and birds (Dobbyn, 1994). Bird species would be limited to urban species such as House Finch (*Carpodacus mexicanus*), House Sparrow (*Passer domesticus*), Mourning Dove (*Zenaida macroura*), Blue Jay (*Cyanocitta cristata*), European Starling (*Sturnus vulgaris*), Common Grackle (*Quiscalus quiscula*), Baltimore Oriole (*Icterus galbula*) and American Robin (*Turdus migratorius*).

A query of the Ministry of Natural Resources Natural Heritage Information Centre did reveal a number of sensitive species reports throughout the City of Windsor located within a two kilometre grid. None of the records provided any details on the common name of the species, defining it only as sensitive species. For those squares that included our study area it is reasonable to assume it could be associated with a bird species because the area is within the older completely urbanized and densely developed, lacking any significant natural vegetation communities for species within the study area (Natural Heritage Information Centre, (NHIC) 2005).

There are no opportunities for avian breeding, colonial water bird, migratory waterfowl or nesting sites identified within the study area.

3.3.5 Area of Natural and Scientific Interest

There are no Areas of Natural and Scientific Interest (ANSI) located in the study area.

3.4 Cultural Environment

3.4.1 Archaeology/Heritage

The entire study area is urbanized and is a significantly disturbed urbanized area. Construction of the pipeline would be within areas previously subjected to construction activities (e.g., municipal road allowance with sewer and water), hence there is no

expectation that any archaeological or historical resources would be affected by the pipeline construction. Schedule C-1: Development Constraints, Archaeological Potential of the City of Windsor Official Plan (see Appendix A) defines the study area as low potential and the lands in proximity to the Detroit River as high potential.

3.4.2 Socio-economic Structure

The study area falls within the City of Windsor in the County of Essex. Socio-economic activities in the study area include the Ford Motor Company and Daimler Chrysler assembly plants and associated industries. The area is densely urbanized with residential development around the assembly plants (see Photos 3 & 4). Commercial businesses are located on Walker Road and Central Avenue adjacent to the residential areas and vehicle assembly plants providing goods and services to the residents and area businesses.

The Ontario Ministry of Transportation and the Michigan Director of Transportation signed an agreement to improve border safety and keep traffic moving across the Ontario-Michigan border. Under this agreement, Ontario and Michigan will share information through Intelligent Transportation Systems (ITS) technology. ITS monitors traffic, weather, road and border conditions, to allow officials to respond more quickly and provide real-time information on border conditions to help facilitate traffic movement across the international border. Currently the Canadain Pacific Railway maintains a crossing in proximity to the intersection of Walker Road and Grand Marais Road East causes major traffic delays on Walker Road with every train movement. This delay is also enhanced by the implementation of the Vehicle and Cargo Inspection System border screening system that requires border bound trains to move slowly through the area to facilitate screening of their contents.

To alleviate the aforementioned situation the Walker Road/CPR Grade Separation project was established to reconstruct Walker Road under the CPR crossing. The construction zone includes Walker Road from Parkdale Place to St. Julien and Grand Marais Road East to the Daimler Chrysler Truck entrance. The construction start up date is August 2007 and the completion date is late fall of 2008. The closing of Walker Road for the reconstruction will detour traffic onto Chrysler Centre and Grand Marais Road East for approximately 15 months, with Walker Road scheduled to reopen by early 2009. Pipeline construction within the road allowance will temporarily increase the traffic congestion in an area with estimated average annual daily traffic volumes in excess of 13,000 vehicles with peak p.m. volumes of approximately 2300 vehicles per hour.

Concern was raised by Daimler Chrysler that the combination of the aforementioned detour traffic and pipeline construction restricting use of the curb lane on Chrysler Centre could result in adversely impacting “just in time” parts delivery to the plant.

Daimler Chrysler also owns property on the east side of Chrysler Centre and has indicated the lands could potentially be used for plant expansion in the event current assembly plant operations change.

3.4.3 Land Use Planning

The City of Windsor Official Plan, Volume 1: The Primary Plan, November 2006 (OP) states in the Section 7.3.6 Utilities and Other Physical Services Polices that Council shall cooperate with utility providers in the planning, construction and operation of networks for the adequate supply and distribution of physical services. Physical services are defined in the Official Plan as including natural gas facilities

Schedule D: Land Use of the Official Plan defines the lands within the study area as Industrial, Business Park, Residential, Open Space and Waterfront Port (see Appendix A). The land use designations coincide with the existing land use shown on the aerial photograph of the study area shown in Figures 4a and 4b.

The City of Windsor staff indicated support for the use of the municipal road allowance and the municipally owned Ford Test Track Park for the pipeline. City staff requested Union Gas consult with the Engineering and Parks and Recreation staff during detailed engineering along the preferred route regarding construction methods and schedule.

3.4.4 Utilities

Utilities in the study area are limited to natural gas transmission and distribution lines, and Bell and electrical distribution lines that serve the area residents and communities. The study area is serviced by municipal sewer and water.

4.0 ROUTE SELECTION PROCESS

4.1 Pipeline Routing Criteria

The selection of alternative routes begins with the identification of route selection criteria that reflect the nature of the environment within the study area, incorporate any technical routing considerations, and integrate any concerns identified by government agencies or the municipality during data collection. The criteria are used during the route selection to assist in the identification of alternatives that attempt to minimize any potentially adverse affects on the environment and the community.

The Ontario Energy Board (OEB) environmental guidelines require proponents to follow a decision-making process for the identification, evaluation and comparison of alternative routes, and to have regard for environmental, land use, socio-economic, heritage and

pipeline engineering and construction requirements. The integration of these concerns into the site selection process requires expertise in all the aforementioned disciplines. To ensure this combined expertise is incorporated into the decision-making, staff from Azimuth Environmental and Union Gas worked together throughout the route selection process. Union Gas staff provided the expertise on pipeline engineering, construction, operations and maintenance. Azimuth provided expertise on land use, socio-economic and environmental issues.

The routing criteria were developed having regard for the direction provided in the OEB guidelines and input from the aforementioned project disciplines. Figures 4a and 4b is aerial photograph of the study area and the land use types present. The aerial clearly demonstrates the density of urban development and its inherent restriction to route selection. The urban/industrial land use throughout the study area limited route selection to municipally owned lands, road allowances and private industrial properties. The high density of the residential housing in the area represented a significant potential constraint to routing, especially when other options were available that utilized municipal property or non-residential land uses.

No natural environmental features are present in the study area that would affect route selection. The Grand Marais Drain is the only watercourse and cannot be avoided because it crosses the entire width of the study area. The remainder of the natural features is limited to individual landscape trees located within the City of Windsor owned boulevard between the city streets and the residential lots. As a result route selection was directed by the following criteria:

- Attempt to occupy existing utility easements and road allowances to minimize creating new easements on private property;
- Attempt to minimize overall route length to minimize community and residential area disruption;
- Attempt to minimize potential disturbance to landscape trees adjacent to or within the municipal road allowance; and
- Attempt to avoid streets with high traffic volumes and streets dominated by commercial businesses to minimize disturbance during construction.

4.2 Identification Of Alternative Routes

The identification of alternative routes utilized land use data information and the route selection criteria to delineate reasonable routing opportunities within the study area. The size of pipeline proposed, NPS 12 inch, permitted the placement of the pipeline within the road allowance to reduce the possibility of affecting private land and the associated land uses. Consultation with the City of Windsor public works staff confirmed the municipal road network provided the opportunity to place the pipeline totally within the

municipal road allowance with the existing utility infrastructure. This meant the alternative routes could be identified within the road allowances resulting in minimal effect on the adjacent private properties and commercial/industrial lands.

Route identification required connecting to the existing Union Gas pipeline valve site in the Parkwood Industrial Park and the proposed station location at the generation facility. The locations of these endpoints and the alternative routes are shown in Figures 1 and 2.

The focus on existing road allowances was to integrate the pipeline into the existing utility network and avoid directly affecting private property. Routes were selected within road allowances that provided reasonably direct alignments. Due to the homogeneity of the urban streetscape the focus of route selection was to use residential streets that provided the opportunity to access non-residential lands (e.g., Ford Test Track Park, Ford Motor Company) in the most efficient manner. Streets that terminated at railway crossings or industrial lands were avoided because it would require rerouting the pipeline to adjacent residential streets that would result in affecting a greater length of residential development. The Ford Motor Company property is the site of the generating station Union Gas is supplying, and as such Ford has indicated it is a willing host for the pipeline, as the generating facility will help meet the plants electrical and energy needs.

The alternative routes were divided into two sections or sub-routes that represented two different situations with regard to routing options and potential impacts. Milloy Street was selected as the boundary between the two sections. South of Milloy the routing options required the use of the municipal road allowances and potentially affected residential areas and adjacent industrial lands. North of Milloy the routing involved either road allowances within adjacent residential and industrial/commercial development or a route that avoided these areas by using a City of Windsor owned park (Ford Test Track Park) and one large industrial landowner (Ford Motor Company).

The following sections describe the rationale for the selection of the alternatives for the southern and northern sections. Figures 4a and 4b present the street network and land use information used in the selection of alternatives.

Southern Section Alternatives

- Grand Marais Road East is common to all alternatives as it provides the east-west connection to all north-south streets.
- Chrysler Centre provided the option to minimize the use of residential streets and utilize a predominately industrial area for the majority of its length. A designated curb lane parking area could be used for construction without affecting traffic flow. (see Photo 5)
- Meldrum Road (see Photo 6) and Chandler Road (see Photo 7) provided a direct route to the Ford Test Track Park. Both are residential areas, the only significant difference

is Meldrum lacks a landscaped boulevard and sidewalk between the street and the residential lots from Grand Marais Road to Tecumseh Road.

- Alexis and Meighen Roads were not considered because neither provided a significant benefit over Chandler, which provided the most direct route through the residential area.
- Central Avenue was predominately commercial businesses and higher traffic volumes than the residential streets. Construction along Central would have had a greater impact on traffic flow and access/egress from the adjacent businesses. Central Avenue is the detour route during the Walker Road/CPR Grade Separation construction project scheduled to start in August 2007 that will require a 15-month road closure of Walker Road within the study area.

Northern Section Alternatives

- St. Luke Road has industrial land use on the west side and residential on the east (see Photo 8). Use of the west side of the road would avoid potential impact on more mature landscape trees in the boulevard adjacent to the residences.
- Henry Ford Centre Drive is a residential street used only by the residents, as it lacks commercial businesses and does not function as a continuous north-south route through the community. This would minimize traffic impacts on the surrounding community and construction activity effects on traffic flow.
- The Ford Motor Company lands provide the opportunity to avoid adjacent residential areas and place the pipeline on industrial land for a significant portion of the route (see Photo 9).
- Drouillard Road connects with Chrysler Centre forming a continuous north-south road through the study area. It has residential and commercial land uses along its length and lacks a wide landscaped boulevard that can be used for pipeline construction. Use of a Drouillard Road/Chrysler Centre alternative through the entire study area would have a greater disruption to the community and therefore was eliminated from consideration as an alternative.
- Albert and Hickory Roads both end at a local park/railway/industrial land use and as such did not provide a continuous north-south alignment. Both streets are residential and provided no significant routing advantages compared to Henry Ford Centre Drive and St. Luke Road.
- Edna and Trenton Streets were selected as the east-west route to access the Ford lands because it minimized the disruption to residential areas on the other cross streets such as Whelpton and Richmond Streets, and optimized the use of St. Luke with its industrial land uses.

4.3 Identification of Potential Environmental Effects and Mitigation Measures

The alternative routes affect urbanized road allowances, a public park and private industrial land. The road allowances include the streets and the landscaped boulevards

and sidewalks (see Photos 3 & 4). This condition is homogeneous throughout the study area.

The public park is the Ford Test Track Park owned by the City of Windsor. The park is a recreational facility with soccer pitches, baseball fields and a walking/jogging track. The park is primarily a public sports park and as a result has no significant numbers of trees.

4.3.1 Potential Environmental Effects

There are no potentially significant impacts on the natural environment with the use of road allowances in the urban area. The streets are paved with curb and gutter and the associated boulevard is mowed grass with landscape trees and a concrete sidewalk. The Ford Test Track Park is mowed grass. The only environmental feature is the Grand Marais Drain which functions as a municipal drain for the City of Windsor and is in a degraded condition due to the associated urban impacts. The industrial lands are either mowed grass or asphalt/gravel access or parking areas.

None of the alternative routes would require the removal of any buildings. All effects on urban residences are indirect because the route location is within the City owned municipal road allowance/boulevard, limiting potential impacts to affecting the landscaping (e.g. trees, lawns) within the boulevard. Nuisance impacts (e.g., dust, noise, traffic) during construction are limited due to the fact equipment will work completely within the municipal property boundary.

The majority of the pipeline will be installed using horizontal directional drilling (HDD) to minimize disruption to adjacent land use and traffic movement. Entry and exit excavations will be required for the HDD approximately every 150-200 metres. The excavations will be approximately 5m wide by 10m long located on the boulevard and street edge to minimize disruption to traffic. The location of the excavations will be selected to minimize disturbance to landscape trees within the boulevards. These work areas will be restored to preconstruction condition following completion of the pipeline installation.

Potential impacts on the Grand Marais Drain will be minimal as the proposed method of crossing will be directional drilling. The method of crossing will be finalized based on site conditions, concerns of the property owner(s) and the ability to minimize the duration and degree of disturbance. Alternative crossing methods (e.g., dam and pump) used by Union Gas along with the associated sediment control and restoration measures have all been reviewed and approved by the Ministry of Natural Resources, Department of Fisheries and Oceans and conservation authorities as acceptable construction methods (see Appendix D). The crossing will be done in accordance with applicable legislation, guidelines and permitting and follow sediment control plans approved by the

aforementioned approval agencies. Sediment and erosion control measures will be established during the permitting process with the appropriate approval agency. Adhering to the MNR/DFO/conservation authority endorsed watercourse crossing techniques will minimize potential environmental impacts to watercourses crossed by the preferred route. Following construction of the pipeline the watercourse would be rehabilitated to the pre-construction condition and the disturbed banks stabilized.

4.3.2 Possible Mitigation/Restoration Measures

In order to define the extent of the potential environmental impacts, the possible mitigation and restoration measures must be identified to determine the net environmental effects.

Mitigation and restoration measures will be completed in accordance with established procedures as outlined in the Ontario Energy Board, *Environmental Guidelines For Locating, Constructing and Operating Hydrocarbon Pipelines in Ontario, 2003, Fifth Edition*. Union Gas has developed an Environmental Management Manual that generally outlines the mitigation and restoration measures that can be applied to pipeline construction. This information was used to help define the possible mitigation measures that could be applied to minimize the potential impacts. Union Gas construction procedures detailing the standard methods of construction for clearing, watercourse crossings, topsoil conservation, grading, trenching, and cleanup can be found in Union's Environmental Manual that is appended. These procedures will be adhered to during construction unless modified in specific conditions to minimize any environmental impacts, in consultation with the environmental inspector and notification of the property owner. In the case of the watercourse crossing, consultation would be with the local conservation authority.

The following summarizes information from Union's construction practices and regulatory agencies regarding general mitigation/restoration measures that are applicable to this study area.

Backfilling

Backfill material shall be of good quality and approved by Union Gas. Highways, roads and driveways shall be backfilled to design specifications. Topsoil shall be returned to landscaped areas from which it was removed in a satisfactory condition.

Landscape Trees

Disturbance to the landscape trees within the municipal boulevard shall be minimized during construction. All root pruning, cutting and removal of trees, if required, shall be carried out in accordance with company specifications and good arboricultural practices. Specimen trees along the municipal boulevard shall be flagged and protected. The

number of trees removed shall be kept to a minimum. Access pits for the horizontal directional drilling operations will be selected to avoid impacting mature trees.

Archaeological Sites

Measures will be taken immediately to protect sites where unforeseen archaeological or pale-ontological sites are excavated. Areas of archaeological significance are limited to areas in proximity to the Detroit River shoreline in the study area, based on information in the City of Windsor Official Plan (appended). The Ford Motor Company lands that contain their existing power plant have been designated high potential between Wyandotte St. East and the Detroit River. If artifacts are found during construction the contractor shall cease activities at which time the Ministry of Culture will be informed and a licensed archaeologist will be retained to assess the site in accordance with the applicable regulations and guidelines.

Urban Development Areas

Disturbance to residents and industrial/commercial/institutional land uses during construction shall be minimized. Construction equipment will be properly muffled and dust will be controlled as required using water. Standard traffic guidelines will be followed at road crossing locations and along urban streets.

The pipeline would be placed under the boulevard on municipal streets to avoid existing buried services. Within industrial/commercial/institutional land uses the property owner will be consulted regarding buried services, existing facilities and potential conflicts with future uses of the property. Union will directionally drill as much of the pipeline as possible. Directional drill access excavations will be located every 150-200 metres and will be approximately 5 metres wide and 10 metres long, within the interface between the boulevard and the street. The location of the directional drill access excavations will be selected to minimize disruption to mature trees and driveways. Union Gas construction staff will be on site to liaise with residents and ensure all safety procedures are adhered to. The pipeline will be constructed in compliance with provincial safety requirements for pipeline construction in urban areas. The construction area will be restored to its preconstruction condition upon completion of pipeline installation.

4.4 Evaluation Of Alternative Routes

An evaluation and comparison of the alternative routes was undertaken to determine the preferred route having regard for features affected, public and agency concerns, and the technical and engineering requirements for pipeline construction. To ensure the traceability of the decision-making process in comparing alternative routes, evaluation factors or considerations were used consistently throughout the planning process.

The alternative routes use the municipal road allowance and industrial lands for their entire length. The use of the road allowance provides the opportunity to use areas within existing buried utilities with minimal to no affect on the adjacent land uses. The homogeneity of the road allowance (e.g., paved street, sidewalk, grassed boulevard) provides limited land use or environmental diversity upon which to evaluate the alternative routes.

The alternative routes were divided into two sections or sub routes that represented two different situations with regard to routing options and potential impacts. Milloy Street was selected as the boundary between the two sections. South of Milloy the routing options required the use of the municipal road allowances and potentially affected residential areas and adjacent industrial lands. North of Milloy the routing involved either road allowances with adjacent residential or residential/commercial development or a route that avoided residential areas by using a City of Windsor owned park and one large industrial landowner (Ford Motor Company).

Concerns raised by the municipality and government ministries during data collection and route selection were integrated into route evaluation. A preliminary preferred route alignment was presented at a public open house for their comments. Letters received from the municipality and government agencies are appended and the comments are summarized in Table 1.

The ability to mitigate impacts through the application of established Union Gas construction and maintenance procedures affects route selection. Impacting a sensitive resource or significant public concern is a less significant issue if mitigation measures are readily available to return the affected area to its pre-construction condition. Therefore, the ability to mitigate impacts assists in assessing the post-construction impacts and the inherent significance of the impact in the route evaluation.

No weighting or ranking was assigned to the route evaluation factors described above. Decisions were based on the quantitative comparisons, the quality or sensitivity of the affected resource, public and agency comments, the potential impacts and the ability to mitigate and minimize the environmental impacts.

The urbanized study area does not have a complexity of environmental or land use concerns that affect the alternative routes. No natural heritage features (e.g. woodlot, natural watercourses) will be impacted by the alternatives. The one watercourse/ municipal drain crossing occurs within an industrial area where the drain is degraded due to urban runoff.

The evaluation and comparison of the alternatives is presented in Table 2 based on their compliance with the route selection criteria.

5.0 SELECTION OF THE PREFERRED ROUTE

Selection of the preferred route was done based on the findings from the evaluation and comparison of the alternative routes and public/agency consultation. Prior to the notification of the public open house, Azimuth evaluated the alternatives and selected a preliminary preferred route based on the agency comments received at that time. It was decided that a preliminary preferred route would be presented at the public open house rather than only alternative routes. Because a notification was sent to every property owner along the alternatives it was felt defining the preliminary preferred route prior to the public open house would provide the potentially affected pubic with a convenient venue for discussing the preferred route and their concerns. Another factor in the decision to present a preliminary preferred route at the public open house was the homogenous nature of the study area and the similarity of the potential impacts regardless of the route selected. If the preferred route did change based on public comment the potential impacts presented at the public open house would be comparable to all alternatives.

The preliminary preferred route and the alternative routes presented at the public open house are shown in Figure 3. The route went north to Grand Marais Road East and continued north on Chrysler Centre to Milloy Street, east on Milloy to the Ford Test Track Park where it would be placed along the west edge of the park to Seminole Street, then west to the west side of the Ford Motor Company property where it would turn north through the Ford property to access the East Windsor Cogeneration Centre electricity generation facility. All sections of the proposed pipeline running through residential areas would be located within the municipal road allowance. Other sections would be located within easement on the affected industrial lands.

Subsequent to the public notification of the open house we were contacted by Daimler Chrysler to discuss their concerns regarding the use of Chrysler Centre. Daimler Chrysler owns land on the east side of Chrysler Center primarily used for parking and temporary offices. They indicated that expansion of the existing plant is already constrained with the surrounding urban development, and the most reasonable opportunity for physical expansion of the plant is to acquire Chrysler Centre from the City of Windsor and utilize it in conjunction with their parking area for plant expansion. If this expansion occurred, the proposed Union Gas pipeline would have to be removed, as it would not be permitted within the plant. Chrysler Centre was originally selected as part of the preliminary preferred because it provided an opportunity to avoid residential areas between Grand Marais Road East and Tecumseh Road.

The City of Windsor was contacted regarding the potential sale of Chrysler Centre to Daimler Chrysler and the City indicated they would “seriously consider” the proposal.

Daimler Chrysler is a major employer and economic force in the City and any expansion of the plant would be a significant economic benefit to the City. It is reasonable to assume City Council and staff would not support the placement of a gas pipeline within Chrysler Centre if it would adversely impact potential expansion of the plant when other viable alternatives are available. In our opinion the potential economic benefits of plant expansion to Daimler Chrysler and the community would outweigh the short-term disruption to an adjacent residential street during construction. In addition, consultation with the City of Windsor had not identified any constraints to the use of other municipal road allowances to the east of the plant (e.g., Chandler Road) that could not be managed through the application of standard construction procedures.

Following the public open house the preliminary preferred route was reassessed based on the comments received from the public on the use of residential municipal road allowances. Firstly, only five landowners along the alternative routes attended the public open house and a total of 24 people attended. This level of response following notification of all the directly and indirectly affected landowners along the alternatives indicated there was not a significant public concern regarding construction of the pipeline within a municipal road allowance. Secondly, the comment form responses (see Appendix B) did not identify public concerns related to routing that could not be fully addressed through standard construction practices. Therefore, the decision was made that there was no significant reason to complicate any future expansion of the Daimler Chrysler assembly plant with the construction of a gas pipeline within the Chrysler Centre municipal road allowance. The southern section of the preferred route was changed to use Chandler Road to access Milloy Street. The residents of Chandler Road were informed of this change by hand-delivering over 200 letters to every household. To date we have received only seven responses from over 200 letters. Concerns will be alleviated prior to or during construction.

Based on the aforementioned comparison the preferred route selected by Azimuth in consultation with the Project Team would go north to Grand Marais Road East, east along Grand Marais to Chandler Road, north on Chandler to Milloy Street, east on Milloy to the Ford Test Track Park where it would be placed along the western edge of the park until Seminole Street, then west to the west side of the Ford Motor Company property where it would turn north through the Ford property to access the East Windsor Cogeneration Centre electricity generation facility. All sections of the proposed pipeline running through residential areas would be located within the municipal road allowance. Other sections would be located within easement on the affected Ford Test Track Park and Ford Motor Company industrial lands. This route was selected as the preferred route (see Figure 4) for the following reasons:

- Uses municipal road allowances with sufficient space to accommodate the pipeline without interference with existing municipal services and infrastructure.

- Minimizes disturbance to residential areas through use of Ford Motor Company and City-owned parkland.
- The City of Windsor and the Ford Motor Company, which are directly affected landowners, are in agreement with the preferred route alignment. Information has been exchanged with directly affected Lafarge and Hydro One, and discussions will continue. The proposed locations will not adversely impact the continued use of any of the directly affected properties.
- Shortest route from the tap to station with limited potential for increased costs or engineering concerns.
- Mitigation measures/construction procedures (e.g. direction drilling, post-construction restoration) are readily available to address concerns of adjacent residences.

6.0 PUBLIC/AGENCY CONSULTATION

The public consultation program for this project involved provincial and municipal government consultation and contact with indirectly affected property owners. Letters were sent to the affected municipalities and the provincial ministries notifying them of the study and requesting their input and applicable land use and environmental information. Letters were sent to solicit their input on the alternative routes. None of the agencies contacted indicated opposition to the alternative routes or preferred route. With the use of the municipal road allowances the adjacent private property owners were not affected, however letters were still sent to all landowners adjacent to the alternative routes and preferred route, informing them of the study and inviting them to the public open house and after the public open house informing them of the changes to the preliminary preferred route.

Azimuth contacted Indian and Northern Affairs Canada to obtain their input on potential First Nations issues within the City of Windsor. Their response put the onus on the proponent to determine the appropriate consultation with potentially affected First Nations (letter appended). Azimuth and Union Gas staff responsible for First Nations consultation agreed that contact with First Nations would not be required because the study area was located in an older portion of the City of Windsor that historically had been fully developed for many years and the study did not affect the Detroit River shoreline outside the historically industrial lands.

Public and government consultation for this project included the following:

- Announcing study and requesting that Provincial ministries and municipal government, identify their concerns, provide applicable land use and environmental information and their comments on the alternatives routes;
- Liaison with aforementioned contacts, as required to identify potential constraints and opportunities for route selection;
- Letter to all provincial ministries and municipal governments soliciting their comments on the preliminary preferred route, with an invitation to the public open house on May 23, 2007;
- Letter to all directly and indirectly affected property owners informing them of the public open house and information contacts, approximately 5,500 letters;
- May 23, 2007, a public open house was held in the centre of the study area at a local church hall, attended by five property owners adjacent to the preferred route and 19 interested citizens/government representatives/indirectly affected property owners or their representatives, to discuss the route selection process, the alternative routes and the rationale for the preliminary preferred route and address adjacent property owners concerns; and
- Following changes to the preliminary preferred route, moving the route from Chrysler Centre to Chandler Road, letters were hand delivered to the residents of Chandler Road informing them of the rationale for the change and contacts should they wish to discuss their concerns.

Copies of the public consultation materials and a summary of the public open house results are provided in the Public Consultation appendices.

Twenty-four members of the public attended the public open house (POH). It was held at the Most Precious Blood Church on Meldrum Road from 6:00 – 9:00p.m. on May 23, 2007. The public notice was placed in the Windsor Star on May 16, 2007 (copy appended). This newspaper was selected to advertise the POH because it is used by the City of Windsor to announce all public notices or planning related matters. A newsletter was provided as a handout to all members of the public attending the POH. In addition, a comment form was provided to solicit written comments on the study process and the preliminary preferred route. Copies of these handouts are appended. The public at the POH completed 10 comment forms. No letters or comment forms were submitted after the POH.

Azimuth Environmental staff were present to discuss the route selection process and the preliminary preferred route. Union Gas staff were present to discuss construction practices, land acquisition/easement/ compensations issues for the pipeline.

Discussions with the adjacent property owners during the POH identified a preference to use Chrysler Centre rather than constructing the pipeline within the residential area. Residents felt the expansion of the Daimler Chrysler plant was unlikely due to the historic reduction in employee numbers they have observed as long time residents of Windsor. Other concerns primarily related to the placement of a pipeline within a residential area and public safety. Attendees at the POH had members of the Project Team explain how the preferred route was selected, project schedule, pipeline engineering and construction issues.

Table1 presents the comments received from the ministry/municipal contacts and the actions taken and comments in response to concerns. The concerns are also addressed in the impact assessment for the preferred route.

7.0 PIPELINE CONSTRUCTION, OPERATIONS AND MAINTENANCE

The following section provides a brief description of the construction, maintenance and operation activities for a natural gas pipeline. An overview of Union Gas' environmental management practices is described in the appended Environmental Management Manual.

7.1 Construction Procedures

The following is a stepwise procedure that is generally followed by Union Gas during construction of a natural gas pipeline.

It is anticipated that construction of the pipeline will be divided between specialized crews; each crew performing similar functions at different locations along the pipeline. Company Inspectors will ensure each crew follows the Company's construction specifications.

The majority of the pipeline will be installed using the horizontal directional drilling (HDD) technique. HDD is a trenchless construction method that will be used to bore beneath the city owned property to install the pipeline with minimal disturbance to the residential areas. HDD requires excavation only at the entry and exit point for the drill. The estimated size of the excavation for the proposed 12 inch pipe will be 5m wide by 10m long with an excavation approximately every 150-200m. The location of the entry/exit excavations will be selected based on the existing buried utilities, the location of mature landscape trees within the boulevard, adjacent driveway locations and cross streets. The excavation will be placed partially within the boulevard and the street to minimize interference to local traffic and to permit placement of the pipeline under the boulevard as requested by the City of Windsor.

Upon excavation of the access and exit locations the HDD rig drills a pilot hole along a predetermined alignment. The drill location is monitored using a hand held instrument at the surface that can monitor the drill bit location and depth beneath the surface to ensure the drill follows the predetermined vertical and horizontal. A clay based drilling fluid is injected under pressure ahead of the drill bit to lubricate the drill, transport the soil cut by the drill back along the drill pipe to surface, cool the bit by reducing friction between the drill and the bore wall and stabilize the bore hole as the bit drills the pilot hole. Upon reaching the exit excavation the drill bit is removed and replaced with a back reamer that is pulled back through the drill hole to enlarge it to the required size. As the back reamer is pulled back toward the drill rig, drill pipe is attached to the reamer to assist in moving the reamer back and forth through the drill hole. When the reamer enlarges the hole to the required size a swivel is attached to the reamer at the exit side of the excavation and the reamer is pulled back toward the drill rig pulling the pipeline through the drill hole.

In preparation for pulling the pipeline through the drill hole, pipe is laid on wooden skids along the alignment of the drill hole by the stringing crew. Next, the pipe is welded into one continuous length and the welded joints are all radiographically inspected as per code and then covered at the welded joints with a corrosion and abrasion resistant coating. The welded pipeline or pipe string is pulled over rollers into the exit hole and through the borehole until it exits the entry location. The external coating of the pipeline is inspected for any indication of damage from the subsurface materials along the borehole wall during the pulling operation. Upon confirmation that the pipeline protection coating is intact the drill rig is moved and set up to bore the next section of pipeline. The ends of the pipeline within the exit point excavation are welded together and inspected and tested prior to backfilling and restoring the excavation.

The general construction specifications require the contractor to erect safety barricades, fences, signs or flashers or to use flag persons around any excavation, across or along a road allowance that will be left overnight or for an extended period of time.

The clean-up crew is the final crew on the property. The clean-up crew will also repair any damage to driveways, pickup debris, replace sod in landscaped areas and plant any replacement trees that may be required.

Union Gas will provide its own inspection staff to enforce Union's construction specifications and the applicable provincial regulations made under the Energy Act for Gas Pipeline Systems.

7.2 Operation and Maintenance

Pipeline operation consists of gas flowing through the pipeline between the existing tap location and the future valve site at the proposed generating station. Gas flow is controlled by regulating equipment located at the tap location.

Once the pipeline has been put into service, the following activities are undertaken to patrol and maintain the pipeline:

- Union Operations personnel on a regular basis conduct an inspection of the entire pipeline. These patrols serve to detect the presence or absence of structures or activities which could damage the pipeline;
- A review of erosion-prone sites along the pipeline; and
- Review of operating conditions of pipeline facilities such as valve sites.

7.3 Potential Impacts/Mitigation

Impacts are generally limited to the construction activities and the associated physical disturbance of the easement soils and landscape vegetation. The use of the HDD technology will minimize the extent of the disturbance to access excavations every 150-200 metres over the approximately 5km of route. Once the pipeline construction is complete, the boulevards will be restored to preconstruction condition and replacement tree planting (if required) will be undertaken. Union Gas has established mitigation and restoration practices that can effectively minimize impacts. These practices are generally described in the Environmental Management Manual that describes the Union Gas construction procedures on road allowances and at watercourse crossings (copy appended).

8.0 IMPACT MANAGEMENT ALONG THE PREFERRED ROUTE

This section of the report identifies the environmental and land use features affected along the preferred route, assesses the potential impacts, and recommends mitigation measures to manage the impact. The effectiveness of the mitigation measures is predicted based on the sensitivity of the environment affected and the nature of the proposed mitigation in the Union Gas construction specifications. This information will enable a reasonable prediction of the expected impact on the features along the preferred route.

Environmental features along the preferred route are limited to primarily the landscaped/maintained boulevard between the adjacent residences and the street. Construction will occur within the City-owned property within the residential areas. The location of the crossing through the Ford Motor Company industrial land was defined in consultation with Ford representatives. The preferred route was mapped on 2006 aerial photography at a scale of 1:3,000 and is shown in Figures 4a and 4b. This scale of aerial

photography was used to clearly show the urban characteristics of the study area and the affected area along the preferred route.

8.1 Preferred Route Refinement

Upon selection of the preferred route it was reviewed with City of Windsor staff to determine where in the municipal road allowances and the Ford Test Track Park the pipeline should be placed to avoid conflict with existing buried facilities. The location within the Ford Motor Company lands was established in consultation with Ford representatives. Along the preferred route it can be expected there will be minor refinements to the route location during the detailed engineering based on the following factors:

- Location of existing sewer and water mains;
- Location of existing residential natural gas pipelines;
- Location of buried services and land use within the Ford Motor Company lands;
- Use of the edge of the park to avoid disturbance to facilities and users of the park; and
- Preference of directly affected property owners and their future plans for the affected lands.

8.2 Physical Environment

8.2.1 Physiography and Topography

The access excavations and HDD boreholes will occur within the overburden. The overburden is expected to be a combination of aggregate material used for municipal road construction and/or industrial facilities and the native clay overburden. Use of the HDD method of construction will place the pipeline within the urban landscape without any alteration to the existing topography.

8.2.2 Soils

Soils within the urban area are expected to be a combination of the native clay soils and aggregate materials used for construction of roads and industrial facilities. The urban nature of the landscape, flat topography and the HDD construction method will require minimal erosion controls. Union Gas' standard erosion and sedimentation controls would be applied based on the specific requirements of the site. These procedures have been reviewed and endorsed by the Ministry of Natural Resources, Federal Department of Fisheries and Oceans, conservation authorities and approved by the Ontario Energy Board on past projects.

8.2.3 Ground Water

The study area is municipally serviced. No potable water wells are located along the preferred route. Construction of the pipeline is not anticipated to have any effect on the ground water regime in the area.

8.2.4 Watercourses

The preferred route crosses one watercourse, the Grand Marais Drain which is a tributary of Turkey Creek. HDD technology is proposed to construct the pipeline beneath the watercourse with no physical disturbance to the drain or the riparian vegetation. No special mitigation measures are warranted based on the drain conditions observed during the field study. Prior to construction, Union Gas will contact the OMNR and/or the Essex Region Conservation Authority (ERCA) to obtain their comments on the proposed watercourse crossing method, timing issues and proposed sediment and erosion control methods for the watercourse crossing. A permit will be required from ERCA under *Ontario Regulation 158/06, Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*. This regulation requires a permit for all watercourse crossings and construction within a floodplain.

If an open cut crossing is required, the application of the Ontario Ministry of Natural Resources (OMNR) Generic Sediment Control Plans for dam and pump crossings will mitigate any potential impacts associated with crossing the watercourse. If open trench construction is used for the drain crossing, the trench should be backfilled with suitable material and capped with native material or equivalent to enhance the watercourse conditions.

To minimize the potential for hydrocarbon contamination of the watercourse, all refueling of equipment should be done at least 50m from the watercourse.

8.2.5 Contaminated Soils

During the public and agency consultation program there was no indication of potential contamination issues along the preferred route. If construction forces identify any contaminated soils (e.g., petroleum products) that can be detected through visual evidence or odors, we recommend the MOE be notified and that action be taken in accordance with applicable MOE regulations.

Union Gas requires pipeline contractors to obtain a Generator Registration Number and are responsible for the manifesting of any waste materials. Any contaminated soils found during construction would be managed in accordance with the Environmental Protection Act and Regulation 347. The local MOE office will be notified if any contamination is found, and consulted on the appropriate measures to be undertaken. Spills of materials

that could potentially result in an environmental impact will be reported to the MOE Spills Action Centre and clean-up and disposal will take place in accordance with MOE requirements.

8.3 Biological Environment

8.3.1 Fisheries

The Grand Marais Drain along the preferred route does not have any sensitive or designated significant fisheries, based on information provided by the ERCA.

The drain is capable of providing warm water fish habitat and as such is protected from any harmful alteration by the Federal *Fisheries Act* (Fisheries and Oceans, 1989). Therefore, implementation of the OMNR generic sediment control plans (see Appendix D) and application of watercourse crossing techniques, such as directional drilling, should be followed to ensure no harmful alteration or destruction of fish habitat occurs. Permits will be obtained from the ERCA for the watercourse crossing.

8.3.2 Vegetation

Construction will occur within the municipal road allowance/boulevard and private industrial land. The affected vegetation will be limited to maintained lawns and landscape trees planted within the boulevard. None of the tree species have been documented as being vulnerable/threatened/ endangered (VTE) in Essex County.

8.3.3 Wildlife Habitat

Wildlife habitat in the study area is limited to small mammals and birds that may inhabit urban residential areas. No potentially significant wildlife habitat (e.g., woodlands) is present in the study area. Construction of the pipeline will not change the urban habitat conditions along the preferred route.

MNR records do indicate sensitive species have been identified in the City of Windsor, but the species names are not defined. As the study area is located within an older completely urbanized area of the City it is reasonable to expect these species are either migratory birds or Carolinean species at their north range that are adaptable to urban environments.

8.4 Social Impact Management

The preferred route does not conflict with the Official Plan of the City of Windsor. Utilities are permitted throughout the study area.

Discussions with the adjacent property owners during the public open house did not result in the identification of any social impacts that could not be mitigated through application of Union's specifications for pipeline construction. It should be noted all adjacent property owners or their representatives were contacted prior to or during the public open house to discuss their concerns and the majority had limited opposition. Union will liaise with concerned property owners and adjacent residents to address their concerns identified during the public consultation related to traffic congestion, public safety during construction and pipeline engineering within urban areas.

The route optimizes municipally owned road allowances and private industrial land for its entire length, minimizing impacts of private residential property. Placement of the pipeline within the road allowance will not adversely impact any adjacent private property. The social impact on the community will be limited to potential short-term inconvenience from traffic disruption during construction and construction in front of the residences.

Discussions with City public works staff confirmed that the pipeline can be accommodated within the road allowance without any adverse effect on future road improvements or construction, or buried utilities.

8.5 Archaeology and Heritage Resources

The preferred route is located within lands that have had the shallow overburden disturbed from construction activities. The City of Windsor Official Plan defines the majority of the area as having low potential for archaeological resources. The only high potential areas are associated with the Ford Motor Company lands that are to be utilized for the station at the generating station site. Prior to construction Union Gas will consult with the generation station proponents to determine the status of their archaeological assessment of the site in accordance with the Ministry of Culture requirements.

8.6 Land Use

The Official Plan of the City of Windsor indicates that utilities are a permitted land use along the preferred route. Placing the pipeline in municipal road allowance has been endorsed by the City staff that are responsible for public works.

There is no expectation that landscape trees within the boulevard adjacent to residences will require removal. Every effort will be made to avoid mature landscape trees within the boulevard through careful selection of the access excavations for directional drilling and by drilling beneath the root systems to avoid disturbance.

The recommended route does not conflict with any current provincial policy regarding land use planning. Construction and operation of the pipeline will not adversely impact

any environmental or land use features protected under the existing provincial planning policies.

8.7 Hydrostatic Testing

Municipal water supplies will be used for the hydrostatic testing of the pipeline integrity. Water will be discharged to the municipal storm water management system. Compliance with the Union Specification for typical Hydrostatic Test Water Discharge will provide adequate erosion and sedimentation controls.

9.0 MONITORING

Discussions with the regulatory agencies and the adjacent property owners during the project did not identify any specific concerns for which post-construction monitoring was requested.

It is our recommendation that a Union Gas representative be assigned to this project throughout the duration of the construction to ensure the construction staff are aware of the adjacent property owner concerns and take the appropriate measures to address their concerns. Their responsibilities will be to ensure the recommendations of this report and commitments to property owners regarding mitigative and restoration measures are carried out and comply with the Union Gas specifications for construction.

Any wastes that accumulate on the construction site must be property disposed of in accordance with the Environmental Protection Act requirements. All recyclable materials should be recycled, where possible. Hazardous wastes must be transported by a licensed waste hauler to a registered disposal site. Temporary on-site storage of hazardous material should be done in secure containers in designated locations. Measures should be in place to contain and cleanup potential spills on-site and in a timely fashion.

Construction equipment should be in good working condition and have the appropriate mufflers to ensure compliance with the MOE sound level guidelines defined in the Model Municipal Noise By-Law. In special circumstances (e.g. hydrostatic testing, road crossings) construction hours may be extended to shorten the duration of the disturbance.

10.0 CUMULATIVE IMPACT ASSESSMENT

The OEB Guidelines, Section 4.3.13, Cumulative Effects, Introduction, state:

> "Environmental effects can interact and combine with each other over time and space. This combination and interaction of effects is referred to as cumulative

effects. In many situations, individual projects produce impacts that are insignificant. However, when these are combined with the impacts of other existing or approved projects, they may become important. Such cumulative effects may include both biophysical and socio-economic effects, and should be identified and discussed in the ER as an integral part of the environmental assessment.

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."

Based on the above direction from the OEB Guidelines a cumulative impact assessment was undertaken on the preferred route having regard for the potential impacts discussed in the previous sections. Through the use of road allowances the preferred route does not affect any environmental sensitive features within the urban landscape.

Since municipal road allowances are regularly disturbed for road maintenance or the installation of utilities it does not represent a significant or sensitive ecological feature. However, an assessment of the potential cumulative effect of the existing and future land uses was done on the road allowance to ensure that the preferred route would not adversely impact future land use of the road allowance. The assessment is presented in Table 3.

10.1 Potential Cumulative Impacts

The potential impacts associated with the preferred route are related to the placement of a pipeline within the road allowance, use of road allowance for construction of the pipeline and post construction activities or limitations to land use within the easement for maintenance and to ensure the integrity of the pipeline. The assessment of cumulative impacts will be assessed with regard to each of these activities.

Easement

The portion of the route through the Ford Test Track Park, the Ford Motor Company, Hydro One and Lafarge will be on easement. The route through the park will be reviewed and approved by both City public works staff and staff responsible for the park operation. The route location along the westerly property boundary of the park was

selected in order to avoid disruption to park users. Actively used areas of the park, such as the track, ball fields, soccer pitches, are all contained within the track. Construction will occur between the track and the property boundary, thereby avoiding disruption to the users.

Ford Motor Company defined their preferred route location on their property in consultation with Union Gas. Union Gas engineers will liaise with Ford representatives during the detailed engineering to identify buried services and any actions required to avoid potential impacts on plant operations during construction. Union Gas staff will work with representatives of Hydro One and Lafarge to minimize the construction impacts on their properties.

Road Allowance

Use of the road allowance for utilities does not require an easement agreement. Prior to construction the City of Windsor will be contacted to confirm their preferred location for the pipeline within the road allowance to minimize future conflict with road maintenance, buried services and municipal sewer and water. Urban road allowances are designed to accommodate both the roads and utilities (e.g., municipal services, Bell, hydro lines, gas lines). Under the engineering requirements for gas pipeline placement within road allowance, Union Gas requires only a 30cm separation from other utilities. This separation distance provides the required protection for the pipeline and does not restrict continued use of the road allowance for future utilities.

Utility construction in the road allowance only requires the disturbed area be restored to the pre-construction condition (i.e. grass cover, asphalt road, concrete curb and gutter).

During construction vehicles, and equipment will be present within the affected residential streets. Traffic flow will not be restricted but short-term delays may occur when moving equipment. Short-term traffic flow restriction is not a cumulative effect because there is no residual increase in traffic volume after construction. A cumulative traffic impact would require an increase in average annual daily traffic post-construction from previous utility installations and an additional increase from the proposed pipeline post-construction.

Discussions with City staff and the Ministry of Transportation determined the proposed Walker Road/CPR Separation project improvements will detour all traffic off Walker Road to Chrysler Centre and Grand Marais Road East. The detour plan is provided in Appendix B. The portion of the detour along Grand Marais has the potential for pipeline construction within the road allowance to conflict with traffic flow. The preferred route will affect approximately 250m of Grand Marais between Chrysler Centre and Central Avenue. Union Gas is planning to directionally drill under Grand Marais with the entry and exit locations outside the travelled road to avoid any interruption to traffic flow.

Hence there is no expectation that pipeline construction will have a discernable effect on traffic congestion within the detour area. Use of Chandler Rd. does not conflict with any of the proposed detours during the Walker Road/CPR Separation project, further minimizing potential impacts on the community during construction.

Within the road allowance the specific location for the pipeline would be reviewed and approved by the City of Windsor staff. The location of the pipeline and the invert of the pipe would have regard for the existing and future uses of the road allowance for buried services and road maintenance. Restoration of the road allowance will return it to its pre-construction condition.

Current/Planned Projects

Construction of the pipeline to provide the natural gas supply to the East Windsor Cogeneration Centre electricity generation facility will have a positive effect on the local community. The project will benefit local industry through an improved electrical supply and the opportunity to use waste heat from the station for their other energy needs.

The simultaneous occurrence of construction projects within an area can result in an additive or cumulative impact on the community. The Walker Road/CPR Grade Separation project and the associated road closures will be occurring over the duration of the pipeline construction. The City of Windsor detour plans, as discussed above, will place traffic onto Grand Marais Road East during construction of the pipeline potentially increasing traffic congestion through the area. Union Gas is planning not to require any lane closures during construction along Grand Marais eliminating a potential cumulative impact on traffic from the two construction projects.

Discussions with municipal staff and government agencies in the study area did not identify any other planned projects (e.g. road improvements, utility construction) that would occur within proximity to the preferred route or within the same timeframe that would result in a potentially adverse cumulative impact on the community.

Pipeline Installation

Pipeline construction requires the excavation of access pits for the HDD and restoration of the work area following the installation of the pipeline. Restoration within the road allowance will be limited to reestablishment of grass cover and repair to the asphalt and curb and gutter.

Post-Construction Monitoring

Monitoring is undertaken to determine the effectiveness of mitigation/restoration techniques. This information will also be used to help assess cumulative impacts on future projects.

Summary
Based on the information presented, there are no significant cumulative effects anticipated from the construction of the proposed pipeline.

11.0 CONCLUSION

Based on consultation with the directly and indirectly affected or adjacent property owners, government agencies and the affected municipality, it is clear that the preferred route is acceptable and represents a minimal impact on the environment, land use and the community.

The preferred route location will not adversely affect the adjacent land use and has no adverse socio-economic effects on the community. City of Windsor staff support the construction of the pipeline within the municipally-owned road allowances and public park to provide the natural gas supply for the East Windsor Cogeneration Centre electricity generation facility. The proposed route locations will not adversely impact the continued use of any of the directly affected properties. The majority of adjacent property owners accept the use of road allowances as a reasonable alternative with no adverse environmental or community impacts. Construction of the pipeline within the municipal boulevard is consistent with use of the municipal road allowances for utilities within urban areas throughout the province and will have no significant long-term impacts on the affected community.

12.0 REFERENCES

Cadman, M.D., P.F.J. Eagles and F.M. Helleiner, 1987: Atlas of the Breeding Birds of Ontario. Federation of Ontario Naturalists and the Long Point Bird Observatory, University of Waterloo Press, Ontario.

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Ontario Energy Board, 1995: Environmental Guidelines For The Location, Construction and Operation Of Hydrocarbon Pipelines And Facilities In Ontario. Fifth Edition May 2003.

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Legend:

- Study Area
- Preferred Route

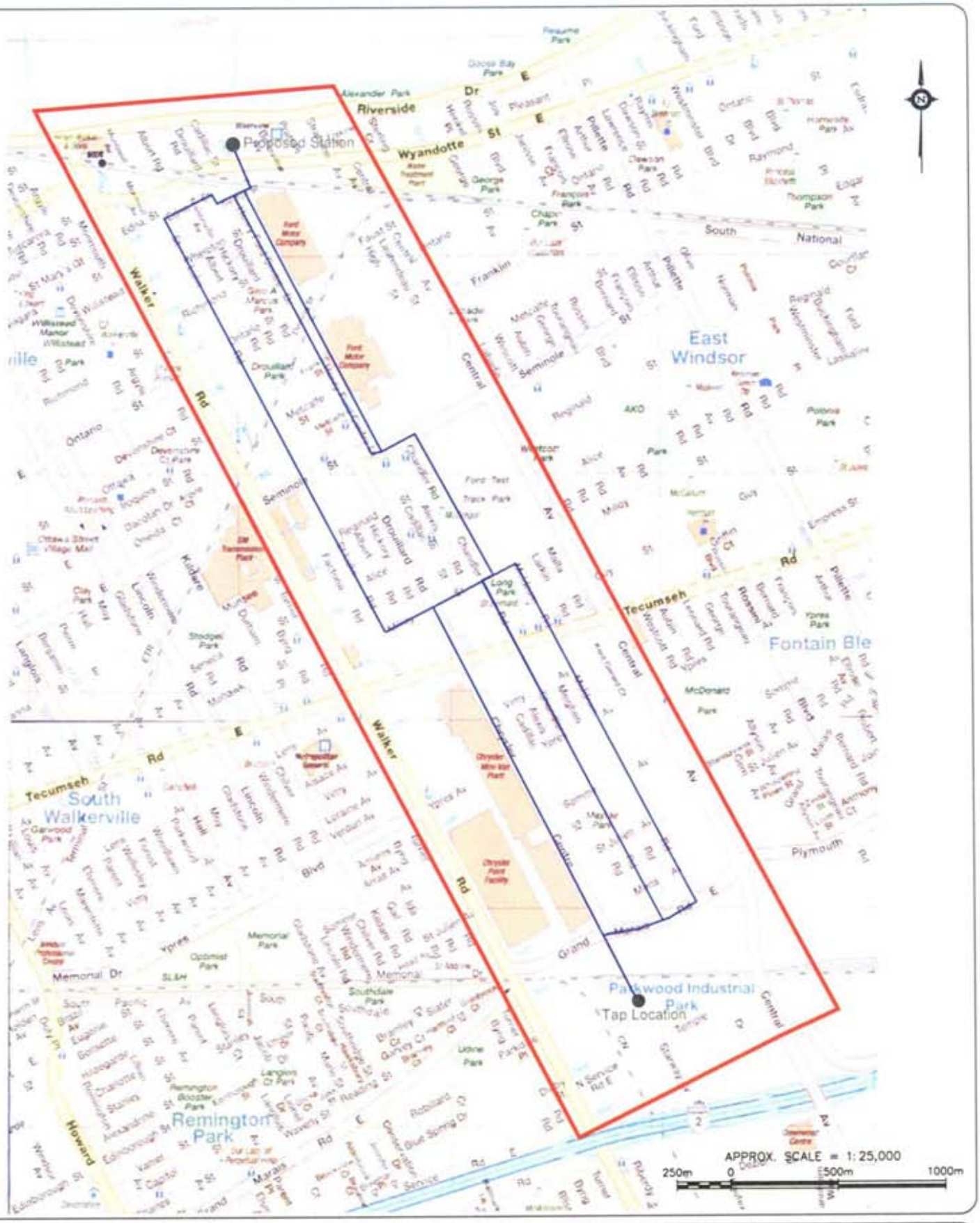
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

STUDY AREA/PREFERRED ROUTE

Date Issued	July 2007
Created By	PHD
Project No	07-023
File Name	Figure 1

East Windsor
Cogen Centre
Pipeline Project

Figure No.
1



Legend:

- Study Area
- Alternate Routes

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

STUDY AREA/ALTERNATE ROUTES

Date Issued:	July 2007
Created By:	PHD
Project No:	07-023
File Name:	Figure 2

East Windsor
Cogen Centre
Pipeline Project

Figure No.
2

Legend:

- Study Area
- Preliminary Preferred Route
- Alternate Routes

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

PRELIMINARY PREFERRED ROUTE

Date Issued	July 2007
Created By	PHD
Project No.	07-023
File Name	Figure 3

East Windsor Cogen Centre Pipeline Project

Figure No. 3

Legend:
- Study Area
- Preferred Route
- Alternative Routes

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Alternative Routes
South Section

Date Issued	July 2007
Created By	TPD
Project No	07-023
File Name	Figure 4b

East Windsor
Cogen Centre
Pipeline Project

Figure No.
4a

Legend:
- Study Area
- Preferred Route
- Alternative Routes

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Alternative Routes
North Section

Date Issued:	July 2007
Created By:	PHD
Project No:	07-023
File Name:	Figure 4b

East Windsor Cogen Centre Pipeline Project

Figure No.
4b

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

AEC Project No. 07-023

Site Location:

East Windsor Cogeneration Facility Pipeline Project

Photo No.	Date:
1	April 2007

Description:

Grand Marais Drain at crossing, debris in watercourse, lack of any aquatic vegetation or cover for fish

Photo No.	Date:
2	April 2007

Description:

Grand Marais Drain lacking aquatic vegetation or structure for fish habitat

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

AEC Project No. 07-023

Site Location:

East Windsor Cogeneration Facility Pipeline Project

Photo No.	Date:
3	April 2007

Description:

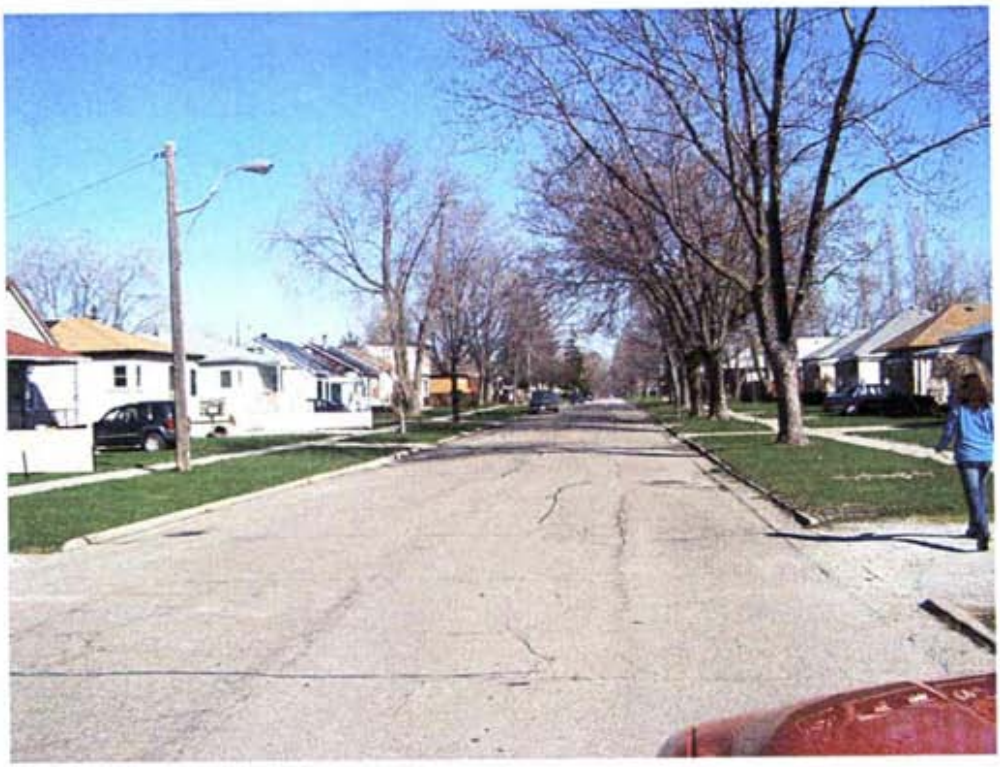
Residential area east of Daimler Chrysler Plant

Daimler Chrysler plant at end of the street

Photo No.	Date:
4	April 2007

Description:

Typical residential street in the study area with treed municipally-owned boulevard adjacent to residences



AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

AEC Project No.
07-023

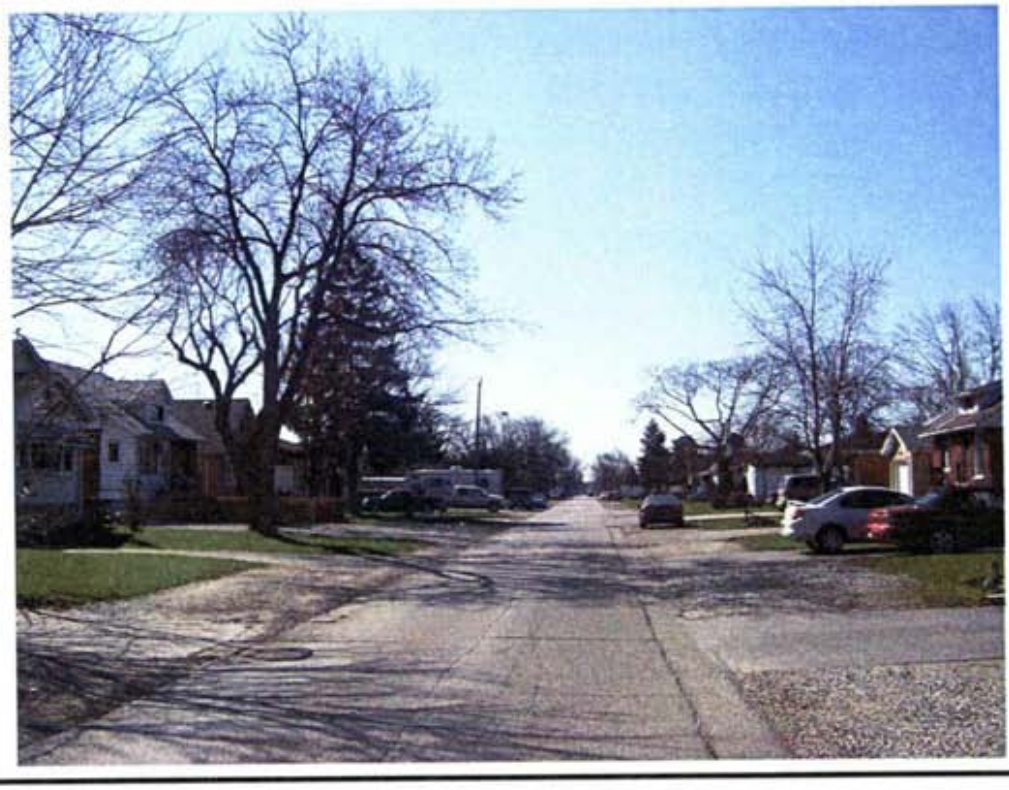
Site Location:
East Windsor Cogeneration Facility Pipeline Project

Photo No.	Date:
5	April 2007

Description:
Chrysler Centre east of Daimler Chrysler Plant

Photo No.	Date:
6	April 2007

Description:
Meldrum Rd. recently under construction for municipal servicing upgrade, boulevard/curb and gutter not constructed



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

AEC Project No. 07-023

Site Location:

East Windsor Cogeneration Facility Pipeline Project

Photo No.	Date:
7	April 2007

Description:

Chandler Rd. typical residential development

Width of municipally-owned treed boulevard/ sidewalk/street sufficient to permit directional drilling setup with no physical disturbance to adjacent residential properties

Photo No.	Date:
8	April 2007

Description:

St. Luke Rd. looking south , residential on east side, industrial land west side

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

AEC Project No.

07-023

Site Location:

East Windsor Cogeneration Facility Pipeline Project

Photo No.	Date:
9	April 2007

Description:

Henry Ford Centre Drive looking south, fence and grassed berm on Ford Motor Company assembly plant property, pipeline to be located between berm and plant

Photo No.	Date:

Description:

Table 1: Summary of Agency Comments

Contact	Project Initiation/Data Collection Comments Received	Alternative Routes/Preferred Route Comments Received	Action Taken and Comments Regarding Agency Concerns
City of Windsor	▪ Agreed with use of road allowances for routing	▪ Stated preference for Chandler Rd. over Meldrum Rd. due to fewer buried services ▪ Potential to coordinate construction on Chandler Rd. with planned road improvements ▪ Stated willingness to permit the use of Ford Test Track Park ▪ Indicated City would seriously consider a proposal to close Chrysler Centre for the assembly plant construction ▪ Council approval required to block major arterial roads during peak hours, a.m. peak traffic volumes 35% lower than p.m.	▪ Contact City of Windsor to obtain approval to temporarily use a lane on Grand Marais Road East during construction, if required. ▪ Attempt to undertake construction on Grand Marais during off-peak hours ▪ Consult with City of Windsor on detailed engineering with regard to buried services along preferred route ▪ Contact Parks and Recreation Dept at City of Windsor prior to undertaking construction within the Ford Test Track Park
City of Windsor – Transit Windsor	▪ Not contacted, as part of City of Windsor administration	▪ Attended public open house ▪ Traffic congestion during detour will be most significant ▪ Chandler and Meldrum non-arterial so alternatives less disruptive to traffic ▪ Ford Motor Company property and Henry Ford Centre Drive least disruptive to traffic for north of Milloy St. alternatives	▪ Contact Transit Windsor regarding construction scheduling on Grand Marais Road East
Ministry of Municipal Affairs and Housing	▪ Received letter, reviewing with local office regarding potential concerns	▪ No comment received	▪ No Action Required
Ministry of Culture	▪ No comment received	▪ No comment received	▪ No Action Required.
Ministry of Natural Resources	▪ No comment received	▪ No comment received	▪ No Action Required.
Indian and Northern Affairs Canada	▪ Provided web addresses to obtain information on First Nations and Chiefs in proximity to study area	▪ No comment received	▪ No Action Required.
Ministry of Transportation	▪ Potential issue with Walker Road /CPR Grade Separation project planned detour routes	▪ Provided traffic volume numbers to assist in assessment of traffic impact and provided response from MTO's consultation with City of Windsor traffic analyst on the issue	▪ Minimize duration of construction activity on Grand Marais Road East to reduce potential for increased traffic congestion.
Essex Region Conservation Authority	▪ No comment received	▪ No comment received	▪ ERCA will be contacted to obtain the required permit for the watercourse/drain crossing under Ontario Regulation 158/06 ▪ The drain will be assessed for the ability to be directionally drilled to avoid any disturbance to the aquatic habitat ▪ Union Gas construction practices for erosion/sedimentation control will be used

Contact	Project Initiation/Data Collection Comments Received	Alternative Routes/Preferred Route Comments Received	Action Taken and Comments Regarding Agency Concerns
Technical Standards & Safety Authority	▪ Pipe must comply with Regulation 210/01 with regard to design of pipeline used in urban area	▪ No comment received	▪ No Action Required.
Ministry of the Environment	▪ No comment received	▪ No comment received	No Action Required.

Table 2: Alternative Route Evaluation and Comparison

Alternative Route Evaluation and Comparison Based on Route Selection Criteria

Alternative Route	Optimize use of road allowances, existing utility corridors, and property boundaries to avoid creating new severances	Attempt to minimize overall route length to minimize community and residential area disruption	Attempt to minimize potential disturbance to landscape trees adjacent to or within the municipal road allowance	Attempt to avoid streets with high traffic volumes and streets dominated by commercial businesses to minimize disturbance during construction
Southern Section Alternatives				
Tap to Chrysler Centre to Ford Test Track Park (length 2.3km)	▪ Opportunity to use municipal road allowance ▪ Buried existing utilities that service Daimler Chrysler within road allowance	▪ Utilizes road allowance through predominately industrial land use ▪ Potential for expansion of Daimler Chrysler plant through acquiring Chrysler Center from City of Windsor	▪ Approximately 20 landscape trees, number reduced due to adjacent industrial land uses	▪ Designated curb parking lane available on Chrysler Centre for construction to minimize traffic disruption ▪ Street traffic heavy only during shift change at Daimler Chrysler plant ▪ Chrysler Center detour route for Walker Road/CPR Grade Separation project, potential for increase traffic congestion during construction
Tap To Chandler Road to Ford Test Track Park (length 2.4km)	▪ Opportunity to use municipal road allowance ▪ No significant restriction from buried utilities	▪ Residential street direct north south route to Ford Test Track Park ▪ Construction in proximity to school	▪ Approximately 70 landscape trees within boulevard	▪ Traffic appears limited to residents
Tap To Meldrum Road to Ford Test Track Park (length 2.6km)	▪ Opportunity to use municipal road allowance ▪ Municipal road allowance congested with existing buried utilities	▪ Residential street direct north south route to Ford Test Track Park ▪ Construction in proximity to school	▪ No landscape trees within the boulevard ▪ Majority of road gravel with no curb or gutter	▪ Traffic appears limited to residents

Recommendation – Chandler Road preferred to avoid conflict with any future expansion of Daimler Chrysler through use of Chrysler Centre and City of Windsor staff indicated that Meldrum Road is too congested with existing utilities.

Northern Section Alternatives				
Alternative Route	**Optimize use of road allowances, existing utility corridors, and property boundaries to avoid creating new severances**	**Attempt to minimize overall route length to minimize community and residential area disruption**	**Attempt to minimize potential disturbance to landscape trees adjacent to or within the municipal road allowance**	**Attempt to avoid streets with high traffic volumes and streets dominated by commercial businesses to minimize disturbance during construction**
Ford Test Track Park to Henry Ford Centre Drive (length 2.6km)	▪ Uses City of Windsor parkland, creating easement along west property boundary ▪ Uses municipal road allowance and boulevard ▪ No conflict with municipal services within the park	▪ Use of park edge avoids disruption to the park facilities ▪ Construction in proximity to school adjacent to the park ▪ No through traffic on Henry Ford Centre Drive, reducing potential disruption to the community	▪ No landscape trees affected within park ▪ Approximately 33-36 landscape trees each side of the boulevard	▪ No through traffic on Henry Ford Centre Drive due to manufacturing and railway in midpoint along the street length ▪ Predominately residential/park land ▪ Avoids active recreational facilities within the Ford Test Track Park
Ford Test Track Park to Ford Motor Company (length 2.6km)	▪ Uses City of Windsor parkland, creating easement along west property boundary ▪ In proximity to west property boundary within Ford Motor Company property ▪ No conflict with municipal services within the park	▪ Use of park edge and industrial land avoids short term disruption to residential area ▪ Construction in proximity to school adjacent to the park	▪ No landscape trees affected within park or industrial lands	▪ Avoids disruption to residential areas during construction ▪ Avoid active recreational facilities within the Ford Test Track Park ▪ Ford Motor Company willing host for pipeline
Ford Test Track Park/Milloy St. to St. Luke Rd. to Edna St. to Trenton St. to Station (length 3.3km)	▪ Uses municipal road allowance for entire length	▪ St. Luke Road residential on east side, industrial on west side, therefore fewer residents affected. ▪ Edna St. and Trenton street lack boulevard but fewer residences and more small commercial businesses	▪ Approximately 100 landscape trees associated with residential areas and 70 poorer quality trees (e.g., small, multi-stem) associated with adjacent industrial land uses	▪ Industrial land uses on St. Luke not all active, some vacant industrial land, less disruption to adjacent businesses

Recommendation – Ford Test Track Park and Ford Motor Company alternative preferred, avoids disruption to residential areas, no impact on park facilities and compatible land use for Ford's industrial land

Table 3: Cumulative Impact Assessment

PROJECT ACTIVITY	POTENTIAL EFFECTS	PROPOSED MITIGATION MEASURES	NET EFFECT AFTER MITIGATION
Easement Acquisition	• no easement required for placement of pipeline within existing road allowance • easement on Ford Test Track Park, Ford Motor Company, Hydro One and Lafarge lands will be negotiated	• none required	• not applicable
Road Allowance	• placement of pipeline within approximately 4.25km of existing municipally-owned road allowance/boulevard (total route length 5.0km)	• directional drilling under street boulevard to minimize disturbance to landscape trees and adjacent residences • if required, removal of individual trees within the road allowance compensated through tree replacement with City of Windsor • locate existing utilities, in consultation with City of Windsor, in road allowance/boulevard to avoid potential conflict with buried facilities	• complete restoration of the road allowance/boulevard to pre-construction conditions • total area affected approximately 1.0 metre, including a separation distance to adjacent utilities of 30 cm where feasible.
Easement Clearing	• excavation of access pits for direction drilling entry and exit points, approximately every 150-200 metres	• avoid disturbance to specimen trees within road allowance through selection of direction drilling entry and exit locations or other construction techniques	• complete restoration of the road allowance/boulevard to pre-construction conditions
Pipeline Installation	• entry and exit excavation for directional drill shared between street and boulevard • short term delay to traffic within residential areas • noise, dust, other construction related nuisance effects on adjacent residences	• erection of barriers around excavations to prevent residents from accessing work areas • traffic management plan to help maintain traffic flow during construction • designated Union Gas liaison to address adjacent landowners concerns during construction	• short term disruption/inconvenience to traffic flow and adjacent residents
Post-Construction Monitoring	• regular patrol of easement	• no mitigation measures required following completion of post-construction restoration • continue to monitor until site is deemed secure	• net effect assessed through monitoring the effectiveness of mitigative and restoration measures

APPENDICES

APPENDIX A

Summary of Agency Comments

Government Agency Contacts (excluding OPCC members) – July 2007

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
Mr.	John	Skorobohacz	CAO	City of Windsor	350 City Hall Square West	P.O. Box 1607, Room 201, City Hall	Windsor	ON	N9A 6S1
Mr.	Mike	Palanacki	Executive Director of Operations	City of Windsor	350 City Hall Square West	P.O. Box 1607, Room 201, City Hall	Windsor	ON	N9A 6S1
Mr.	Tom	Hunt	City Planner	City of Windsor	350 City Hall Square West	P.O. Box 1607, Room 201, City Hall	Windsor	ON	N9A 6S1
Mr.	Mario	Sonego	Executive Director of Development Services	City of Windsor	350 City Hall Square West	P.O. Box 1607, Room 201, City Hall	Windsor	ON	N9A 6S1
Mr.	Harry	Hakim	Community Coordinator of Sports Services	City of Windsor	Parks and Recreation	2450 McDougall Street	Windsor	ON	N8X 3N6
Mr.	James	Venus	Manager of Rights-of-Way	City of Windsor	350 City Hall Square West	P.O. Box 1607, Room 201, City Hall	Windsor	ON	N9A 6S1
Mr.	Rob	Larret	Planning Manager	Transit Windsor	3700 North Service Road East		Windsor	ON	N8W 5X2
Mr.	Bruce	Curtis	Manager – Community Planning & Development	Ministry of Municipal Affairs and Housing	Municipal Services Office, Southewestern Region	659 Exeter Rd 2nd Floor	London	ON	N6E 1L3
Mr.	Scott	Oliver	Senior Planner	Ministry of Municipal	Municipal Services	659 Exeter Rd 2nd Floor	London	ON	N6E 1L3

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
				Affairs and Housing	Office, Southewestern Region				
Mr.	Malcolm	Horne	Heritage Planner/Archaelogist	Ministry of Culture	4th Floor	400 University Avenue	Toronto	ON	M7A 2R9
Mr.	Dan	Elliott	Area Supervisor	Ministry of Natural Resources	615 John St. North		Aylmer	ON	N5H 2S8
Mr.	Jake	Noordhot	District Planner (Acting)	Ministry of Natural Resources	615 John St. North		Aylmer	ON	N5H 2S8
Mr.	Tim	Byrne	Senior Water Management Technician	Essex Region Conservation Authority	360 Fairview Avenue West		Essex	ON	N8M 1Y6
Ms.	Jennifer	Harkness-Graham	Head – Planning and Design	Ministry of Transportation	659 Exeter Road		London ON	ON	N6E 1L3
Ms.	Kim	Ferguson	Area Supervisor	Ministry of the Environment	4510 Rhodes Dr.	Unit 620	Windsor	ON	N8W 5K5
Mr.	James	O'Mara	Director – Environmental Assessment and Approvals Branch	Ministry of the Environment	12A Floor	2 St. Clair Ave West	Toronto	ON	M4V 1L5
Ms.	Miranda	Lesperance	Jr. Environmental Officer	Indian and Northern Affairs Canada-Ontario Region	25 St. Clair Avenue East	8th Floor	Toronto	ON	M4T 1M2

2007 OPCC Members

Title	FirstName	LastName	JobTitle	Company	Address1	Address2	City	State	PostalCode
Ms.	Donna	Mundie		Ministry of Agriculture, Food and Rural Affairs	3rd Floor South	1 Stone Rd. West	Guelph	Ontario	N1G 4Y2
Mr.	Usman	Ahmed		Ministry of Municipal Affairs and Housing	777 Bay Street	14th Floor	Toronto	Ontario	M5G 2E5
Mr.	Doug	Peeling		Ministry of Transportation	301 St. Paul Street		St. Catharines	Ontario	L2R 7R4
Mr.	Michael	Johnson	Manager, Operations Unit, Heritage and Libraries Branch	Ministry of Culture	400 University Avenue	4th Floor	Toronto	Ontario	M7A 2R9
Ms.	Sharon	Rew		Ministry of Natural Resources	300 Water Street	P.O. Box 7000	Peterborough	Ontario	K9J 8M5
Mr.	Graham	Martin	Acquisition Manager	Ontario Realty Corporation	77 Wesley St., West	11th Floor, Ferguson Block	Toronto	Ontario	M7A 1N3
Mr.	Brian	Kaye	Supervisor, APEP	Ministry of the Environment	P.O. Box 820 133 Dalton Ave.		Kingston	Ontario	K7L 4X6
Mr.	Sing-Gin	Louie	Advisor	Ministry of Energy,	Oil and Gas Section	3rd Floor, 880 Bay St.	Toronto	Ontario	M7A 2C1
Mr.	Oscar	Alonso		Technical Standards and Safety Authority	3300 Bloor Street West	4th Floor	Etobicoke	Ontario	M8X 2X4
Ms.	Zora	Crnojacki		Ontario Energy Board	P.O. Box 2319	2300 Yonge Street, 26th Floor	Toronto	Ontario	M4P 1E4

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

July 5, 2007 AEC 07-023

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street, 26th Floor
Toronto, Ontario M4P 1E4

Attention: Zora Crnojacki

RE: East Windsor Cogen Centre Pipeline Project – Preferred Route

Dear Ms. Crnojacki:

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new up to 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street.

On May 23rd a public open house was held at the Most Precious Blood Church on Meldrum Road. The public open house was advertised in the Windsor Star and letters were mailed to all the landowners along the alternative routes. A total of 13 residents attended from the study area, of which five lived along the alternative routes or preliminary preferred route. General consensus was a preference for the use of preliminary preferred route that used Chrysler Centre, Ford Test Track Park and the Ford Motor Company lands. Attendees were not opposed to the use of municipal road allowances for the gas pipeline provided appropriate safety measures were taken and there was minimal disruption to traffic and trees adjacent to the paved street. Daimler Chrysler has indicated that the lands to the east of the plant containing Chrysler Centre and employee parking, are lands they would like to preserve for any potential future expansion of the plant. This would require the City of Windsor to close Chrysler

Centre as a municipal road and sell the lands to Daimler Chrysler; an option the City has indicated that they would seriously consider. If an expansion of the Daimler Chrysler plant occurred Union Gas would be required to relocate the gas pipeline to another municipal road allowance in the area, as it could not be located within the plant. The City of Windsor staff indicated that the Meldrum Road had too many existing services and construction of the pipeline in this location would not be recommended. As a result of this information Azimuth has recommended the preferred route be revised to place the gas pipeline along Chandler Road (see attached map). The pipeline would be located within the municipal road allowance along Chandler Road to the Ford Test Track Park and then through the Ford Motor Company property.

To address the public desire to minimize disruption to the community Union Gas will construct the pipeline by drilling under the residential street. This limits excavation to one contained area every 150-200 metres where the sections of pipeline are connected. Union Gas construction staff will be on site to liaise with residents and ensure all safety procedures are adhered to. The pipeline will be constructed in compliance with the provincial safety requirements for pipeline construction in urban areas.

We are currently working to complete the Environmental Report documenting the route selection process and the rationale for the preferred route. The report is an integral part of our application to the Ontario Energy Board (OEB) requesting approval of the pipeline and the preferred route shown on the attached map. The OEB's review and approval is required before this project can proceed.

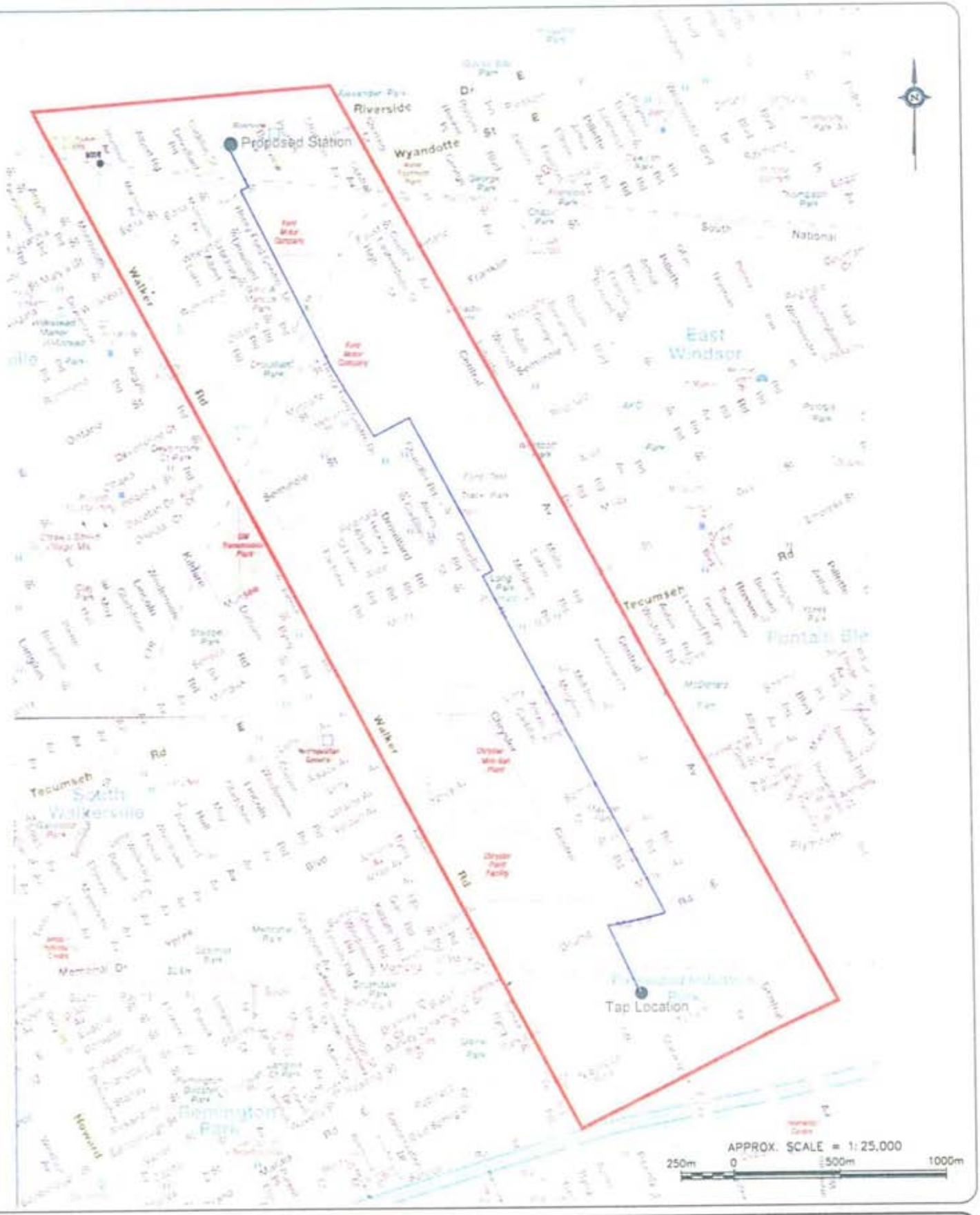
If you have any questions or concerns regarding the preferred route and the use of Chandler Road or any portion of the route shown on the attached map or any other aspect of the project please call either of the following project staff immediately.

Norm Dumouchelle - Union Gas Environmental Department
1-800-571-8446, extension 2936 or email npdumouchelle@spectraenergy.com

Paul Neals - Azimuth Environmental Consulting
Call collect at 1-705-721-8451 or email at paul@azimuthenvironmental.com

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc.Agr.
Vice-President



Legend:

- Study Area
- Preferred Route

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

STUDY AREA/PREFERRED ROUTE

Date Issued	July 2007
Created By	PHD
Project No	07-023
File Name	Figure 1

East Windsor
Cogen Centre
Pipeline Project

Figure No.
1

Agency notification letter to be sent to area agency offices and OPCC

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

April 25, 2007

AEC 07-023

«Company»
«Address1»
«Address2»
«City», «State»
«PostalCode»

Attention: «FirstName» «LastName»
«JobTitle»

RE: East Windsor Cogen Centre Pipeline Project

Dear «Title» «LastName»:

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre – an electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new 10 or 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street. Several alternative routes have been identified for the pipeline (see attached map). All sections of the proposed pipeline running through residential areas would be located within the road allowance. Other sections would be located within easement on the affected industrial lands.

Azimuth Environmental Consulting has been retained by Union Gas to undertake an Environmental Assessment Report for this project that will be included in an application for project approval to the Ontario Energy Board. The Ontario Energy Board is the body that regulates the energy sector in the province and whose review and approval is required before this project can proceed. If all approval were granted, construction would begin in the summer/fall of 2008.

Our role is to assess the land use and environmental features within the study area to assist in the selection of the alternative routes, evaluate the alternatives, consult with approval agencies and the public regarding the alternatives, and recommend the preferred alternative route. This assessment process will be documented in a report that will accompany the Union Gas application to the Ontario Energy Board.

This letter is to inform you of the proposed undertaking and, as an agency with an interest in the area, to ask for your input in providing any comments or concerns regarding the project. We are requesting your agency provide any relevant environmental or socioeconomic information that in your opinion should be included the assessment of the alternative routes shown on the attached map. Based on our preliminary review of the study area the alternatives will involve placement of the pipeline within the urban street network or on industrial land within easement.

We are also interested in your agency's knowledge regarding other construction projects and/or developments within the study area that could potentially impact the route suitability. This information will be incorporated into the study and the assessment of alternatives and potential impacts. In addition the feasibility of routing alternatives will be assessed using the environmental, land use and socioeconomic information obtained from our agency contacts and the information you provide. If additional alternatives are identified your agency will be contacted for comment.

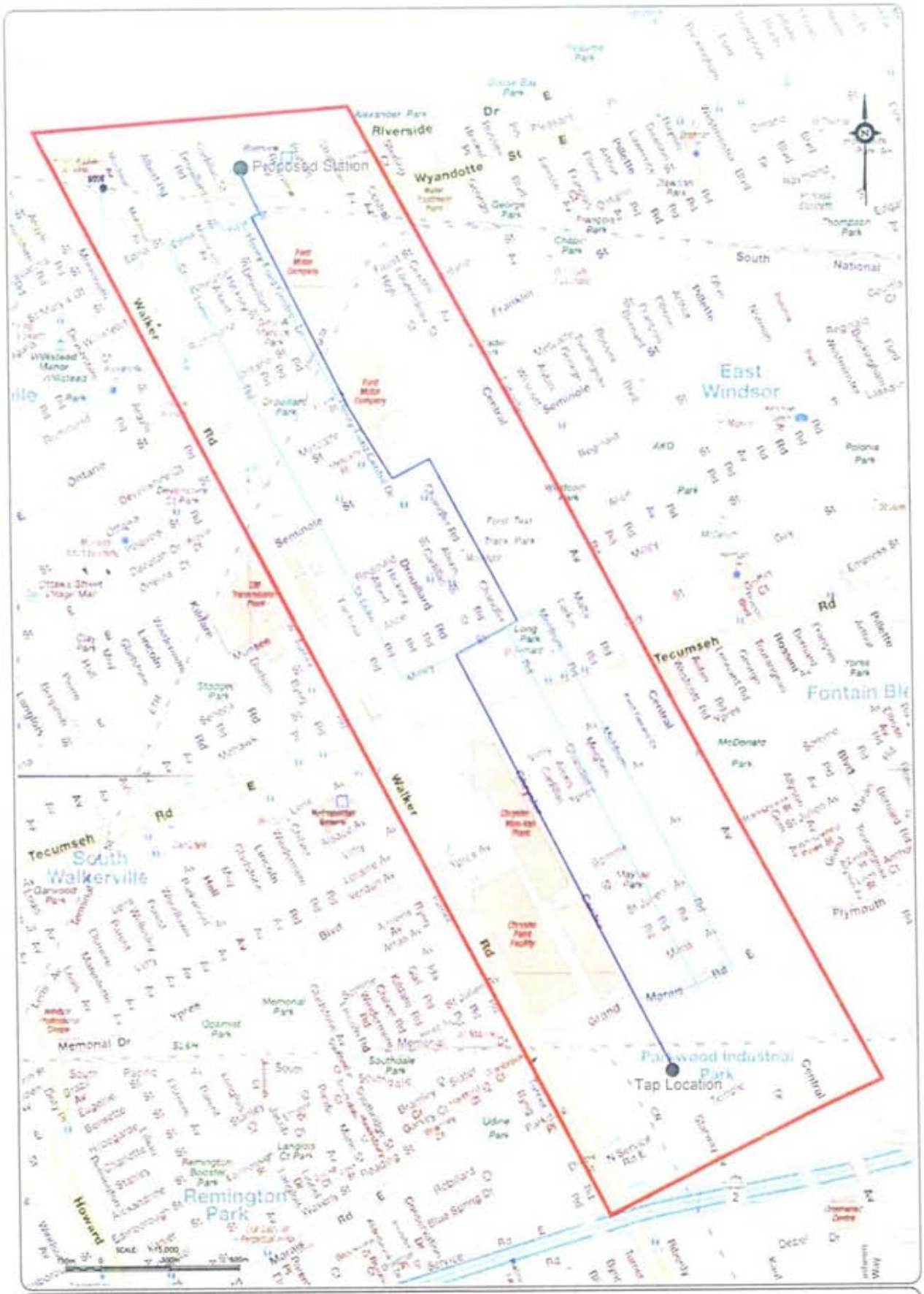
Your agency's response would be appreciated by May 14, 2007. If your agency has no concerns regarding the proposed pipeline and/or its construction and does not require any further correspondence regarding the project please indicate that in writing to the undersigned.

If you have any questions, please contact me at (705) 721-8451 or by email at paul@azimuthenvironmental.com. Thank you for your cooperation.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc.Agr.
Vice-President

PCN:
Encl.



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Alternative Routes

Date Issued	April 2007
Created By	PHD
Project No.	07-023
File Name	Figure 2

East Windsor
Cogen Centre
Pipeline Project

Figure No.
2

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

April 25, 2007

AEC 07-023

«Company»
«Address1»
«Address2»
«City», «State» «PostalCode»

Attention: «FirstName» «LastName»
«JobTitle»

RE: East Windsor Cogen Centre Pipeline Project

Dear «Title» «LastName»:

We recently forwarded a letter requesting your comment on the alternative routes and preliminary preferred route for the proposed Union Gas project to serve the East Windsor Cogeneration Centre facility by constructing a new 10 or 12 inch diameter natural gas pipeline to serve the proposed East Windsor Cogeneration Centre.

The purpose of this letter is to invite you to the Open House being held for the public and agencies to discuss the project and obtain their input of the alternative routes. The Open House is a component of the public consultation program being undertaken as part of the environmental assessment study we are undertaking in accordance with the Ontario Energy Board approval process. **The Open House is being held on May 23rd from 6:00 – 9:00 p.m. at Most Precious Blood Catholic Church on Meldrum Road in Windsor.**

If you have any questions, please contact me at (705) 721-8451 or by email at paul@azimuthenvironmental.com.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc.Agr.
Vice-President

May 18, 2007

Your file Votre référence
AEC 07-023
Our file Notre référence
5010-4-1
#165959

Paul Neals, B.Sc.Agr.
Vice-President
Azimuth Environmental Consulting, Inc.
229 Mapleview Drive East, Unit 1
Barrie, ON
L4N 0W5

Dear Mr. Neals:

RE: East Windsor Cogen Centre Pipeline Project

Thank you for your letter of April 25, 2007 regarding the above project.

For all provincial and/or municipal undertakings, Indian and Northern Affairs Canada requests that the proponent of such projects make efforts directly from the initiation of a project to identify and notify all potentially interested First Nation communities and other Aboriginal groups. It is recommended that this identification and notification occur at the earliest planning stages of the undertaking and if requested by any group(s), maintain communication with such groups. To assist with identifying First Nations and other Aboriginal groups within the vicinity of a specific proposed project, Indian and Northern Affairs Canada can provide the following information sources:

- The Chiefs of Ontario website (http://www.chiefs-of-ontario.org) provides a directory of contact information for all First Nations and Chiefs, as well as a map of the locations of all Ontario First Nations.

- Natural Resources Canada produced provincial maps, showing all First Nation reserve lands, are available for purchase at:
http://cccm.nrcan.gc.ca/english/canada_lands_index_e.asp

- Natural Resources Canada's online *Historical Indian Treaties* map, showing historical First Nation treaties across Canada, is available at:
http://atlas.nrcan.gc.ca/site/english/maps/historical/indiantreaties/historicaltreaties

- A search by place name at the Canadian Geographical Names database (http://geonames.nrcan.gc.ca/search/search_e.php) will generate a map which shows any nearby Indian reserve lands in grey.

Canada

- The Métis Nation of Ontario (http://www.metisnation.org/) may be able to provide information regarding Métis interests with respect to a particular project.

- The Ontario Federation of Indian Friendship Centres website provides a list of all friendship centres in Ontario, at: http://www.ofifc.org/Centres/OfficeList.asp?Region='ON'

- For enquiries regarding land claims in Ontario, please contact the Director General of the Comprehensive Claims Branch at (819) 994-7521, the Director General of Specific Claims Branch at (819) 994-2323 and the Director General of Litigation Management and Resolution Branch at (819) 997-3582.

If, however, the proponent believes that the proposed project is likely to also trigger a requirement for a federal environmental assessment under the *Canadian Environmental Assessment Act* (CEAA), we advise that the proponent contact the Canadian Environmental Assessment Agency early in the planning process, and provide a project description to them. The Agency will notify federal agencies, including INAC, of the proposed project as appropriate, in accordance with the requirements of the *Regulations Respecting the Coordination b y Federal Authorities of Environmental Assessment Procedures and Requirements*. INAC will, in turn, provide input to the Agency regarding our interest in the project.

Thank you for your time and consideration.

Miranda Lesperance
Jr. Environmental Officer
Environment Unit
INAC - Ontario Region
25 St. Clair Avenue E. 8th Floor
Toronto, Ontario M4T 1M2
lesperancem@inac.gc.ca

This letter has been distributed electronically. If you require a signed copy, please contact the author at the address provided above.

Canada

Paul Neals

Forwarded by:	**sysop**
Forwarded to:	**paul**
Date forwarded:	**Mon, 14 May 2007 12:27:39 -0400**
Subject:	**East Windsor Cogen Centre Pipeline Project**
Date sent:	**Mon, 14 May 2007 12:10:48 -0400**
From:	**"Macdonell, Barbara (MTO)" <Barbara.Macdonell@ontario.ca>**
To:	**<paul@azimuthenvironmental.com>**
Copies to:	**"Zangari, John" <JZangari@dillon.ca>, "Bondy, Wade" <wbondy@city.windsor.on.ca>, "Santos, Paul (MTO)" <Paul.Santos@ontario.ca>, "Boudreau, Kevin (MTO)" <Kevin.Boudreau@ontario.ca>**

Paul:

The preliminary preferred pipeline route on Chrysler Centre Road is within the area of an identified detour route for the Walker Road- CPR Grade Separation project, a project which is being administered by the Windsor BIIG Project Delivery office as part of the Let's Get Windsor Essex Moving Strategy. Our strong preference would be to avoid any construction overlap of the Grade Separation project and the Pipeline project. As you can imagine, maintaining traffic flow during construction is of critical importance to the City of Windsor and to Daimler Chrysler which is most directly impacted. Paul, could you please provide us with more information on your schedule and advise if you anticipate any overlap with the Walker Road construction timing? I will be following up this email with a phone call.

For your information, I have provided some background information on the Grade Separation project.

Construction Zone:

The Walker Road/CPR Grade Separation project includes the construction of a subway of Walker Road at the CPR crossing. I have attached a PDF file which shows the limits of the construction zone. Generally the construction zone includes Walker Road from Parkdale Place to St. Julien and Grand Marais Road East to the Daimler Chrysler Truck entrance.

Construction Timing

The construction start up date is August, 2007 and the completion date is late fall of 2008.

General Detour

In anticipation of an extended closure of Walker Road during the period of construction, a number of improvements have been undertaken to ensure that there is free flow of goods and people. Chrysler Centre Roadway is identified a part of the general detour plan (see attached).

Regards,

Barbara Macdonell

Barbara Macdonell, MCIP, RPP
Environmental Planner
Windsor Border Initiatives Implementation Group
Ministry of Transportation
2nd floor, 659 Exeter Road
London, Ontario
N6E 1L3
Tel: 519-873-4796
Fax: 519-873-4789

Paul Neals

Forwarded by:	**sysop**
Forwarded to:	**paul**
Date forwarded:	**Thu, 07 Jun 2007 07:35:51 -0400**
Subject:	**RE: Walker Road / CPR Grade Separation Project - AADT Volume Request**
Date sent:	**Wed, 6 Jun 2007 15:30:51 -0400**
From:	**"Macdonell, Barbara (MTO)" <Barbara.Macdonell@ontario.ca>**
To:	**<paul@azimuthenvironmental.com>, "Peter Fantuz" <PNFantuz@spectraenergy.com>**
Copies to:	**"jwolf@city.windsor.on.ca" <'jwolf@city.windsor.on.ca'>, "Bondy, Wade" <wbondy@city.windsor.on.ca>, "Lewis, Ron (MTO)" <Ron.Lewis@ontario.ca>, "MacRae, Doug (MTO)" <Doug.MacRae@ontario.ca>**

Paul and Peter:

Please see the attached assessment of the traffic impacts of the proposed pipeline route by John Wolf of the City of Windsor. MTO's traffic operations section have also reviewed the traffic data and have expressed concern with respect to the proposed construction schedule and its impact on the detour route for the Walker Road grade separation project.

Ron Lewis, our traffic operations expert has asked that you provide some additional detail in respect to the construction schedule as well as some of the details of the project, specifically, "how the pipeline will be installed and how that work will affect traffic operations? Open-cut requiring flagging, lane closures or full closures (i.e. another detour for our detour)? Boring requiring flagging or lane closures?"

I am assuming that you have heard directly from John Wolf. As the road authority, we anticipate that the City of Windsor will be providing you with feedback on this project. As noted below, the City also has some serious concerns with the proposed pipeline project in respect to the traffic impacts on the Walker Road detour route.

We are still interested in receiving more information on your schedule, specifically, where you are in the EA process and when the route will be selected.

Regards,

Barb Macdonell

Barbara Macdonell, MCIP, RPP
Environmental Planner
Windsor Border Initiatives Implementation Group
Ministry of Transportation
659 Exeter Road
London, Ontario N6E 1L3
Tel: 519-873-4796
Fax: 519-873-4796

Ron,

I have added the latest AADT info I have, however the impact on detour traffic will be greatest during peak periods and these are the volumes that need to be used, not the AADT's. I would note there is more then just the am and pm peak. At 2:30 pm there is also a peak as the auto plants in the area have shift change and at the same time schools are getting out. School buses also run during these times so delays are not as predictable. AADT's are added next to the locations below.

We have some serious reservations about the impact on the area, depending on the route to be followed. City has been given notice apparently but are unsure as to the route to be followed.

I would noted that there is a long standing council policy that major arterials can not be blocked during peak hours without city approval.

John

Hi John;

We have been notified of Union Gas' plans to install a new natural gas pipeline from the Union Gas station east of Walker Road, adjacent to the CPR, to the proposed East Windsor Cogeneration Centre on Ford lands north of Wyandotte Street East and east of Cadillac Street.

Union Gas anticipates construction between March and June 2008.

Based on Union Gas' pipeline routing, their works may have an effect on traffic.

As you know, the Walker Road / CPR grade separation project will affect adjacent roads in terms of local detours.

In order to assess the combined impacts of the proposed detours, they have asked for AADT info for the following:

- Latest AADT's on Central Avenue (EC ROW northerly to Tecumseh Road) north of e c row 36000 at Tecumseh 15600 both from 2006
- Latest AADT's on Grand Marais Road E. (Central Avenue westerly to Chrysler Centre) from 2004 - 12600 east of walker and 13800 west of central
- Latest AADT's on Chrysler Centre (Grand Marais Road E. northerly to Tecumseh Road) from 2003 - 8800 at Tecumseh and 8700 at grand marais

- Latest AADT's on Tecumseh Road (Central Avenue westerly to Chrysler Centre) from 2003 - east of central 34100, east of Chrysler Centre 34300, east of Walker 36500

- Here are the predicted AM and PM peak hour volumes from Dillon's SYNCHRO:

AM PK Volumes

Grand Marais Road E . (between Chrysler Centre and Central Avenue)

- Westbound = 1021
- Eastbound = 487
- Combined= 1508

Tecumseh Road (between Chrysler Centre and Central Avenue)

- Westbound = 1241
- Eastbound = 734
- Combined= 1975

Chrysler Centre (between Grand Marais Road E and Tecumseh Road)

- Northbound = 899
- Southbound = 236
- Combined= 1135

PM PK Volumes

Grand Marais Road E . (between Chrysler Centre and Central Avenue)

- Westbound = 1089
- Eastbound = 1246
- Combined= 2335

Tecumseh Road (between Chrysler Centre and Central Avenue)

- Westbound = 1274
- Eastbound = 1513
- Combined= 2787

Chrysler Centre (between Grand Marais Road E and Tecumseh Road)

- Northbound = 686
- Southbound = 1014
- Combined= 1700

Should you have any questions please contact me.

Tracy Pastor
Traffic Operations Analyst
Southwestern Region
☎ (519) 873-4352
(519) 873-4388
Tracy.Pastor@ontario.ca <mailto:Tracy.Pastor@ontario.ca>

Paul Neals

Forwarded by:	**sysop**
Forwarded to:	**paul**
Date forwarded:	**Tue, 29 May 2007 13:15:47 -0400**
Subject:	**RE: East Windsor Cogen Centre Pipeline Project**
Date sent:	**Tue, 29 May 2007 12:49:14 -0400**
From:	**"Macdonell, Barbara (MTO)" <Barbara.Macdonell@ontario.ca>**
To:	**<paul@azimuthenvironmental.com>,** **"Peter Fantuz" <PNFantuz@spectraenergy.com>**
Copies to:	**"MacRae, Doug (MTO)" <Doug.MacRae@ontario.ca>,** **"Lewis, Ron (MTO)" <Ron.Lewis@ontario.ca>,** **"Pastor, Tracy (MTO)" <Tracy.Pastor@ontario.ca>,** **"Zangari, John" <JZangari@dillon.ca>, <wbondy@city.windsor.on.ca>**

Paul and Peter:

We haven't forgotten about your request for ADDT volumes for the detour route. We have predicted AM and PM peak hour volumes available for the route and have asked the City to provide us with AADT volumes. Please review the peak hr. data provided below and let me know if it is sufficient for your planning purposes.

You provided us with your construction schedule but could you also provide us with the overall project schedule? Briefly, where you are in the EA process, when the route will be selected,etc.

Here are the predicted AM and PM peak hour volumes which were generated by Dillon Consulting using Synchro 6 plus SimTraffic.

AM Peak Volumes

Grand Marais Road E. (between Chrysler Centre and Central Avenue)

Westbound = 1021
Eastbound = 487
Combined= 1508

Tecumseh Road (between Chrysler Centre and Central Avenue)

Westbound = 1241
Eastbound = 734
Combined= 1975

Chrysler Centre (between Grand Marais Road E and Tecumseh Road)

Northbound = 899
Southbound = 236
Combined= 1135

PM PK Volumes

Grand Marais Road E. (between Chrysler Centre and Central Avenue)

Westbound = 1089
Eastbound = 1246
Combined= 2335

Tecumseh Road (between Chrysler Centre and Central Avenue)

Westbound = 1274
Eastbound = 1513
Combined= 2787
Chrysler Centre (between Grand Marais Road E and Tecumseh Road)

Northbound = 686
Southbound = 1014
Combined= 1700

Please keep us informed in regard to the route selection process.

Regards

Barb Macdonell

-----Original Message-----
From: Paul Neals [mailto:paul@azimuthenvironmental.com]
Sent: May 22, 2007 1:17 PM
To: Macdonell, Barbara (MTO)
Cc: pnfantuz@uniongas.com; NPDumouchelle@duke-energy.com
Subject: RE: East Windsor Cogen Centre Pipeline Project

Barb

I will remind him.

One question, do you have traffic volumes regarding the predicted daily average volumes the detours are expected to handle. It would be helpful for us evaluating the impact of the the alternative routes if we know the potential conflict between the construction forces constructing the pipeline and detour traffic. It could be a factor in scheduling and route selection.

Thanks

Paul

On 22 May 2007 at 9:07, Macdonell, Barbara (MTO) wrote:

> Hi Paul:
>
> Just following up with you- still haven't heard from the project
> engineer.
>
> Barb
>
> -----Original Message-----
> From: Paul Neals [mailto:paul@azimuthenvironmental.com]
> Sent: May 14, 2007 1:49 PM
> To: Macdonell, Barbara (MTO)
> Cc: Zangari, John; Bondy, Wade; Santos, Paul (MTO); Boudreau, Kevin
> (MTO) Subject: Re: East Windsor Cogen Centre Pipeline Project

>
> Barbara
>
> Thanks for the information. I have forwarded it to the project engineer
> and we will respond to your questions as soon as possible.
>
> Paul
>
> On 14 May 2007 at 12:10, Macdonell, Barbara (MTO) wrote:
>
> >
> > Paul:
> >
> > The preliminary preferred pipeline route on Chrysler Centre Road is
> > within
> the area of an identified
> > detour route for the Walker Road- CPR Grade Separation project, a
> project which is being
> > administered by the Windsor BIIG Project Delivery office as part of
> > the
> Let's Get Windsor Essex
> > Moving Strategy. Our strong preference would be to avoid any
> construction overlap of the Grade
> > Separation project and the Pipeline project. As you can imagine,
> maintaining traffic flow during
> > construction is of critical importance to the City of Windsor and to
> > Daimler
> Chrysler which is most
> > directly impacted. Paul, could you please provide us with more
> > information
> on your schedule and
> > advise if you anticipate any overlap with the Walker Road construction
> >
> timing? I will be following
> > up this email with a phone call.
> >
> > For your information, I have provided some background information on
> > the
> Grade Separation
> > project.
> >
> > Construction Zone:
> >
> > The Walker Road/CPR Grade Separation project includes the
> construction of a subway of Walker
> > Road at the CPR crossing. I have attached a PDF file which shows the
> limits of the construction
> > zone. Generally the construction zone includes Walker Road from
> Parkdale Place to St. Julien
> > and Grand Marais Road East to the Daimler Chrysler Truck entrance.
> >
> > Construction Timing
> > The construction start up date is August, 2007 and the completion date
> > is

> late fall of 2008.
> >
> > General Detour
> > In anticipation of an extended closure of Walker Road during the
> > period of
> construction, a number
> > of improvements have been undertaken to ensure that there is free flow
> > of
> goods and people.
> > Chrysler Centre Roadway is identified a part of the general detour
> > plan
> (see attached).
> >
> >
> > Regards,
> >
> > Barbara Macdonell
> >
> > Barbara Macdonell, MCIP, RPP
> > Environmental Planner
> > Windsor Border Initiatives Implementation Group
> > Ministry of Transportation
> > 2nd floor, 659 Exeter Road
> > London, Ontario
> > N6E 1L3
> > Tel: 519-873-4796
> > Fax: 519-873-4789
> >
> >
>
>
> Paul Neals, B.Sc.Agr.
> Vice-President
>
>
> Azimuth Environmental Consulting, Inc.
> 229 Mapleview Drive East, Unit 1
> Barrie, ON L4N 0W5
> (705) 721-8451 fax (705) 721-8926
> paul@azimuthenvironmental.com
>

Paul Neals, B.Sc.Agr.
Vice-President

Azimuth Environmental Consulting, Inc.
229 Mapleview Drive East, Unit 1
Barrie, ON L4N 0W5
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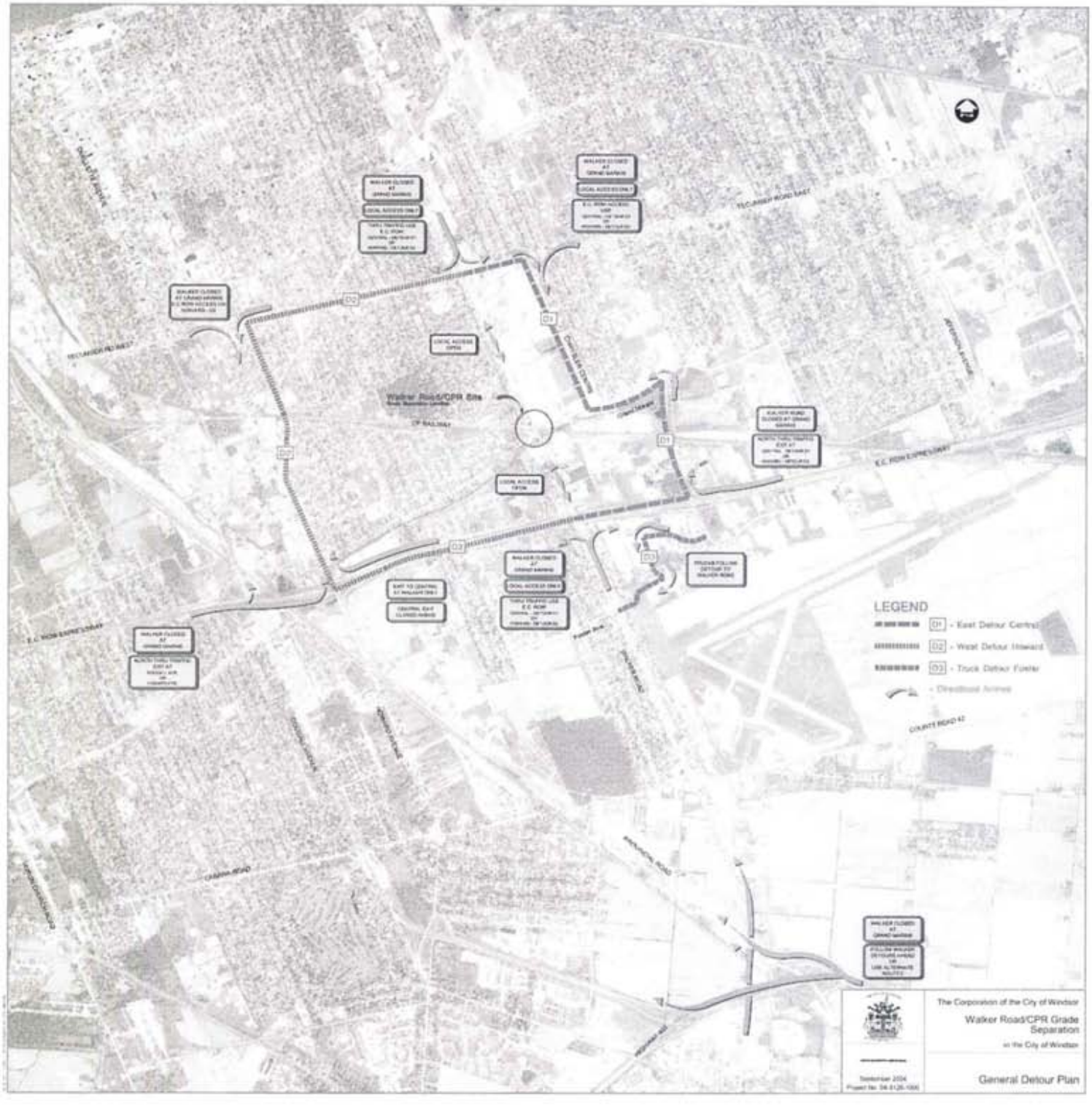

Walker Road/CPR Site
CP RAILWAY
E.C. ROW EXPRESSWAY
CABANA ROAD
COUNTY ROAD 42
LEGEND
D1 - East Detour Central
D2 - West Detour Inward
D3 - Truck Detour Foster
- Directional Arrows
The Corporation of the City of Windsor
Walker Road/CPR Grade Separation
in the City of Windsor
General Detour Plan

Paul Neals

Forwarded by:	**sysop**
Forwarded to:	**paul**
Date forwarded:	**Tue, 08 May 2007 13:51:13 -0400**
Subject:	**East Windsor Cogen Centre Pipeline Project**
Date sent:	**Tue, 8 May 2007 13:37:09 -0400**
From:	**"Ahmed, Usman \(MAH\)" <Usman.Ahmed@ontario.ca>**
To:	**<paul@azimuthenvironmental.com>**
Copies to:	**"Curtis, Bruce \(MAH\)" <Bruce.Curtis@ontario.ca>**

Dear Mr. Neals:

Thank you for your letter dated April 25, 2007, advising us of the proposed construction of a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre. Please note that I am forwarding your correspondence to Mr. Bruce Curtis, Manager, Southwestern Municipal Services Office, for his attention. His office will be in touch with you directly if we have any input, comments or concerns regarding this project. Mr. Curtis can be reached at (519)-873-4026.

Thank you again for inviting us to participate in this project.

Usman Ahmed
Provincial Planning Policy Branch
Ministry of Municipal Affairs and Housing
Tel: (416) 585-7181
Fax: (416) 585-4245
Email: usman.ahmed@Ontario.ca

THE CITY OF WINDSOR

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

JOHN SKOROBOHACZ
CAO

May 2, 2007

Mr. Paul Neals
Vice-President
Azimuth Environmental Consulting Inc.
229 Mapleview Drive East, Unit 1
Barrie, Ontario L4N 0W5

Dear Mr. Neals:

We are in receipt of your letter dated April 25, 2007 notifying us of Union Gas Limited's plans for a proposed East Windsor Cogen Centre Pipleine. We have also received an invitation from Union Gas for the open house scheduled for May 23rd.

We appreciate the invitation to participate in discussions surrounding the proposed pipeline.

By copy of this letter, I am forwarding your information to the appropriate City staff for additional review and consideration.

Sincerely,

John Skorobohacz
Chief Administrative Officer

/dr

cc: Mayor & Members of Council
General Manager of Public Works
Executive Director of Operations & Deputy City Engineer
Acting City Planner

TECHNICAL STANDARDS & SAFETY AUTHORITY
TSSA

FUELS SAFETY DIVISION

Tel: (416) 734-3353
Fax: (416) 231-7525

May 1, 2007

File: CF

Mr. Paul Neals, B.Sc.Agr.
Vice-President
Azimuth Environmental Consulting, Inc.,
229 Mapleview Drive East, Unit 1
Barrie, ON L4N 0W5

Dear Mr. Neals:

Re: East Windsor Cogen Centre Pipeline Project.

This is in response to your letter of April 25, 2007, about the proposed construction of a pipeline to supply natural gas to the referenced plant.

Due to fact that whatever route be selected, the pipeline will be located in an urban area, the design of the pipeline should be limited to a stress level that would qualify the pipeline as a distribution line, within the requirements of regulation on Oil and as Pipeline Systems (O. Reg. 210/01), as updated by the Director's Order of Amendment to the Oil and Gas Pipeline System Code Adoption Document (FS-087-06).

Should you have any questions, please call me.

Yours truly,

Oscar Alonso, P. Eng.
Fuels Safety Engineer

\users\fsesb\oa\Neals 5, Azimuth

THE CORPORATION OF THE CITY OF WINDSOR
PUBLIC WORKS – ENGINEERING & CORPORATE PROJECTS

June 13, 2007

DaimlerChrysler Canada Inc.
CIMS 242-01-03
3939 Rhodes Drive
PO Box 1621
Windsor, Ontario, N9A 4H6

Attention: Bryan Sellan – Manager Facility Engineering

Dear Mr. Sellan:

RE: UNION GAS HIGH PRESSURE GAS PIPELINE ROUTING – CHRYSLER CENTRE

This refers to a request from Union Gas through DaimlerChrysler Canada for confirmation that the City of Windsor would consider closing Chrysler Centre and deeding the right-of-way to DaimlerChrysler.

Union Gas intends to construct a high pressure gas pipeline from Grand Marais Road East to Riverside Drive East and Chrysler Centre is a preferred route. DaimlerChrysler has stated informally their option to acquire the Chrysler Centre right-of way if additional lands for an expansion of their facilities is required.

DaimlerChrysler owns both sides of Chrysler Centre. The Corporation's sewer infrastructure drains only properties owned by DaimlerChrysler and the Chrysler Centre pavement.

A formal closure request by DaimlerChrysler would be seriously considered by this department, subject to a traffic study, site plan control and perhaps rezoning. The Mayor and City Council would make the final decision in consideration of the recommendation from the Street & Alley Committee, which must be circulated to the abutting property owners.

If you require further discussion on the above, please contact the undersigned at 519-255-6350, ext. 6356.

Sincerely,

Mario Sonego, P. Eng.
City Engineer

JV/bmw

cc: Union Gas Limited, Attention: Harry VandenBrink
Mario Quaglia, Supervisor of Committee Teams

Paul Neals

Forwarded by:	**sysop**
Forwarded to:	**paul**
Date forwarded:	**Thu, 24 May 2007 12:18:45 -0400**
Subject:	**EAST WINDSOR COGEN CTR. PIPELINE PROJECT - TRANSIT WINDSOR INPUT to**
Date sent:	**Thu, 24 May 2007 11:56:21 -0400**
From:	**"Larret, Rob" <rlarret@city.windsor.on.ca>**
To:	**"Union Gas Consult. Paul Neals (E-mail)" <paul@azimuthenvironmental.com>, "Spectra Energy Norm Dumouchelle (E-mail)" <npdumouchelle@spectraenergy.c**
Copies to:	**"Reive, Melissa" <mreive@city.windsor.on.ca>, "Hicks, Wes" <whicks@city.windsor.on.ca>, "Bouliane, Paul" <pbouliane@city.windsor.on.ca>, "Winterton, Mark" <mwinterton@city.windsor.on.ca>**

Paul:

Please accept the following comments as a summary of our discussion last evening:

- Your project schedule proposes pipeline installation during the spring / summer of 2008
- Detour routings associated with the CPR / Walker Rd. Grade Separation project will be in effect for this entire period.
- The 'eastern' detour route associated with the grade separation (D1 on City of Windsor &MOT plans) includes the length of Chrysler Ctr., between Tecumseh Rd. E. and Grand Marais.
- Our Walkerville 8 route will utilize Chrysler Ctr., along with all other north and south bound vehicular traffic which would normally cross the CPR R.O.W. at Walker Rd. Congestion levels on Chrysler Ctr., Grand Marais, the Central Ave. (CPR) existing overpass and the Walker &Central ramps to the Expressway will be the most significant in the community's memory
-

ALTERNATIVE PIPELINE PATHS:

- South of Milloy St. Your alternative corridors portrayed on the non arterial roads of Chandler and Meldrum would be less disruptive to our detoured Walkerville 8 route service and general traffic diverted to Chrysler Ctr. and Central Ave.
- North of Seminole Your preliminary preferred alternative along the western edge of the Ford Motor Co. property or the Henry Ford Ctr. Dr. alternatives, would be less disruptive to Central 3 and Ottawa 4 transit service routes, as compared to the St. Luke Rd. option

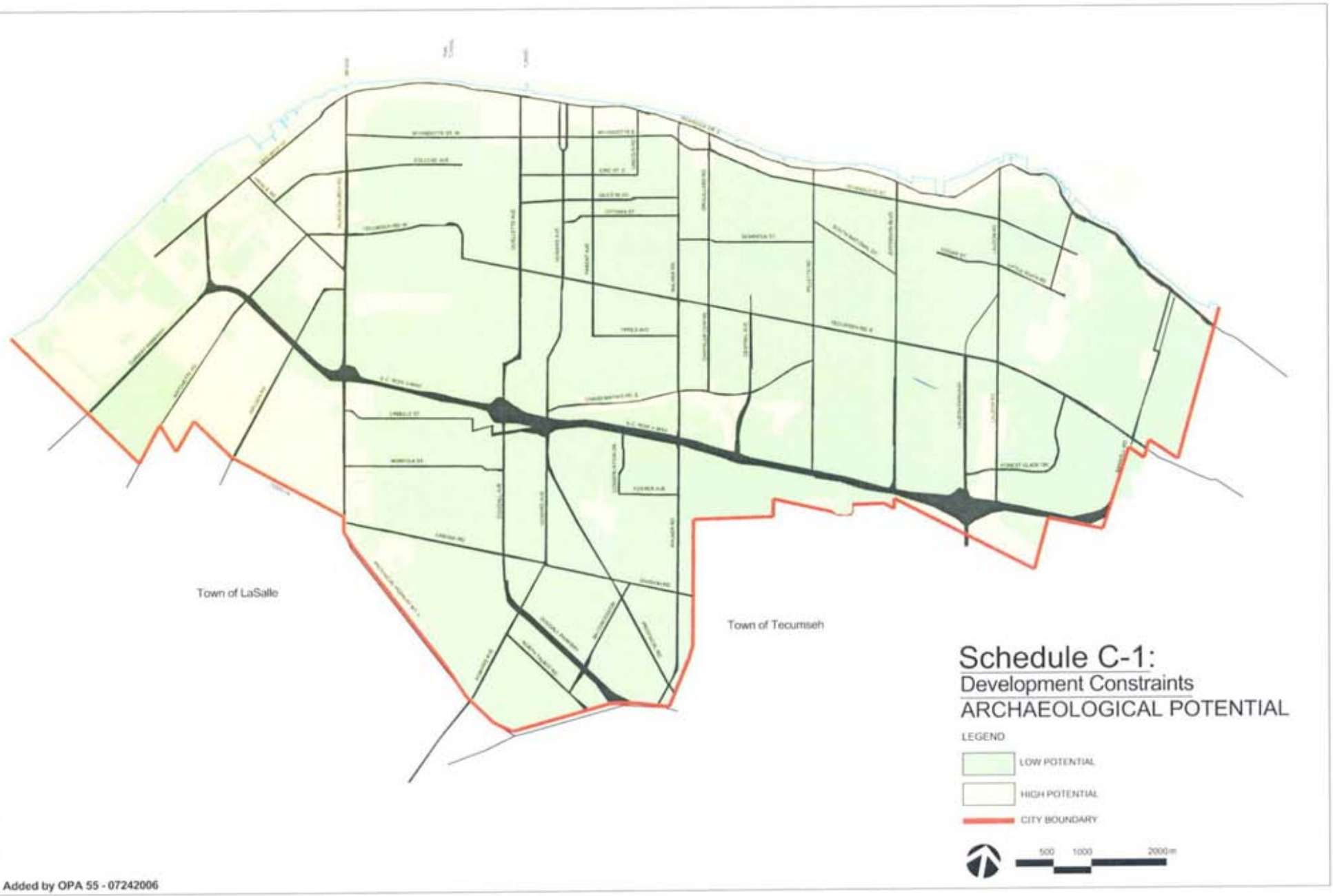
I invite your staff to observe the 'kiss & ride' congestion at the three main Chrysler Gates along Chrysler Ctr. during the 06:45 <-> 07:20 and 14:45 <->15:20 shift change periods. Despite the Chrysler Corporate and Municipal investment in infrastructure to support safe pedestrian crossings to the lots on the east side of Chrysler Ctr., this corridor is virtually closed to through traffic due to double parked private vehicles and pedestrians 'jay-walking' between pedestrian signals. Traversing this section during peak hours will be significantly more challenging acknowledging the increased traffic diverted from Walker Rd. throughout the CPR grade separation project.

Please maintain Transit Windsor as a stakeholder contact throughout the completion of the Environmental Study and on your invitee list should additional City Department or Public meetings be scheduled.

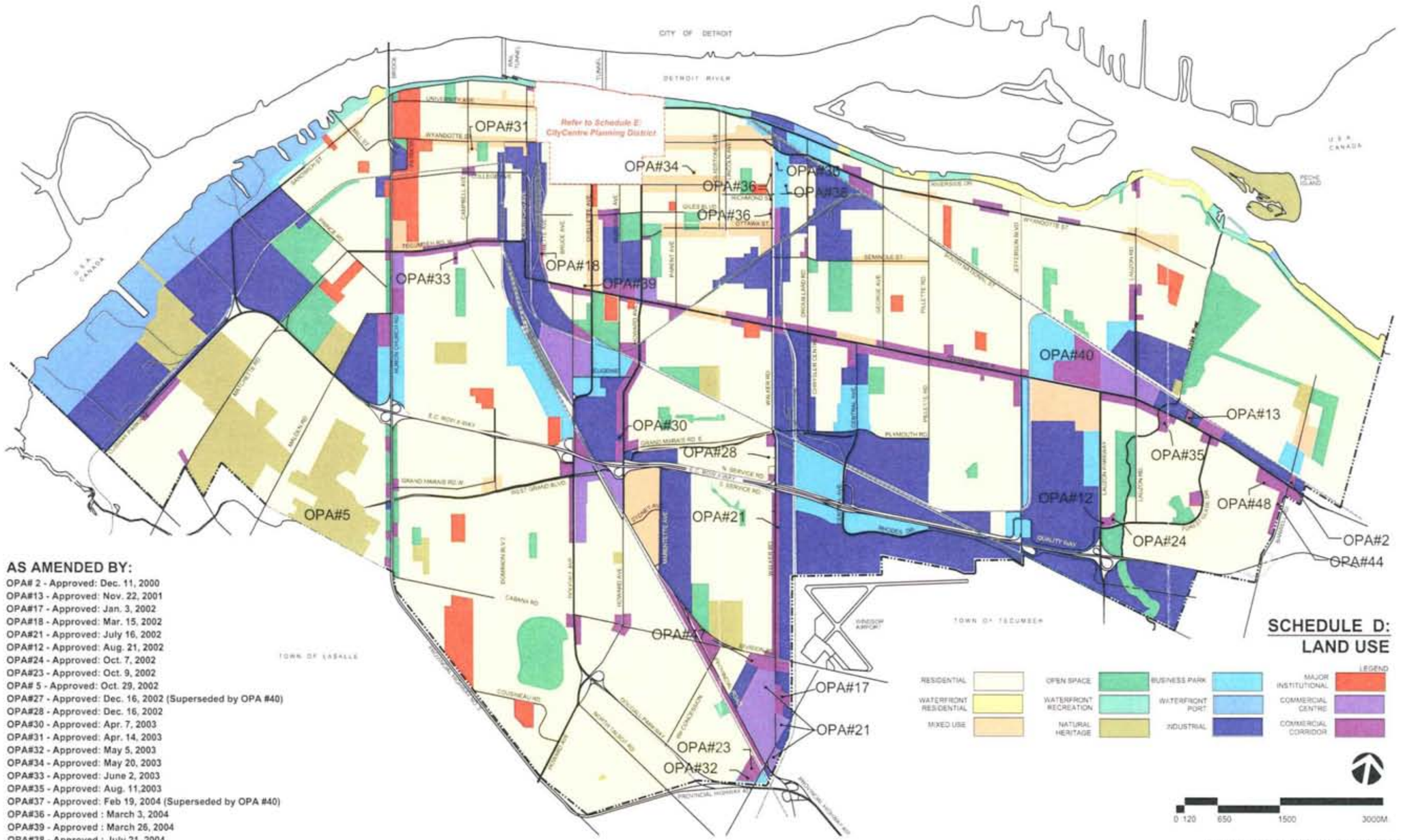
Please forward the PDF file format of your display "Alternative Routes - Figure 2", allowing us to share this information with staff electronically.

Best Regards,

Rob Larret
Planning Manager, Transit Windsor
3700 North Service Road East
Windsor, Ontario N8W 5X2
(519) 944 - 4141 Ext. # 230
rlarret@city.windsor.on.ca



Added by OPA 55 - 07242006



AS AMENDED BY:

OPA# 2 - Approved: Dec. 11, 2000
OPA#13 - Approved: Nov. 22, 2001
OPA#17 - Approved: Jan. 3, 2002
OPA#18 - Approved: Mar. 15, 2002
OPA#21 - Approved: July 16, 2002
OPA#12 - Approved: Aug. 21, 2002
OPA#24 - Approved: Oct. 7, 2002
OPA#23 - Approved: Oct. 9, 2002
OPA# 5 - Approved: Oct. 29, 2002
OPA#27 - Approved: Dec. 16, 2002 (Superseded by OPA #40)
OPA#28 - Approved: Dec. 16, 2002
OPA#30 - Approved: Apr. 7, 2003
OPA#31 - Approved: Apr. 14, 2003
OPA#32 - Approved: May 5, 2003
OPA#34 - Approved: May 20, 2003
OPA#33 - Approved: June 2, 2003
OPA#35 - Approved: Aug. 11,2003
OPA#37 - Approved: Feb 19, 2004 (Superseded by OPA #40)
OPA#36 - Approved : March 3, 2004
OPA#39 - Approved : March 26, 2004
OPA#38 - Approved : July 21, 2004
OPA#40 - Approved : July 21, 2004
OPA #44 - Approved : January 6, 2005
OPA #47 - Approved : May 10, 2005
OPA #48 - Approved : August 18, 2005

SCHEDULE D: LAND USE

City of Windsor Official Plan: Volume I
Date of OMB Approval : September 25, 2000
Office Consolidation : November 1, 2006

APPENDIX B

Public Consultation

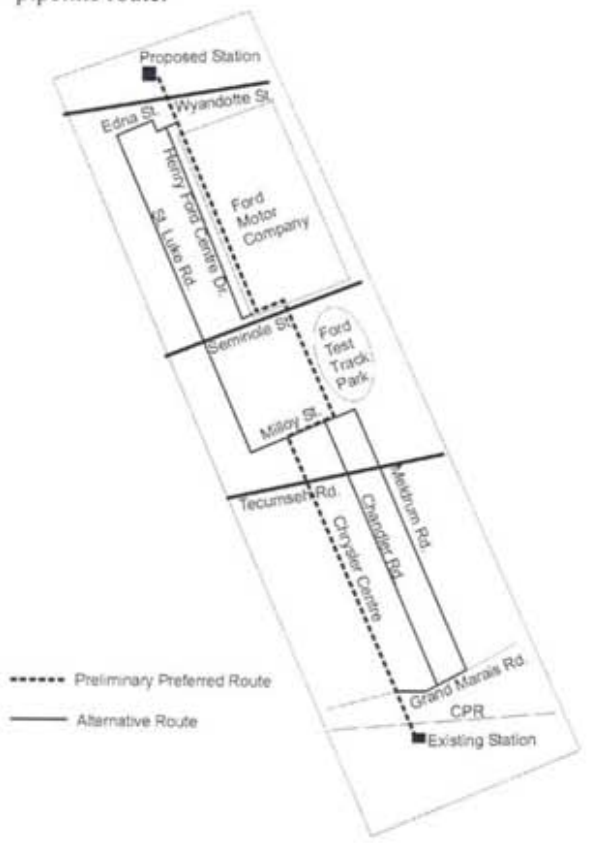
PUBLIC NOTICE
UNION GAS PIPELINE PROJECT

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre – an electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new 10 or 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific/Canadian National Railways, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street. Alternative routes have been identified for the pipeline (see below). All sections of the proposed pipeline running through residential areas would be located within the road allowance. Other sections would be located within easement on the affected industrial lands. A preliminary preferred route has been selected subject to comment from the public, affected property owners and the City of Windsor.

Azimuth Environmental Consulting has been retained by Union Gas to undertake an Environmental Assessment Report for this project that will be included in an application for project approval to the Ontario Energy Board. The Ontario Energy Board is the body that regulates the energy sector in the province and whose review and approval is required before this project can proceed. If approval is granted, construction would begin in the winter/spring of 2008.

Union Gas and Azimuth Environmental are contacting property owners and reviewing the lands along the preliminary preferred route to confirm its suitability. To learn more about the route alignment or the project in general and to provide an opportunity for input as a landowner on or in the vicinity of the pipeline route, we ask you to attend the **public open house being held on May 23, 2007 at Most Precious Blood Church on Meldrum Road** from 6:00 p.m. to 9:00 p.m. This will provide an opportunity for Union Gas and Azimuth to discuss the preliminary preferred route and the proposed pipeline construction procedures and specific mitigation measures along the pipeline route.



Anyone having an interest in this study is encouraged to call or submit their questions to:

Norm Dumouchelle - Environmental Planner
Union Gas Limited
P.O. Box 2001, 50 Keil Drive North
Chatham, ON N7M 5M1
1-800-571-8446, Extension 2936 or
email at NPDumouchelle@duke-energy.com

Paul Neals - Vice-President
Azimuth Environmental Consulting, Inc.
229 Mapleview Dr. East, Unit 1,
Barrie, ON L4N 0W5
call collect at 1-705-721-8451 or
email at paul@azimuthenvironmental.com

uniongas
A Spectra Energy Company

mailed to all residents and businesses

April 29, 2007

Dear Owner and/or Occupant:

RE: East Windsor Cogen Centre Pipeline Project

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre - an electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new 10 or 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street. Several alternative routes have been identified for the pipeline (see attached map). All sections of the proposed pipeline running through residential areas would be located within the road allowance. Other sections would be located within easement on the affected industrial lands.

An integral part of this pipeline project is an environmental assessment conducted by an independent third party -- Azimuth Environmental Consulting (Azimuth). As this pipeline may be built adjacent to or opposite from property owned or occupied by you we invite you to attend an upcoming Open House hosted by Azimuth. Representatives from Union Gas will also be available at the Open House to answer your questions. We welcome your comments and participation. Input received at the Open House will be used to help in the selection of a preferred route. Details are as follows:

PLACE: Most Precious Blood Church

ADDRESS: 1947 Meldrum Road

DATE: May 23, 2007

TIME: 6:00 pm to 9:00pm

If you have any questions or concerns regarding the alternative routes shown on the attached map or any other aspect of the project please call either of the following project staff.

NORM DUMOUCHELLE - UNION GAS ENVIRONMENTAL DEPARTMENT

1-800-571-8446, EXTENSION 2936 OR EMAIL npdumouchelle@spectraenergy.com

PAUL NEALS - AZIMUTH ENVIRONMENTAL CONSULTING

Call collect at 1-705-721-8451 or email at paul@azimuthenvironmental.com

Yours truly,

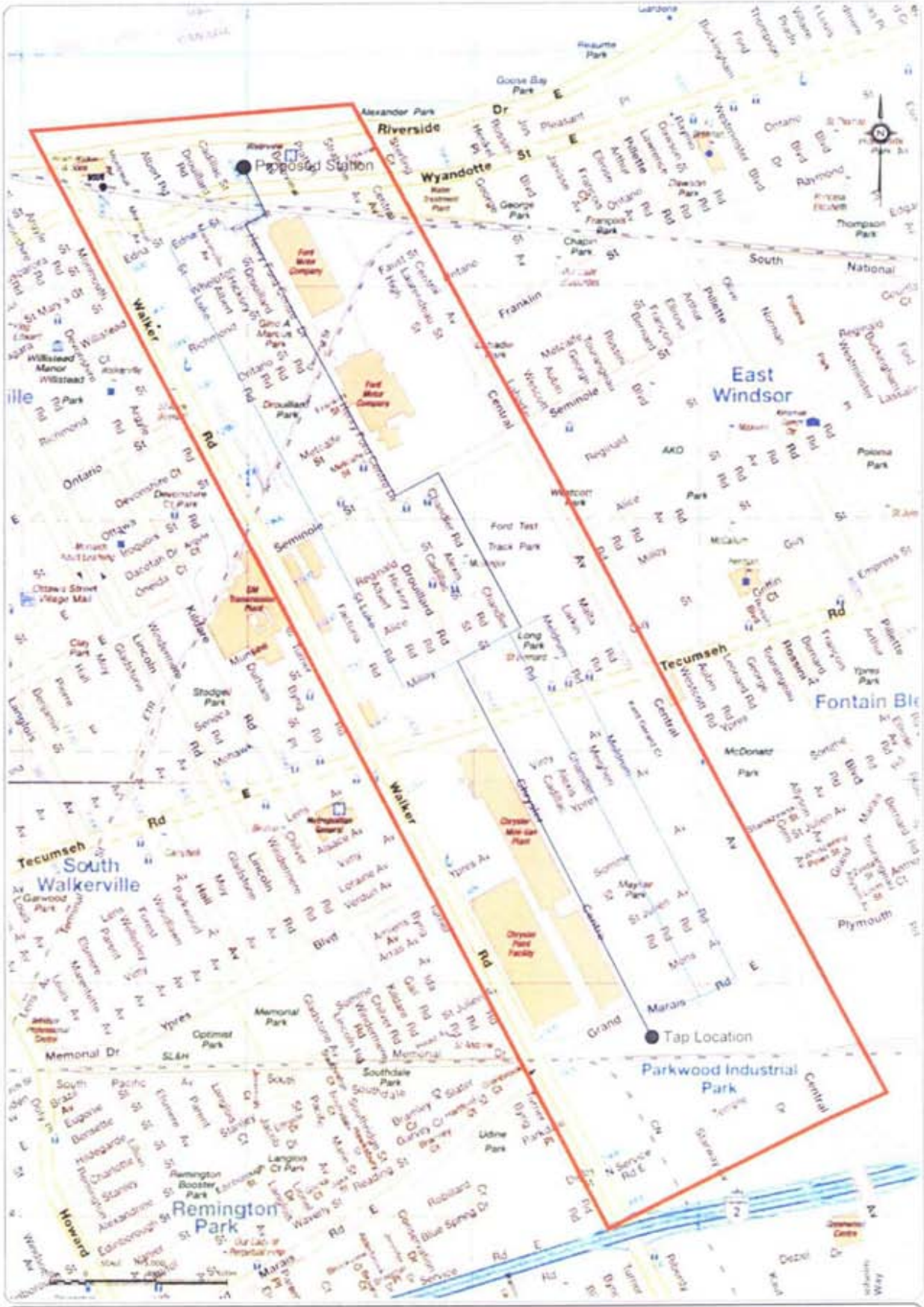
Ron Haley

B.L. (Ron) Haley, Senior Lands Agent

Lands Department

Union Gas Limited

1-800-571 – 8446 (Ext 2794)



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Alternate Routes

East Windsor Cogen Centre Pipeline Project

2

union gas

A Spectra Energy company

April 30, 2007

Mr. Jim Venus, Manager of Right-of-Way,
The Corporation of the City of Windsor,
Public Works Department
350 City Hall Square West, 3rd Floor,
Windsor, Ontario N9A 1S1

Dear Sir:

RE: East Windsor Cogen Centre Pipeline Project

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre - an electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new 10 or 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street. Several alternative routes have been identified for the pipeline (see attached map). All sections of the proposed pipeline running through residential areas would be located within the road allowance. Other sections would be located within easement on the affected industrial lands.

An integral part of this pipeline project is an environmental assessment conducted by an independent third party -- Azimuth Environmental Consulting (Azimuth). As this pipeline will be built within property owned by the City of Windsor, we invite you or a representative to attend an upcoming Open House hosted by Azimuth. Representatives from Union Gas will also be available at the Open House to answer your questions. We welcome your comments and participation. Input received at the Open House will be used to help in the selection of a preferred route. Details are as follows:

PLACE: **Most Precious Blood Church**
ADDRESS: **1947 Meldrum Road**
DATE: **May 23, 2007**
TIME: **6:00 p.m. to 9:00 p.m.**

union gas

A Spectra Energy Company

If you have any questions or concerns regarding the alternative routes shown on the attached map or any other aspect of the project please call either of the following project staff.

Norm Dumouchelle - Union Gas Environmental Department
1-800-571-8446, extension 2936 or email NPDumouchelle@spectraenergy.com

Paul Neals - Azimuth Environmental Consulting
Call collect at 1-705-721-8451 or email at paul@azimuthenvironmental.com

Yours truly,

B.L. (Ron) Haley, Senior Lands Agent
Lands Department
Union Gas Limited

1-800 – 571 – 8446 (Ext 2794)

Attach.

c.c. J. Skorobohacz – Chief Administrative Officer

East Windsor Cogen Centre Pipeline Project

A Union Gas Pipeline Project

Public Open House
May 23, 2007

Record of Attendance

Please print name and address for mailing list.

Name	Address
Steve Goodwin	9436 Ashland Drive Windsor, N8R1V2
ED CLOUGH	1601 LINCOLN ROAD
~~Kristina~~ Plumton	2607 Gem Ave.
Sally Seeger	1710 CENTRAL AVE
Anna Turner	1877 Walker Rd.
Marina Clemens	1102 [illegible] Rd N8Y2R1
[illegible] & Ron Bedard	1741 Chandler Rd N8Y4R1
[illegible]	350 [illegible] N7A6S1
[illegible] Skulte	2604 CHANDLER RD N8W 4B3
[illegible] Skulte	2604 Chandler Rd N8W 4B3.
[illegible] Trudeau	1493 ALDERT N8Y 3R4
[illegible]EGREIN	1182 HENRY Ford Ctr Dr N8Y2T6
Cathy Landry	1789 Central Ave.
[illegible] Hakim	City of Windsor hhakim@city.windsor.on.ca
SEAN HENRY	CBC RADIO 1550 AM
TED PROKOPCHUK	1757 ALEXIS RD
[illegible] Thomson	1720 ARTHUR RD.
CHRIS GLOS	3535 NORTH SERVICE RD.
[illegible] Kitchen	1716 CHANDLER Rd.
PHIL RUSZCZAK	1760 FACTORIA
KEN - PAT MERNEAU	2782 ALLYSON AVE

East Windsor Cogen Centre Pipeline Project

A Union Gas Pipeline Project

Public Open House
May 23, 2007

Record of Attendance

Please print name and address for mailing list.

Name	Address
Danica Vukmirovic-Kelso	1683 Alexis Rd N8Y 4P3
ROB LARRET	TRANSIT WINDSOR RLARRET@CITY.WINDSOR.ON.CA.
Fr. Matt Kucharski	1947 Meldrum Rd. N8W 4E3

East Windsor Cogen Centre Pipeline Project

Welcome to the

Public Open House

on the

East Windsor

Cogeneration Centre

Natural Gas Supply

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Purpose of the Public Open House

To provide an overview of :

. Pipeline route selection process

. Criteria used to select the alternative pipeline routes for the Cogen Plant natural gas supply

. Rationale for selection of preliminary preferred route

. Required approvals

. Proposed project schedule

. Construction methods used

To solicit feedback on :

. Potential impacts of the alternative routes in proximity to your property

. Environmental or construction issues

. Suitability of the alternative routes

. Other potential alternative routes

East Windsor Cogen Centre Pipeline Project

ROUTE SELECTION PROCESS

Establish need for the project and define the study area.

↓

Undertake land use and environmental inventory of study area.

↓

Contact government agencies, municipalities and public interest groups to identify their concerns.

↓

Map the constraints and select alternative routes that avoid or minimize the potential impacts.

↓

Compare and evaluate the alternative routes and select preliminary preferred route.

↓

Hold public open house to discuss alternative routes and rationale for selection of the preliminary preferred route.

↓

Select the preferred route and complete detailed environmental inventory along the route.

↓

Submit a report on the route selection process to the Ontario Energy Board and other interested parties for review.

↓

Submit Leave to Construct application to the Ontario Energy Board to obtain approval for obtaining easement and construction.

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

East Windsor Cogen Centre Pipeline Project

ROUTE SELECTION CRITERIA

Attempt to occupy existing utility easements and road allowances to minimize creating new easements on private property

Attempt to minimize overall route length to minimize community and residential area disruption

Attempt to minimize potential disturbance to landscape trees adjacent to or within the municipal road allowance

Attempt to avoid streets with high traffic volumes and streets dominated by commercial businesses to minimize disturbance during construction

Preliminary Preferred Route

All alternative routes represent viable alternatives that could be potentially used if preliminary preferred route is not acceptable

All alternative routes are environmentally acceptable and can be constructed using standard construction methods that will not create any significant long term environmental impacts

Preferred alternative is based on land use, environmental, engineering and construction considerations

Public and government input is still required to determine overall suitability of alternative routes and preliminary preferred route

Chrysler Centre Alternative Considerations

Optimizes use of municipal road allowances in non-residential areas

Minimizes potential disruption to residential areas and landscape trees within the street boulevard

Potential for increased traffic congestion if pipeline construction is same time as Walker Road closure and traffic detour onto Chrysler Centre

Potential conflict with Daimler Chrysler manufacturing facilities use of the property to the east for any future plant expansion

East Windsor Cogen Centre Pipeline Project
ALTERNATIVE ROUTES - SOUTH SECTION

Chandler Road Alternative Considerations

Significant number of landscape trees within the street boulevard requiring root system protection during construction

Minimal potential conflict with existing municipal sewer and water utilities within road allowance

Construction in proximity to school

Potential to combine pipeline construction with proposed City of Windsor utility upgrades within the road allowance

Short term disruption for residents during construction

Meldrum Road Alternative Considerations

Limited space for pipeline easement with existing municipal sewer and water utilities within road allowance

Minimizes potential disruption of landscape trees within the municipally owned street boulevard

Construction in proximity to a school

Short term disruption for residents during construction

Preliminary Preferred Route Selection Rationale - Chrysler Centre

Advantages

Optimizes use of municipal road allowances in non-residential areas

Opportunity to minimize disruption to traffic during construction through use of parking lanes, public park land and industrial land

Minimizes potential disruption to residential areas and landscape trees within the street boulevard

Disadvantages

Conflict with future use of adjacent lands for Daimler Chrysler plant expansion

Walker Road diversion of traffic to Chrysler Centre at same time as proposed pipeline construction, potential for increased traffic congestion

East Windsor Cogen Centre Pipeline Project
ALTERNATIVE ROUTES - NORTH SECTION

Ford Test Track Park/ Ford Motor Company Alternative Considerations

No potential conflict with existing municipal sewer and water utilities

Minimal disturbance to park during construction

Construction in proximity to school

Potential to place pipeline within Ford Motor Company property

Ability to avoid residential streets

Parkland restored to preconstruction condition

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Henry Ford Centre Drive Alternative Considerations

Landscape trees within the street boulevard requiring root system protection during construction

Minimal potential conflict with existing municipal sewer and water utilities within road allowance

Short term disruption for residents during construction

St. Luke Road Alternative Considerations

Landscape trees within the street boulevard requiring root system protection during construction

Residential on one side of the road, disruption to fewer residents

Potential conflict with existing municipal sewer and water utilities and high voltage electrical line within road allowance

Short term disruption for residents during construction

Preliminary Preferred Route Selection Rationale - Ford Test Track Park/Ford Motor Company

Advantages

Optimizes use of industrial land and municipal park land in residential area

Avoids short term disturbance to residential streets during construction

Disadvantages

No significant disadvantages

East Windsor Cogen Centre Pipeline Project

FUTURE ACTIVITIES

If the project moves forward to construction in 2008 the tentative schedule would be:

Completion of Environmental Study
(Summer 2007)

Ontario Energy Board and Ontario Pipeline Coordinating Committee submission and public comment
(Summer 2007)

Ontario Energy Board review and decision on preferred route (Winter 2007)

Pre-engineering field studies (Fall 2007/Winter 2008)

Pipeline construction and cleanup (Spring/Summer 2008)

Pipeline in service (Summer 2008)

East Windsor Cogen Centre Pipeline Project

A Union Gas project to construct a pipeline to supply natural gas to a new cogeneration plant

Azimuth Environmental & Union Gas May 2007

1) Introduction

The Government of Ontario is looking for new, clean electricity sources. Natural gas can fuel new electric power plants to produce electricity needed for Ontario homes and businesses.

Union Gas is exploring potential routes for a pipeline to bring natural gas service to the East Windsor Cogen Centre. The proposed project includes construction of approximately 4.8 km of up to 12 inches in diameter pipeline which will run from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street. If approved, construction could occur as early as the spring/summer of 2008

Azimuth Environmental Consulting (Azimuth) has been retained by Union Gas to undertake an Environmental Assessment Report for this project that will be included in an application to the Ontario Energy Board (OEB) in the winter of 2007. The OEB's review and approval is required before this project can proceed.

The Environmental Assessment process includes public consultation --through venues such as this open house-- which is instrumental in the evaluation of various route alternatives for the pipeline and ultimately in the selection of the final preferred route. The Ontario Energy Board is the body that regulates the energy sector in the province and whose review and approval is required before this project can proceed.

2) Alternative Route Selection

Azimuth Environmental has been retained by Union Gas to prepare an environmental and socio-economic report for the proposed pipeline. Union Gas and Azimuth have completed the identification, evaluation and comparison of several alternative routes (see enclosed figure). We are now reviewing the alternative routes with government agencies, affected municipalities, affected property owners and the general public to obtain their input. Following this consultation, the preferred route location will be finalized. The alternative routes were developed based on the following route selection criteria and the *Ontario Energy Board Environmental Guidelines*.

- Attempt to occupy existing utility easements and road allowances to minimize creating new easements on private property;
- Attempt to minimize overall route length to minimize community and residential area disruption
- Attempt to minimize potential disturbance to landscape trees adjacent to or within the municipal road allowance; and
- Attempt to avoid streets with high traffic volumes and streets dominated by commercial businesses to minimize disturbance during construction;

In addition, engineering, cost and construction considerations were also factors in the route selection process.

The application of the above criteria resulted in the identification of the alternative routes that are described below:

Southern Alternatives

Three alternatives were identified between the tap location south of Grand Marais Road East and Milloy Street located north of Tecumseth Road. The alternative routes utilized the road allowances along Chrysler Centre, Chandler Road and Meldrum Road. Chrysler Centre provided the opportunity to avoid the residential areas on Chandler and Meldrum. Meldrum had limited landscape trees that could be affected. Chandler provided a direct route to Milloy Street. Milloy is the east west road common to all the north south alternatives.

Subsequent to the selection of Chrysler Centre as an alternative route, Azimuth have been informed by Daimler Chrysler that use of the road would restrict the ability to

expand the plant to the east, which has been discussed under potential growth options.

The City of Windsor has indicated that Meldrum recently had sewer and water placed in the municipal road allowance, restricting the ability to construct the gas pipeline in the same right-of-way.

The City is considering upgrades to the municipal services within Chandler Road and the opportunity may exist to combine the two projects to minimize disturbance to the residents.

Northern Alternatives

Milloy Street is the east west street common to all the alternatives and as such we considered it the boundary between the north and south alternatives. The Ford Test Track Park provided the opportunity to avoid the residential areas and construct the pipeline with no affect on the continued public use of the park. Upon exiting the park we could place the pipeline within the Ford Motor Company land.

If the Ford Motor Company routing is problematic an alternative is Henry Ford Center Drive, where the pipeline could be placed in the road allowance.

The St. Luke Road alternative provided a direct north-south route to access the generation site on the Ford Motor Company property. However the City of Windsor has indicated the road allowance is constrained by high voltage electrical lines and municipal water and sewer services.

3) Selection of Preliminary Preferred Route

Information gathered at this Open House will be used to finalize the selection of a preferred route for the pipeline. Following this, all the landowners whose property the pipeline will be constructed on, will be contacted by Union Gas to discuss their concerns and provide them with information on the approval process, land acquisition/easement practices and construction activities.

Based on the information provided at the time the public notice was distributed the preliminary preferred route was Chrysler Centre to Milloy Street, east to the Ford Test Track Park and north along the west edge of the park and through the Ford Motor Company lands to the proposed generating station.

Recent discussions with Daimler Chrysler have identified that lands to the east of the plant containing Chrysler Centre and the plant employee parking are lands Chrysler would like to preserve for any future expansion of the plant. As a result of this potential conflict with future industrial growth in the study area Azimuth is re-evaluating all the alternative routes. At this time no final decision on the preliminary preferred route has been made. This decision will be made after consultation with the public at the Public Open House and consultation with the affected municipalities, government agencies and Union Gas.

None of the alternatives involve placing the pipeline on private property in the residential areas. The entire pipeline will be placed within the road allowance, lands owned by the City of Windsor or on industrial lands. None of the alternatives selected affect natural habitat designated as environmentally sensitive or with vulnerable/threatened /endangered species.

Upon selection of the preferred route a letter will be sent to the affected property owners informing them of our decision and the rationale for the route selected. A second Public Open House may be held, depending on the public response to the use of the municipal road allowance within the residential areas. Industrial or commercial property landowners whose property is directly affected by the preferred route will be contacted by Union Gas for a landowner interview to discuss their concerns, and all aspects of land acquisition, the approval process and construction.

4) Reducing Impacts

The potential impacts along the alternative routes are limited to construction within the maintained road allowance, temporary traffic disruption, noise and potential nuisance impacts during construction.

Disturbance to residents along road allowances during construction will be limited to noise from construction equipment and short-term traffic interference. Access to adjacent residents will be maintained during construction and Union Gas will designate staff to discuss the construction activities with adjacent landowners.

To minimize disturbance to the adjacent residents, Union Gas is proposing to directionally drill where possible beneath the paved municipal road allowance. This will limit disturbance from road excavation to approximately every 200 metres where the directional drill equipment will be set up to drill and receive the pipe along the route. Directional drilling will minimize any disturbance to the root systems of the trees adjacent to the road allowance enabling the pipe to be installed below the root system.

5) Future Activities

Following the Public Open House, the preferred route will be selected and discussions with the directly affected property owners will commence. If the project moves forward in 2008 the tentative schedule would be:

- Completion of Environmental Study (Summer 2007)
- Ontario Energy Board and Ontario Pipeline Coordinating Committee submission and public input Summer 2007)
- Ontario Energy Board review and decision on preliminary preferred route (Winter 2007)
- Pre-engineering field studies (Fall 2007/Winter 2008)
- Pipeline construction and cleanup (Spring/Summer 2008)
- Pipeline in service (Summer 2008)

6) Information Contacts

Please contact the following individuals if you have questions regarding:

Engineering
Peter Fantuz, Construction Engineer
Union Gas
1-800-571-8446 (ext. 2876)

Lands Department
Ron Haley, Lands Agent
Union Gas
1-800-571-8446 (ext. 2794)

Study Process and Approvals
Norm Dumouchelle, Environmental Planner
Union Gas
1-800-571-8446, (ext. 2936)

Environmental Studies
Paul Neals, Senior Environmental Planner
Azimuth Environmental
705-721-8451

Please call collect.

Legend:

- Study Area
- Preliminary Preferred Route
- Alternative Routes

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

ALTERNATIVE ROUTES

Date Issued:	May 2007
Created By:	PHD
Project No:	07-023
File Name:	Figure 2

East Windsor Cogen Centre Pipeline Project

Figure No. 2

East Windsor Cogen Centre Pipeline Project

A Union Gas Pipeline Project

Public Open House
May 23, 2007

Public Comment Form

Please complete this comment form and leave in the comment form box or with Azimuth or Union Gas staff in attendance.

1. **What is your interest in this study?**

Affected Landowner _____ Interested Citizen _____
Interest Group Member _____ Government Representative _____
Other (please specify) _____

2. **Do you have any concerns regarding the location of any of the alternative routes?**

3. **Do you have any concerns regarding the use of the municipal road allowance or City of Windsor owned lands for the natural gas pipeline?**

(Please complete other side of form)

4. **Do you have any other concerns about this proposed project that you would like to bring to our attention?**

_____

_____

_____

_____

_____

_____

5. **Do you want us to contact you to discuss your concerns?**

Yes _____ No, adequately addressed at meeting _____

If yes, please provide your full mailing address and telephone number so we can contact you.

Name - _____

Address - _____

Telephone - _____

6. **Do you want to receive a copy of the Environmental Study Report that will be submitted to the Ontario Energy Board for review?**

Yes _____ No _____

(If yes ensure complete mailing address completed above)

7. **Do you want the information on this comment form kept confidential?**

Yes_____ No_____

East Windsor Cogen Centre Pipeline Project

A Union Gas Pipeline Project

Public Open House
May 23, 2007

Public Comment Form Response Summary

What is your interest in this study?
Affected Landowner ___5____ Interested Citizen __15_____
Interest Group Member _____ Government Representative __3_____
Other (please specify) _____1 CBC reporter_____

TOTAL OF 24 ATTENDEES

Attendees Within Study Area (13)

- 4 Chandler Rd., 2 Alexis, Rd., 2 Central Ave, 1 Drouillard Rd., 1 Walker Rd., 1 Albert Rd., 1 Henry Ford Centre Dr., 1 Factoria Rd.

Attendees Outside Study Area (8)

- 9 individuals living outside study area

Government Agency Attendees (3)

City of Windsor –Parks and Recreation, Transit Windsor, Public Works

SUMMARY OF RESPONSE TO COMMENT FORM QUESTIONS

Total Comment Forms Completed – 10

No concerns stated for all responses on 2 of the 10 comment forms from interested citizens.

Do you have any concerns regarding the location of any of the alternative routes?

- Preliminary preferred route will have the least impact on residents, business and schools (study area resident)
- Too close to residential area on St. Luke and Meldrum (interested citizen)
- Increased traffic if construction same time as Walker Rd. closure for road improvements (study area resident)
- Stick to main route (study area resident)

- Chrysler Centre route best route, least interruptions to homeowners and less trees (affected landowner, no contact information provided)
- Put gas line on Chrysler Centre away from homes and children, doubt Chrysler expanding more likely downsizing, pipeline does not need to be finished by 2008 (affected landowner, no contact information provided)
- Concerned about safety and health of children and residents in area and safety record of existing pipelines that go through populated areas, Ford Test Track Park is the only green space in an area that is not very wealthy, would hate to see other project such as transformer stations on our only green space (study area resident)
- Concern that pipeline on Ford property behind my residence on Henry Ford Centre Drive is too close to my house and lot line, map seems to indicated the pipeline would run along my side of the Ford fence, too close for comfort, would like assurance in writing that the pipeline will not be located on my side of the Ford fence before I give my OK to such a project, I would like to be informed of how many holes would be dug around my home between tunnelings (study area resident)

Do you have any concerns regarding the use of the municipal road allowance or City of Windsor owned lands for the natural gas pipeline?

- Maintain existing grass, curbs and sidewalks (interested citizen)
- Safety concern over leaking gas/sewers, do construction in non-residential area, strongly object to any construction in study area (study area resident)

Do you have any other concerns about this proposed project that you would like to bring to our attention?

- Utilize City, Ford and Chrysler properties as much as possible rather than residential streets (study area resident)
- Potential for accidents/safety issues between construction crews and residents (interested citizen)
- Central Ave resident with main concern congested traffic on Central due to Walker Road closure and pipeline construction, want to informed of selected route and next open house meeting, any effects from past project 5 years ago (study area resident)
- Will you replace trees that may die due to construction (study area resident, no contact information)
- Concerned about elderly residents who do not read or speak English well and may not fully understand what is proposed and they have the right to voice their concern without negative consequences, perhaps letters in their native tongue and large font could address this, I do not know the health and safety record in other residential areas with a pipeline going through it (study area resident)
- Concern over vibration from Ford's dyno testing lab area affecting the pipeline, existing vibration created by vacuum truck that clean up waste and gas spills (few

years ago a gasoline leak occurred behind house that was cleaned up over several hours, my point is gas line in volatile area which raised fears of explosion behind my house where line is proposed), heavy trucks and heavy dropping of large scrap bins (study area resident)

Do you want us to contact you to discuss your concerns?

Yes _2___ No, adequately addressed at meeting __7___

- Contact regarding health and safety issue (study area resident)

If yes, please provide your full mailing address and telephone number so we can contact you.

Name - _____

- Address - _____

Telephone - _____

Do you want to receive a copy of the Environmental Study Report that will be submitted to the Ontario Energy Board for review?

Yes __7____ No ____3____

(If yes ensure complete mailing address completed above)

Do you want the information on this comment form kept confidential?

Yes___3_____ No___6___

ISSUES FROM CONVERSATIONS WITH ATTENDEES

- Safety of pipeline in residential areas
- Added traffic congestion on area streets when construction forces added to traffic diversion for Walker Road improvements
- Visible air pollution from the Brighton Beach cogeneration plant
- Doubt that Daimler Chrysler will every expand, big three autoworkers significantly downsizing and work force leaving Windsor

DAIMLERCHRYSLER

DaimlerChrysler Canada Inc

05/17/2007

Norm Dumouchelle -Union Gas Environmental Department
Paul Neals - Azimuth Environmental Consulting

Dear Sirs:

Re: **Union Gas - East Windsor Cogen Centre Pipeline Project**

DaimlerChrysler Canada has recently been informed by Union Gas that the preferred route for the East Windsor Cogen Centre Pipeline Project includes installing a 12 inch high pressure natural gas pipeline underground along Chrysler Centre adjacent to the Daimler Chrysler Windsor Assembly Plant.

The preferred route along Chrysler Centre raises the following concerns:

1. **Production Loss**

   The Windsor Assembly Plant is embarking on a brand new 2008 minivan model in July 2007 and the plant will be at full production on three shifts five days a week with possible overtime on Saturdays. Between every shift change employees are coming and going for about an hour from parking lots on Chrysler Centre. Also throughout the day just in time production material is arriving at the plant. During the period of proposed construction Chrysler Centre has been designated as the official detour route for the Walker Road Grade Separation Project, adding up to an estimated 32,000 vehicles per day on top of the normal traffic.
   Any disruption in the detoured traffic flow caused by a pipeline construction project will delay employees from getting to work and delay just in time production material from arriving at the plant on time causing DaimlerChrysler harm from lost production valued at $2 million per hour.

2. **Deterring Future Expansion Possibilities**

   The Windsor Assembly Plant is land constrained and any future expansion may include the use of Chrysler Centre and the parking lots on the east side of Chrysler Centre. Installing a high pressure gas line on Chrysler Centre would deter expansion options and may affect the competitiveness of the Windsor site for future considerations.

In our opinion the preferred route along Chrysler Centre would cause DaimlerChrysler Canada significant economic harm and alternate routes should be explored.

Yours truly

B. Sellan

Bryan Sellan
Manager Facility Engineering
DaimlerChrysler Canada Inc.

DaimlerChrysler Canada Inc.
PO Box 1621, 3939 Rhodes Dr
CIMS 242-01-03
Windsor, Ontario N9A-4H5
Phone 519-973-2879
Fax 519-973-2613

Letter to open house attendees not on Chandler Road informing them of preferred route

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

July 13, 2007 AEC 07-023

«Title» «Name»
«Address1»
«Address2»
«Windsor», «ON» «PostalCode»

RE: East Windsor Cogen Centre Pipeline Project

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new up to 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street.

On May 23rd a public open house was held at Most Precious Blood Church on Meldrum Road. The public open house was advertised in the Windsor Star and letters were mailed to all the landowners along the alternative routes. A total of 13 residents attended from the study area, five of whom live along the alternative routes or preliminary preferred route. Attendees were not opposed to the use of municipal road allowances for the gas pipeline provided appropriate safety measures are taken and there is minimal disruption to traffic and trees adjacent to the paved street.

Daimler Chrysler has indicated that the lands to the east of the plant containing Chrysler Centre and employee parking, are lands they would like to preserve for any potential future expansion of the plant. This would require the City of Windsor to close Chrysler Centre as a municipal road and sell the lands to Daimler Chrysler, a possibility the City of Windsor has indicated they would seriously consider. If an expansion of the Daimler Chrysler plant occurred Union Gas would be required to relocate the gas pipeline.

229 Mapleview Drive East, Unit 1, Barrie, Ontario L4N 0W5
telephone: (705) 721-8451; fax: (705) 721-8926 info@azimuthenvironmental.com

services located in the road right of way. As a result of this information, Azimuth has recommended the preferred route be revised to place the gas pipeline along Chandler Road (see attached map). The pipeline would be located within the municipal road allowance along Chandler Road to the Ford Test Track and then through the Ford motor Company property.

The preferred route affects only two residential streets, Chandler Road and Milloy Street. Along Chandler Road, Union proposes to construct the pipeline on the west side of the municipal road allowance from Grand Marais Road East to Tecumseh Road and on the east side from Tecumseh to Milloy Street. The pipeline will be placed on the south side along Milloy Street to access the Ford Test Track Park. This alignment, while not yet approved by the City was recommended by the City to avoid existing buried services.

To address the public's desire to minimize disruption to the community, Union Gas will construct the pipeline in the municipal right-of-way within the boulevard between the street and the sidewalk. The pipeline would be placed under the boulevard to avoid existing buried services. Union will directionally drill as much of the pipeline as possible. Directional drill access excavations will be located every 150 – 200 metres and will be approximately 5 metres wide and 10 metres long, the majority of which will be within the street. The location of the directional drill access excavations will be selected to minimize disruption to trees and driveways. Union Gas construction staff will be on site to liaise with residents and to ensure all safety procedures are followed. The pipeline will be constructed in compliance with provincial safety requirements for pipeline construction in urban areas. The construction area will be restored to its current condition.

Azimuth is working to complete the Environmental Report documenting the route selection process and the rationale for the preferred route. The report is an integral part of our application to the Ontario Energy Board (OEB), whose review and approval is required before this project can proceed.

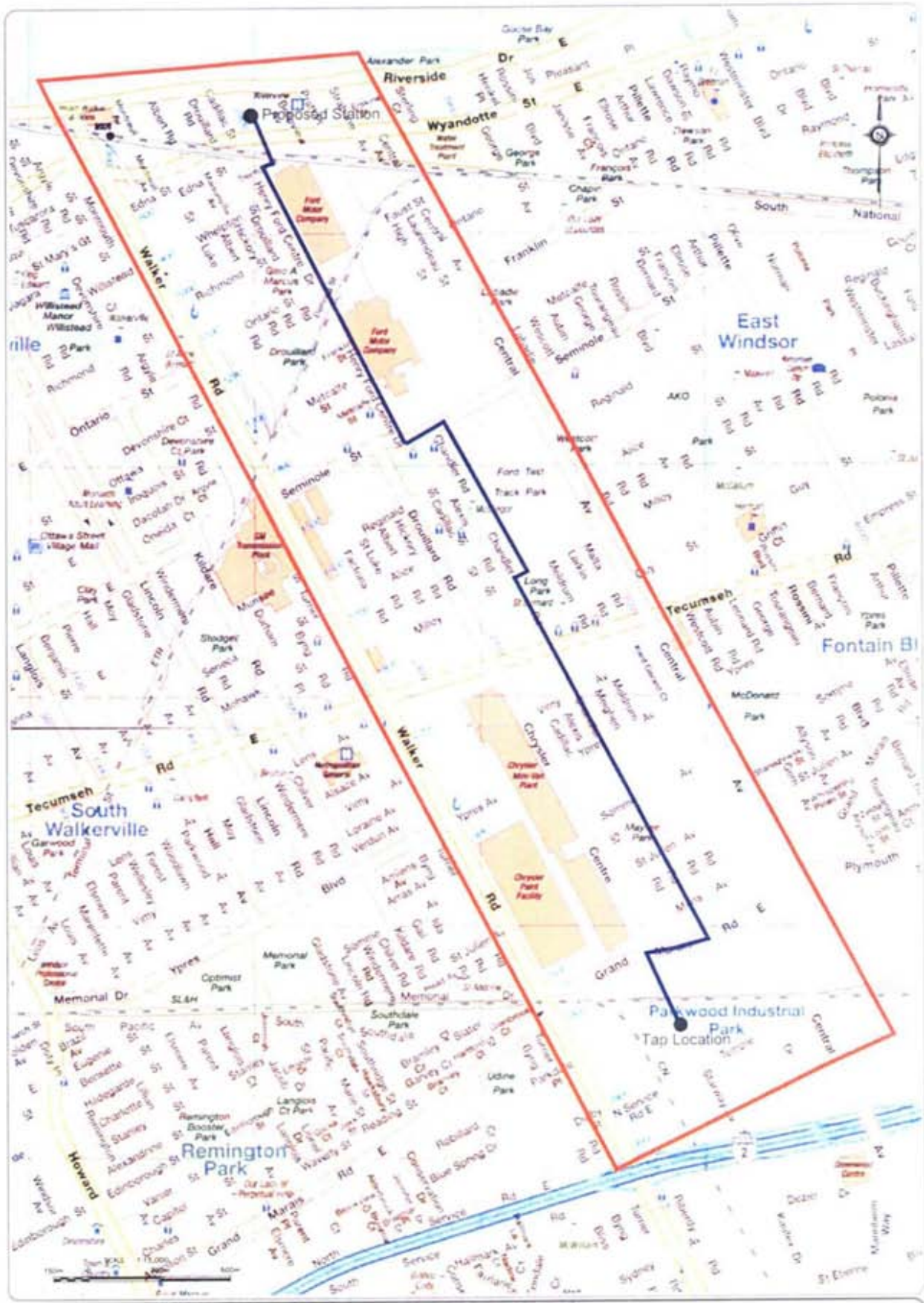
If you have any questions or concerns regarding the preferred route and the use of Chandler Road or any portion of the route shown on the attached map or any other aspect of the project, please call either of the following project staff immediately.

Norm Dumouchelle – Union Gas Environmental Department
1-800-571-8446, extension 2936 or e-mail npdumouchelle@spectraenergy.com

Paul Neals – Azimuth Environmental Consulting
Call collect at 1-705-721-8451 or e-mail paul@azimuthenvironmental.com

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Paul Neals, B.Sc.Agr.
Vice-President
PCN:



Legend:
- Study Area
- Preferred Route

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Preferred Route

Date Issued	June 2007
Created By	PHD
Project No.	07-1023
File Name	Figure 2

East Windsor Cogen Centre Pipeline Project

Figure No. 2

union gas
A Spectra Energy Company

July 3, 2007

Dear Owner and/or Occupant:

RE: East Windsor Cogen Centre Pipeline Project

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor.

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The City of Windsor does not recommend the use of Meldrum Road due to the existing services located in the road right of way. As a result of this information, Azimuth has recommended the preferred route be revised to place the gas pipeline along Chandler Road (see attached map). The pipeline would be located within the municipal road allowance along Chandler Road to the Ford Test Track and then through the Ford motor Company property.

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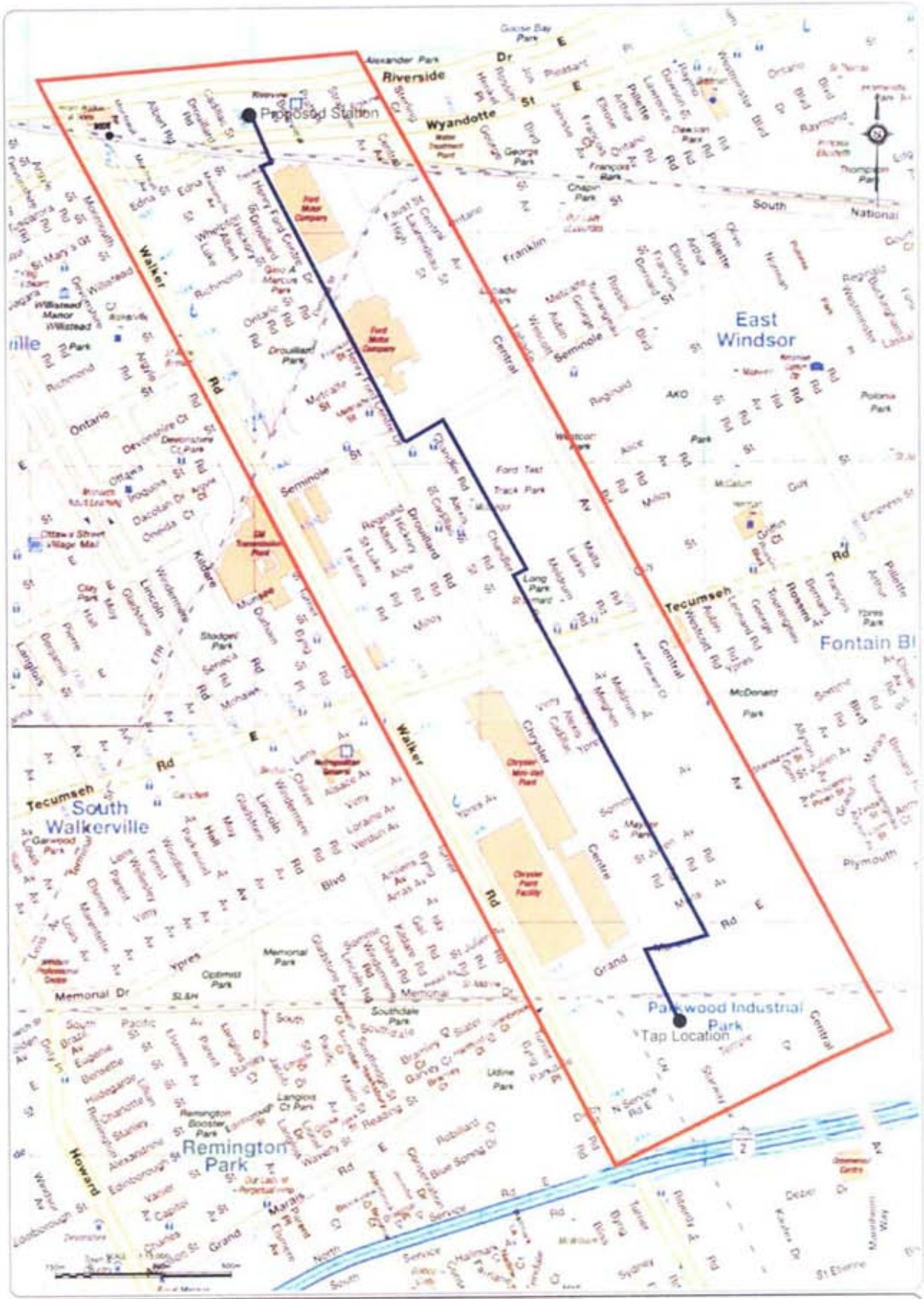
Yours truly,

Ron Haley

B.L. (Ron) Haley, Senior Lands Agent
Lands Department
Union Gas Limited 1-800-571-8446, extension 2794
or e-mail rhaley@spectraenergy.com



ADMUTH ENVIRONMENTAL CONSULTING, INC.

Preferred Route

Date Issued	June 2007	East Windsor Cogen Centre Pipeline Project	Figure No. 2
Checked By	PHD		
Project No.	07-023		
File Name	Figure 2		

union gas
A Spectra Energy Company

July 3, 2007

Mr. Jim Venus, Manager of Right-of-Way
The Corporation of the City of Windsor
Public Works Department
350 City Hall Square West, 3rd Floor,
Windsor, Ontario N9A 1S1

Dear Sir:

RE: East Windsor Cogen Centre Pipeline Project

As the City of Windsor is a landowner affected by this project, we recently sent you a letter dated April 30, 2007 inviting you or a representative to an Open House concerning this project held on May 23, 2007 at Most Precious Blood Church in Windsor. The purpose of this letter is to update you concerning the project, and the balance of this letter is in the form being delivered to some of the indirectly affected landowners of the project, and to the public open house attendees.

In response to the Government of Ontario's request for new clean energy sources, Union Gas Limited is currently working on preliminary plans for a new pipeline to supply natural gas to the proposed East Windsor Cogeneration Centre electricity generation facility in the City of Windsor.

Union Gas can serve the East Windsor Cogeneration Centre facility by constructing a new up to 12 inch diameter natural gas pipeline from an existing Union Gas station east of Walker Road adjacent to the Canadian Pacific Railway, to the proposed East Windsor Cogeneration Centre site located on the Ford Motor Company of Canada lands north of Wyandotte Street East and east of Cadillac Street.

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union Gas

A Spectra Energy Company

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Paul Neals – Azimuth Environmental Consulting
Call collect at 1-705-721-8451 or e-mail paul@azimuthenvironmental.com

Yours truly,

Ron Haley

B.L. (Ron) Haley, Senior Lands Agent
Lands Department
Union Gas Limited 1-800-571-8446, extension 2794
or e-mail rhaley@spectraenergy.com

APPENDIX C

Environmental Management Manual

ENVIRONMENTAL MANAGEMENT MANUAL

uniongas

A Spectra Energy Company

Environmental, Health and Safety Policy

Union Gas Limited (A Spectra Energy Company) highly values the health and safety of our employees, contractor's customers and communities. This Environmental, Health & Safety Policy establishes principles to protect and advance the corporation's essential interests and to fulfill our commitment to people and the environment. Protecting and responsibly managing natural resources are critical to the quality of life in the areas we serve, the environment and Union Gas Limited's long term business success.

Our Principles

Accountability Leadership is accountable for systematically managing environmental, health & safety (EHS) risks, opportunities and impacts as an integral part of our business. All employees are held accountable for understanding and incorporating environmental, health & safety responsibilities into daily work activities. All contractors, suppliers and partners are accountable for meeting applicable EHS requirements.

Stewardship Union Gas Limited will use natural resources and energy efficiency to reduce waste, discharges and emissions at their source. We will strive to improve operations with a focus on preventing environmental & safety incidents and preserving public safety. Union Gas Limited will engage in partnerships that enhance public environmental, health & safety awareness and address common EHS issues.

Standards Union Gas Limited will comply with internal standards and applicable laws and regulations. Strategic relationships will be developed to promote sound public safety.

Performance Union Gas Limited will set challenging goals and assess performance to continually improve environmental, health & safety management systems and results that contribute to business success. We will work with our contractors, suppliers and partners to continually improve environmental, health & safety performance.

Communication Union Gas Limited will implement systems to foster open dialogue and informed decision making through meaningful and regular communication EHS information with management, employees contractors and the public.

TABLE OF CONTENTS

1.0 INTRODUCTION

This manual will describe the policies, practices and procedures that Union Gas follows during the planning, construction, operation, maintenance and abandonment of pipelines within the Union Gas system.

Union Gas is a Spectra Energy company. Union Gas is major Ontario Corporation and a leader in the natural gas industry. With headquarters in Chatham, Union Gas's interests include natural gas pipelines, storage, distribution, transmission and other related natural gas services.

Union Gas is committed to environmental protection throughout all phases of its operations. For the Company and its employees, environmental protection is a corporate and personal responsibility.

This document outlines Union Gas's commitment to environmental protection on all pipeline projects. This Manual provides:

- a framework for planning and implementing the environmental management programs;
- a guide for governments and regulatory agencies to Union Gas's environmental management system, programs and commitments;
- a guide for landowners, the public and employees; and
- a foundation for advancing management and employee environmental awareness.

The Manual consists of four sections: Consultation; Planning; Construction, Operations and Abandonment; and Monitoring.

Each section provides a general summary of the activities that may take place during the development of a pipeline to ensure environmental protection.

This Environmental Management Manual is based on Union Gas's Environmental, Health, and Safety Policy Statement, which can be found on the inside front cover. Specific details of how these statements will be met are addressed in Environmental Reports, Construction Specifications, Operating Policies and Procedures, the Environmental Inspection Manual, as well as other documents as they are developed. Consultation with affected parties will be encouraged and will take place throughout the Planning, Construction, Operations and Abandonment, and Monitoring phases of the Project.

1.1 Environmental Management System

Union Gas will protect the environment by employing an Environmental Management System (EMS). An EMS systematically tracks all activities that have the potential to affect the environment. Documentation and regular reporting of results will provide assurances that environmental and health and safety issues are being addressed.

2.0 THE CONSULTATION PROCESS

Union Gas recognizes the significance and value of early, frequent and meaningful public consultation on any project plans and activities. The primary purpose of consulting with various groups, agencies and individuals is to establish a dialogue concerning the project and its potential environmental and socio-economic impacts. It strives to ensure that the Project Team is informed and understands public concerns and issues. The consultation process provides the Project Team with the ability to consider public concerns and issues while making decisions regarding the project. Consultation will

continue throughout the development and operation of any pipeline project.

The pipeline consultation program may incorporate the following measures:

- Newspaper notices and Newsletters;
- A Toll Free phone number;
- Individual Mailouts
- Public Meetings and Open Houses;
- Questionnaires;
- Individual and group meetings; and
- Landowner relation programs.

2.1 Public Consultation

For Transmission Pipelines, Union Gas will begin the public consultation program with a series of Public Notices being placed in local newspapers to announce the project. The second phase of the public consultation program will involve a series of public meetings that show the study area and potential route alternatives for the proposed pipeline. Phase three of the public consultation program also involves a series of public meetings, at which time the preliminary preferred route for the pipeline will be shown. The final phase of public consultation will involve the review of the environmental report. For smaller projects, Phases 1, 2, and 3 may be combined.

All public meetings will be advertised in local newspapers. As well, all landowners along the alternative and preferred routes will receive notification of the public meetings.

At the public meetings, newsletters or fact sheets that explain the purpose and objectives of the meetings may be distributed. Newsletters will also be mailed to people who attended previous public meetings.

For small distribution projects, Union Gas will contact all landowners along the pipeline route.

Beyond the Environmental Public Open Houses, the Project Team will maintain dialogue with the public and landowners. These discussions may include individual or group meetings to discuss various aspects of the Project.

2.2 Government and Agency Relations

Government agencies are important stakeholders in all pipeline projects. Their input helps make decisions about where to locate facilities and how to avoid and/or mitigate any impacts.

Federal and provincial agencies may be involved with a pipeline project from the earliest stages. Ontario government ministries, agencies and local municipalities also provide baseline environmental and socio-economic data for the project.

Ongoing consultation by Union Gas will ensure that the views and preferences of the agencies are factored into the decision-making process during the planning of a project. Union Gas is committed to continued consultation with relevant agencies throughout the life of the project including construction, operations, maintenance and the decommissioning or abandonment of the facilities.

2.3 Relations with First Nations

For many years, Union Gas has worked extensively with First Nations in all parts of Canada. The Company recognizes and respects traditional aboriginal ways of life, customs and expectations. First Nation communities near project locations will be consulted during all phases of any Projects.

2.4 Non-Government Organization (NGO) Relations

NGOs such as the Ontario Federation of Anglers and Hunters (OFAH) and the Ontario Federation of Agriculture (OFA) have been and will continue to be encouraged to participate in all pipeline projects. Their unique perspectives facilitate better decision-making.

2.5 Landowner Relations

Many pipeline projects may occupy privately owned land. Union Gas has found that cooperation from those landowners, whether private individuals, corporations or government agencies, must be earned through the actions of the project and company employees.

The goal of Union Gas is to build positive relationships based on mutual respect and trust. We will do this by:

- negotiating for land rights in a fair and equitable manner;
- listening and responding to the unique needs and concerns of each landowner while fostering their understanding of the needs, intentions and the public interest served by project activities;
- respecting the property of others including timely restoration of lands and compensation for damages;
- having company representatives available to landowners to discuss issues and concerns;
- being courteous when working with landowners;
- being proactive to ensure that the pipeline project facilities are safely and rationally integrated into existing and planned land uses with as little disruption as possible;
- initiating a formal complaint tracking process to ensure timely resolution of complaints or issues;
- following through on commitments given to landowners;
- mitigation and protection of environmental features; and
- minimizing social impacts.

The consultation process will encourage individual and collective participation by landowners and their representatives. This will ensure that their concerns are addressed. There will be ongoing consultation and dialogue with all parties throughout the planning, construction and operations stages of any project.

3.0 PLANNING

Environmental planning strives towards protecting the environment by establishing policies, programs and actions in consideration of physical, biological, cultural and socio-economic values. The environmental goals and objectives are set out in the company's Environmental Policy Statement.

3.1 Environmental Report

An Environmental Report is prepared for major pipeline projects. The specific requirements for the Environmental Report are taken from the appropriate governmental agency, such as the Ontario Energy Board (OEB), or the Canadian Environmental Assessment Association (CEAA). An Environmental Report is normally not completed for small distribution projects. Environmental concerns met on these projects are managed using site specific mitigation measures or Union Gas's standard construction specifications.

Environmental Reports will provide details on locating and developing of the facilities.

The Report will also enable consultation with agencies and the public, in assessing potential environmental impacts, and developing mitigation measures and monitoring plans.

All pipeline projects undergo a standard environmental screening program.

For large projects, a 'Terms of Reference' for the Environmental Report will be prepared. The Terms of Reference may be available for review at public meetings. The document outlines the information to be contained in the Environmental Report.

The first step in preparing the Environmental Report is to establish a study area. Then, based on information obtained, alternative routes will be identified. Significant environmental, technical and land use features are mapped. These features are then presented to the public as "constraints" during Environmental Public Open Houses.

Following the Open Houses, a "preliminary preferred" route is identified. This route is also presented to the public during a second Environmental Public Open House.

For smaller projects there may be one open house, at which time the constraint maps and the alternate and preferred route are shown.

Comments from the public, agencies and other groups, as well as a review of environmental and technical features in the field, will be used to finalize the location of the preferred route. Once a preferred pipeline route has been finalized, an assessment of the potential impacts of constructing and operating facilities in this route will be conducted. Measures to minimize and avoid impacts to the environment will also be developed.

In summary, the Environmental Report is a detailed study. It will outline the pipeline route selection process, including a detailed inventory of features along the preferred pipeline route, as well as a description of anticipated impacts and mitigation measures to minimize environmental impact. Additional recommendations to ensure the project is managed in an environmentally responsible manner and a record of the public consultation process will also be included.

3.2 Facilities Routing and Siting

The routing of pipeline projects and the placement of the required facilities is an important step in Union Gas's commitment to protecting the environment.

In locating the facilities, accepted environmental protection principles are followed. Wherever possible, any environmentally sensitive or "constraint" features are avoided.

When mitigation is not possible, compensation for unavoidable impacts will also be considered by Union Gas. An example of compensation is the "no net loss" principle followed for fisheries protection. Other areas of fish habitat will be enhanced or created in the event fish habitat is lost.

3.3 Regulatory Overview

Regulatory Agencies, such as the OEB and the Canadian Environmental Assessment Agency (CEEA), may have regulatory responsibilities relating to Union Gas pipeline projects. An OEB hearing may be held following the completion of the Environmental Report, for Transmission Pipelines and Franchise and Certificate Applications. The hearing process is public and accessible to all concerned parties.

3.4 Environmental Screening

When acquiring land or easements, Union Gas will conduct environmental screenings to assess any potential for disturbing existing environmental contamination before completing the transaction. The screenings will:

- identify previously contaminated land;
- identify potential hazards to on-site employees; and
- determine the need for further site investigation.

Screening will ensure appropriate and effective management of potentially contaminated lands.

4.0 CONSTRUCTION, OPERATIONS AND ABANDONMENT

Union Gas will ensure that environmental commitments are implemented throughout construction, operations and abandonment. Union Gas will provide avenues for communication and information. We will also detail the roles and responsibilities of everyone involved in the development and operations of the pipeline facilities. The management structure will track environmental commitments from implementation to completion.

Construction or operations and maintenance activities will be conducted using specialized techniques to avoid impacts on features such as fisheries. For example, dry crossing techniques can be used to install the pipeline across a watercourse. These techniques minimize the transport of sediment downstream which can affect fish and fish habitat.

Where routing, siting or scheduling changes are not possible to avoid an environmental feature, Union Gas will use special construction techniques to minimize environmental impacts. Because of its length, a pipeline may cross a variety of environmental features. These features will be identified by Federal and Provincial government agencies as well as municipalities, non-government organizations and landowners. This information will be used to develop and apply appropriate environmental protection measures.

This section of the Manual generally describes how the effects on environmental features will be minimized during the construction and operation of a pipeline project. Specific details can be found in the Construction and Maintenance Manual, and the Environmental Report.

4.1 Socio-Economic Features

Construction may have potential impacts to the following, including: noise, dust, inconvenience, public safety, local business and recreational activities. These impacts will be addressed during construction and operations. Industry standards and proven construction techniques will minimize impacts. They include:

- minimizing local inconvenience by consulting with local residents and businesses;
- maintaining contact with local residents and directly affected landowners;
- reducing dust by watering or other suppression techniques; and
- implementing standard traffic and public safety procedures, including pre-construction notification, signs and site fencing.

There are also a number of potential economic benefits during construction. These may include:

- employment of local labour to the extent possible;
- purchase of local supplies by contractors; and

- use of local hotels and restaurants by the construction work force.

4.2 Agricultural Features

Productive agricultural lands may be crossed by pipeline construction. Union Gas will minimize impacts to agricultural soils and operations using a number of proven techniques. These include:

- consulting with individual farm operators to identify issues and limit disturbance of farm operations;
- stop work on wet soils to reduce compaction and mixing of agricultural soils;
- removing and replacing topsoil in agricultural areas to minimize soil rutting and mixing;
- surveying drainage systems before construction and hiring local tile contractors to repair damaged tiles;
- implementing a pre-construction tile program when required or appropriate;
- utilizing temporary fencing;
- assessing and mitigating compaction; and
- monitoring after construction to determine restoration success.

4.3 Environmentally Sensitive Areas and Wildlife Habitats

Union Gas will implement a number of measures to protect environmentally sensitive areas such as wetlands. The objective is to preserve biodiversity and significant ecosystems. In addition, Union Gas will implement wildlife habitat protection measures throughout construction. These may include:

- avoiding Environmentally Sensitive Areas (ESA) and Areas of Natural and Scientific Interest (ANSI's) by routing or use of existing road allowances; and
- developing site specific mitigation plans where vulnerable, threatened or endangered species are identified.

4.4 Forested Land

In some areas, trees may be removed to build the pipeline. Construction of the pipeline project will avoid disturbing or removing trees where possible.

Where trees must be removed, to minimize impacts, the following measures will be used:

- a replanting program will be established; based on two (2) acres planted for every acre of woodlot cut;
- merchantable timber will be salvaged wherever practical;
- narrowing the construction work areas where possible to minimize woodlot impacts.

4.5 Water Crossings

When a natural gas pipeline crosses beneath any watercourses, a number of measures will be developed to protect fisheries and avoid conflict with other water users, before, during, and after construction. Measures during the planning stage include:

- identifying and protecting fish habitats;
- scheduling of construction to avoid fish spawning periods and migratory routes; and
- identifying and avoiding other water users within the impact zone.

During construction watercourses will be further protected by:

- minimizing the extent and duration of construction activities;
- preserving the flow characteristics of the crossing area;
- limiting the disturbance of the floodplain and approach slopes;
- staging the materials and equipment for the crossing in areas that are less sensitive;
- implementing erosion and sediment control measures where appropriate;
- restoring and rehabilitating the bed and banks as soon as possible; and
- following Ontario Ministry of Natural Resources, Department of Fisheries and Oceans, and Conservation Authorities approved construction techniques.

Following construction, water crossings will be monitored to ensure that channel characteristics have been restored. In addition, areas next to watercourses will be immediately restored to minimize sediment run-off into the watercourse, using measures such as hydro-seeding and erosion control mats.

4.6 Archaeology

Before construction, potential archaeological resources will be investigated. Areas of high potential will be avoided where possible. If avoidance is not possible, the site will be protected by:

- assessing the site's significance;
- employing a qualified archaeologist to advise on the handling of artefacts;
- suspending construction if buried artefacts are uncovered;
- having a qualified archaeologist assess the significance of uncovered artefacts; and
- having qualified archaeologist salvage the site or artefacts as per government regulations.

4.7 Noise

Noise will be generated during construction and operation of pipeline facilities. Union Gas will strive to reduce noise in the planning, design, construction and operation of facilities. During construction this will be done by:

- minimizing noise disturbance by scheduling construction during daylight hours where practical.

Operational noise will be generated primarily from any compressor stations or valve sites located along the route. Compressor design options will be used to reduce noise to appropriate levels.

4.8 Air Quality

Air emissions will result from the construction and operation of the pipeline and utilization of natural gas. Union Gas will reduce emissions by ensuring that natural gas is used efficiently by the company.

Although the National Action Program on Climate Change considers it "the most benign fossil fuel," natural gas does emit greenhouse gases (GHG). The major sources of GHG emissions from the natural gas industry are methane and carbon dioxide. The combustion of natural gas at the burner tip produces the majority of the GHG emissions.

Natural gas is a preferred energy source from an air quality perspective because:

- natural gas pollutant release per unit of energy is less than other fossil fuels;
- the process of using natural gas is frequently more efficient, thus reducing total energy use;
- natural gas use produces virtually no sulphur dioxide unlike other fossil fuels; and
- natural gas use produces less carbon dioxide per unit of energy.

In Canada, the National Action Program on Climate was established in 1995 by Natural Resources Canada. A key element of the plan is the Voluntary Challenge and Registry (VCR) program. The Canadian Gas Association and its member companies, including Union Gas, are committed to and supportive of the VCR program.

Union Gas has developed an action plan to deal with GHG. The Plan endorses the following:

- Continuing research by industry associations into new technologies that reduce GHG emissions;
- Continuing the "Call Before You Dig" program to limit third party damage and accidental release of natural gas into the environment; and
- Establishing Demand Side Management programs to further advance energy conservation and efficiency.

4.9 Waste Management and Spills

Waste materials may be generated during the construction and operation of a pipeline. Union Gas has developed and implemented waste management programs and systems consistent with good environmental practices and applicable government regulations.

Classification of wastes as hazardous or non-hazardous is the first step in properly managing waste. Hazardous waste is stored, handled and disposed of with the utmost care, and in a manner that will protect employees, the public and the environment. Union Gas will administer, handle and manage hazardous wastes according to the local regulations. Permits and approvals will be obtained and records kept, as required by law.

Non-hazardous wastes generated by the project will be reduced, recycled, and/or reused wherever possible.

Spills may occur during the construction and operation of the pipeline project. Construction personnel will be trained in the use of spill containment, clean-up materials and reporting protocols. Should a spill occur environmental protection measures will be followed. These programs will be designed and developed to be consistent with applicable legislation.

4.10 Emergency Response

The operation of pipelines will be monitored by a centralized computer-assisted control system. By linking the control system to field offices, vehicles and compressor stations, staff will be able to respond quickly to an emergency.

In the unlikely event of a pipeline rupture, natural gas in the pipeline can be isolated by remote controlled valves. Mock emergency drills will be conducted to prepare operators, personnel and community emergency services. Awareness initiatives, such as the "Call Before You Dig" programs and contact with landowners along the pipeline system, also help to minimize the chances of third party damage to the pipeline.

Union Gas will follow its Emergency Response Plan in the event of an incident. This Plan will include the names and phone numbers of agencies and persons to be contacted in the event of an emergency. The Emergency

Response Plan has been developed and filed with the appropriate agencies.

4.11 Environmental Training

Environmental training is an integral component of Union Gas's Environmental Management System. Environmental training programs will focus on all phases of facilities development. The company's policies, programs and commitments, including those in this Manual, will be communicated to all company personnel involved in the construction and operation of the Project.

Union Gas updates environmental training programs on a regular basis to reflect changing regulatory and societal expectations. Retraining and refresher courses ensure that all employees are aware of, and sensitive to, current environmental management requirements.

Pre-Construction Training

All company personnel involved with construction, including inspectors and right-of-way agents, will attend environmental seminars before construction commences. These seminars will review in detail the unique features and commitments that have been made to protect the environment along the entire pipeline route. During the seminars, plans and procedures for minimizing impacts on sensitive features and areas will be emphasized. Landowner requests will be summarized and reporting systems will track the implementation of environmental commitments.

Senior contractor staff is made aware by the company's environmental personnel to ensure that environmental protection measures are identified and understood by all personnel involved in the Project.

Operations and Maintenance Training

Once pipeline facilities are in service, on-going environmental training programs will be established. Union Gas will provide regular employee training on environmental awareness, spills handling, reporting, clean-up procedures, waste management, easement maintenance activities and hazardous material handling. Training programs provide an excellent source of information and response from employees on what works best in the field.

Emergency response training will be an important component of Union Gas's training program. Company staff will be trained on how to deal with spills, fires, explosions and other emergencies. Training programs will be updated when new information, legislation and technology becomes available.

4.12 Decommissioning and Abandonment

Union Gas's facilities are designed, operated and maintained to provide safe and efficient service over the long term. However, if the market changes or other unforeseen events occur, some facilities may need to be decommissioned or abandoned. Appropriate technology will be used to ensure that regulatory requirements are met. Decommissioning or abandonment of facilities will be carried out in a safe and efficient manner.

Abandonment plans will be developed after consulting with regulatory authorities and receipt of approvals where necessary. All environmental and socio-economic issues associated with abandonment or decommissioning options will be considered.

5.0 MONITORING

Union Gas will implement three main monitoring programs both during and after construction, and during the operation and maintenance of the pipeline system. These are:

- compliance monitoring;
- effects monitoring; and
- operational monitoring.

These monitoring programs will ensure: that pre-construction commitments are fulfilled; that the pipeline easement is satisfactorily restored; and that public health, safety and the environment are protected during operation and maintenance of the pipeline project. The monitoring programs are described below.

5.1 Compliance Monitoring

A compliance monitoring program will ensure that any pre-construction commitments made to landowners, regulatory agencies and other stakeholder groups are fulfilled during construction. Typical examples of pre-construction commitments include: a request for a specific watercrossing technique, a regulatory Condition of Approval to complete pipeline installation across a river during a specific time period, or a stakeholders request to be notified in advance of construction in a particular area. Compliance monitoring programs will ensure that preventive and protective environmental measures are in place throughout construction.

Trained Environmental Inspectors are on-site during construction to ensure that environmental protection commitments are implemented. The Environmental Inspector will advise construction personnel on environmental matters, co-ordinate soil, water and biological sampling and oversee all environmental aspects of construction. The Environmental Inspector will also bring to the immediate attention of the company any activity that may cause adverse environmental effects or any activities which do not meet environmental obligations. A written report by the Environmental Inspector documents the status of the implementation of environmental commitments. Information recorded in the Environmental Inspector's reports is incorporated into a post-construction monitoring report.

5.2 Effects Monitoring

Following restoration of the pipeline easement, the environmental effects of construction are monitored. Effects monitoring programs will be carried out by Union Gas personnel. If special expertise is required, consultants will be retained. A photographic and written record is made of conditions on and next to the pipeline easement at various times after construction.

Effects monitoring will correct any construction related problems; assist in preparing post-construction regulatory reports; and assess the accuracy of any predictions made in the Environmental Report concerning environmental effects.

Effect monitoring is a fundamental part of the ongoing process of upgrading Union Gas's construction specifications and techniques to protect the environment.

The first step in effects monitoring is to visually examine environmental features along the pipeline. Aerial observations and on-the-ground field surveys will be used. The Project Team can then identify recovery trends and sites that need more detailed study. Union Gas may implement the following post-construction monitoring programs: soil and crop monitoring, post-construction review of watercourse crossings, post-construction water well sampling (if requested by landowners), and monitoring drainage tile.

5.3 Operational Monitoring

Monitoring of any pipeline facilities will continue during operations and maintenance activities.

Routine inspection during operations will be conducted using aerial and/or foot patrols, leak detection surveys, and corrosion surveys.

General environmental conditions on and near facilities will be monitored. If problems such as soil erosion or water ponding occur, they will be corrected. New developments near facilities will also be monitored to assess any encroachment into the easement.

Maintenance of the right-of-way will be done through a vegetation management program.

Environmental conditions and practices at above-ground pipeline facilities (such as compressor stations) are assessed through comprehensive operational and environmental audits. These audits will protect the environment, the public and employees, while ensuring all legislative requirements are met.

6.0 Conclusion

With more than 90 years of successful operations in the natural gas industry, Union Gas has an excellent record for protecting the environment, public health and safety. Union Gas's Environmental Management System is designed to ensure that stakeholders, including our employees, the public, landowners, regulators and other interested parties, have input to, and are aware of our environmental programs and requirements.

Development of any pipeline project will be consistent with the Environmental Policy Statement and Sustainable Development Guiding Principles that has been successfully proven and applied by Union Gas.

Public safety will be ensured through compliance with, or exceeding of proven engineering design criteria and guidelines as well as legislative requirements.

Union Gas appreciates and values the comments of all interested parties.

FOR ADDITIONAL INFORMATION, OR IF YOU HAVE ANY QUESTIONS

OR COMMENTS, PLEASE CALL 1-800-265-5230

APPENDIX D

Erosion and Sedimentation Control – Watercourse Crossings

Objective of Generic Sediment Control Plan – Dry Flume Crossings

This plan sets out the measures that will be taken by Union Gas Limited (Union) and its contractors to control downstream sediment to the lowest level practically achievable during the construction of dry flume type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Ministry of Natural Resources Area Office (MNR).

General Requirements

Union must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. The following requirements apply to any waterbody (stream, river, pond) and areas adjacent to it.

- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited and contained in a manner to ensure sediment does not enter a waterbody.
- There must be no fording of any stream.
- Except during construction of the crossing Union will not obstruct any watercourse so as to impede the free movement of water and fish.
- All exposed mineral soil must be graded to a stable slope and treated as quickly as possible to prevent erosion and sediment from entering the water.
- Union is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- Techniques for erosion and sediment control are to adhere to accepted engineering practice and Union Typical Construction Drawings. The MNR publication Environmental Guidelines For Access Roads and Water Crossings (1990) may also be a useful reference source.
- Union is to have additional materials (e.g., rip rap and silt fencing) readily available in case they are needed in a hurry for erosion and sediment control.
- Temporary workspaces, in addition to the normal working right-of-way, adjacent to any water crossing must follow the following setbacks:

Ground Slope <5%	10 meters
Ground Slope >5% but <14%	20 meters
Ground Slope >14%	30 meters

- If flows are in flood stage, work should be delayed if practical.
- Union will be held responsible for implementation of this plan.

Stormwater Runoff Control

Exposed mineral soil near the water poses a potential threat of erosion and sediment entering the water in the event of a rainstorm. The erosion potential is highest on steep slopes (>15%) and where soils are silty or sandy. Union is to assess each site and shall use effective measures to keep sediment on land at all times. To the maximum extent reasonably possible, a silt fence is to separate exposed mineral soil from the creek at all times; this includes the travelled portion of the right-of-way during rain events (if necessary). Accumulated sediment is to be removed regularly. The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments. Additional measures to be considered are:

- Short term erosion control techniques applied over exposed soil, such as erosion control blankets, gravel sheeting, filter cloth, rip rap, seed and mulch.
- Delay construction during wet periods.
- Diversion berms or check dams to channelize flow and filter prior to re-entering stream.
- Dug sediment traps to pass runoff water through a pond and silt fence for settling of coarse particles before spilling into the stream.
- Proceed with the crossing as quickly as possible, to minimize the time from initial grubbing to completed site rehabilitation.

Contingency Plan

In the event that unforseen events (e.g., bedrock in trench, flume washout) cause the strategies set out in this plan to be insufficient or inappropriate to meet the objective, Union is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. MNR is to be notified as soon as practical.

Existing spill reporting procedures established by MOE shall be used to report any unexpected discharge of silt or sediment or other deleterious substance at the water crossing. The spill shall also be reported to the MNR as soon as possible in these circumstances.

If MNR determines that long term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by Union in consultation with and approval from MNR and DFO, for implementation by Union.

Flume Sizing

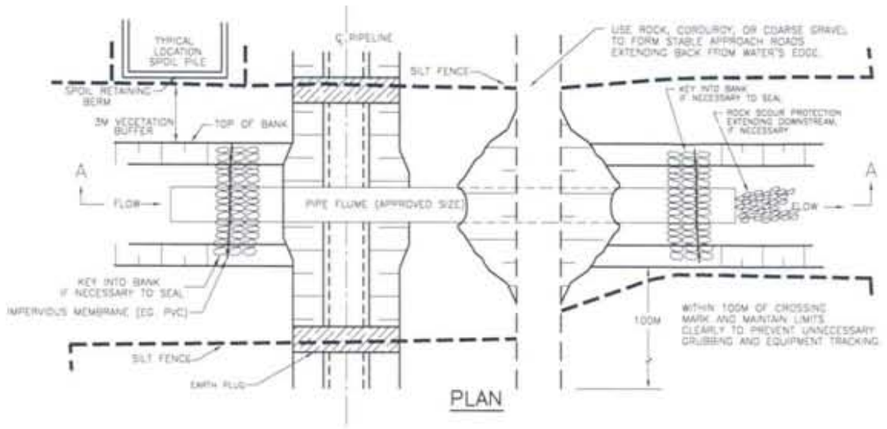
Flumes will be sized initially based on engineering hydrologic calculations. These theoretical sizes will be used as a guide, for confirmation in the field between Union and MNR.

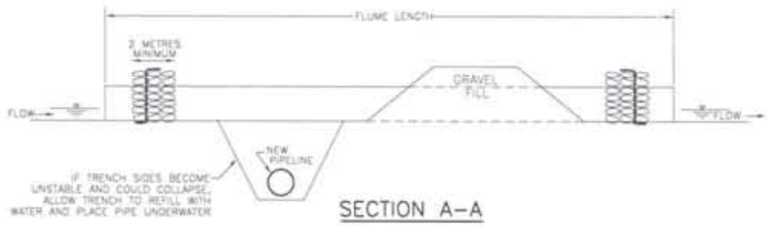
Flumes left in place more than 2 weeks, but not through the spring freshet, must be sized as a temporary vehicle crossing, for the two year flood (Q2). Flumes left in place through the spring freshet must be sized to pass the five year flood, (Q5).

Flumes in place for less than 2 weeks may have their size selected by Union based on actual measured flow in the creek at the time of installation plus an additional 50 percent buffer.

For pipe sizing without high tailwater, use the following capacities: for 914 mm pipe Q = 0.9 CMS/pipe; for 1067 mm pipe Q = 1.3 CMS/pipe.

Flume sizes may also be selected to be the same as nearby culverts that have been in place for many years and have performed satisfactorily. Flume sizes and lengths must be approved by MNR prior to installation, allow three weeks for review and approval. The approved flume size or larger must be installed.





Detailed Construction Sequence – Dry Flume Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dry flume" type crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install prework sediment control measures, including silt fences and measures to contain excavated spoil and backfill. Adequate advanced notice (min. 48 hours) will be provided to MNR prior to commencing in-stream work. All necessary equipment and materials to build the flume must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.

2. Install flumes equal to or larger than the diameter determined by the methods described above. Flume length is to be identified in the permit application. Flume is to set 10 percent of diameter below streambed level where soil conditions permit (otherwise installed at stream grade and slope). Place impervious dams at each end of the flume, upstream first then downstream. Alternative dam materials include coarse gravel with rip rap protection, sandbags, steel plate and rockfill. During placement, install an impervious membrane, if necessary, to prevent leakage. Dams may need keying into the bank and streambed. Dewater the area between dams. All pump water is to be discharged well away from the creek and through a sediment trap or the forest floor for filtering of solid material before entering the creek.

3. Excavate trench through plugs and under flume, then dewater. Lower in pipe by passing under flume and backfill immediately. The top 300 mm of trench backfill is to be clean rock or cobble material. Union is to use granular backfill if the native material is not suitable. In this case, the excavated material is to be moved back and deposited behind sediment fences. Work is to be completed as quickly as possible and the maximum time between removal of plugs and trench capping is 3 days.

4. Flumes shall be removed as quickly as possible, when no longer required for pipe laying or for road access, in the following manner: remove the vehicle crossing ramp; surplus gravel is to be removed from the crossing area to a location approved by the Conservation Authority; creek banks are to be restored to a stable angle and protected with corrosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap) to the maximum extent possible before removing the dams. If rip rap material contains fines, the completed face is to be washed off and the turbid water pumped to land. Then remove downstream dam; remove upstream dam; remove flume; complete bank trimming and erosion protection. If sandbags are used for the dams, place and remove by hand to avoid equipment breaking bags.

5. Site stabilization, which includes control of stormwater drainage using a combination of methods such as silt fences, erosion blankets, diversion berms and check dams etc., is to be completed within 10 days of the removal of the flume. If stabilization is delayed, short term erosion control measures shall be used to prevent sediment entering the water. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.

6. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

DATE	REV NO	REVISION	BY	APP'D
JAN 5/94	6	REVISIONS PER DEC 1993 MEETING	GTH	WTH
FEB 15/93	5	REVISIONS PER NOV 1992 MEETING	KC	LHC
NOV 10/92	4	REVISIONS PER JUNE 1992 MEETING	RBA	
FEB 28/92	3	REDRAWN AND GENERAL REVISION	RBA	

Ministry of Natural Resources
Ontario

January 28, 1994

PROJECT
UNION GAS LIMITED
CONSTRUCTION PROGRAM

LOCATION (LOT.,CON.,TWP.,DIST.)
ALL DRY FLUME WATER CROSSINGS IN ONTARIO

DRAWING TITLE
GENERIC SEDIMENT CONTROL PLAN FOR DRY FLUME WATER CROSSINGS

SCALE	NTS	DATE	FEB. 28/92
FILE No.		PROJECT NO	
DRAWN	CHECKED	DRAWING	REV
RBA	LHC	1 of 3	6

APPROVED

BRANCH DIRECTOR

Objective of Generic Sediment Control Plan – Dam & Pump Crossing

This plan sets out the measures that will be taken by Union Gas Limited (Union) and its contractors to control downstream sediment to the lowest level practically achievable during the construction of dam and pump type crossings. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Ministry of Natural Resources (MNR).

General Requirements

Union must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. The following requirements apply to any waterbody (stream, river, pond) and areas adjacent to it.

- Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to grading operations.
- Materials removed or stockpiled during construction (e.g., excavated soil, backfill material) must be deposited in a manner to ensure sediment does not enter a waterbody.
- There must be no fording of any stream.
- Except during construction of the crossing, Union will not obstruct any watercourse so as to impede the free movement of water and fish.
- All exposed mineral soil must be graded to a stable slope and treated as quickly as possible to prevent erosion and sediment from entering the water.
- Union is to adhere to the Generic Sediment Control Plan For Temporary Vehicle Crossings.
- Techniques for erosion and sediment control are to adhere to accepted engineering practice and Union Typical Construction Drawings. The MNR publication Environmental Guidelines For Access Roads and Water Crossings (1990) may also be a useful reference source.
- Union is to have additional materials (e.g., rip rap, filter cloth and silt fencing) readily available in case they are needed in a hurry for erosion and sediment control.
- Temporary workspaces, in addition to the normal working right-of-way, adjacent to any water crossing must follow the following setbacks:

Ground Slope <5%	10 meters
Ground Slope >5% but <14%	20 meters
Ground Slope >14%	30 meters

- If flows are in flood stage, work should be delayed if practical.
- Union will be held responsible for implementation of this plan.

Stormwater Runoff Control

Exposed mineral soil near the water poses a potential threat of erosion and sediment entering the water in the event of a rainstorm. The erosion potential is highest on steep slopes (>15%) and where soils are silty or sandy. Union is to assess each site and shall use effective measures to keep sediment on land at all times. To the maximum extent reasonably possible, a silt fence is to separate exposed mineral soil from the creek at all times; this includes the travelled portion of the right-of-way during rainfall events (if necessary). Accumulated sediment is to be removed regularly. The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments. Additional measures to be considered are:

- Short term erosion control techniques applied over exposed soil, such as erosion control blankets, gravel sheeting, filter cloth, rip rap, seed and mulch.
- Delay construction during wet periods.
- Diversion berms or check dams to channelize flow and filter prior to re-entering stream.
- Dug sediment traps to pass runoff water through a pond and silt fence for settling of coarse particles before spilling into the stream.
- Proceed with the crossing as quickly as possible, to minimize the time from initial grubbing to completed site rehabilitation.

Contingency Plan

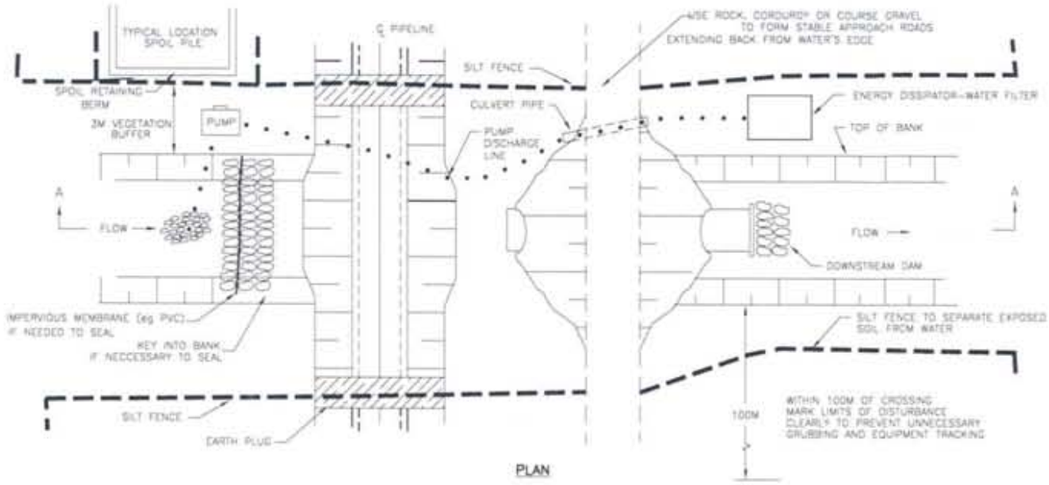
If unforseen events (e.g., bedrock in trench, dam washout) cause the strategies set out in this plan to be insufficient or inappropriate to meet the objective, Union is expected to respond in a timely manner with all reasonable measures consistent with safety, to prevent, counteract or remedy any effects on fish or fish habitat that may result. MNR is to be notified as soon as practical.

Spill reporting procedures established by MOE shall be used to report any unexpected discharge of silt or sediment or other deleterious substance at the water crossing. The spill shall also be reported to the MNR as soon as possible in these circumstances.

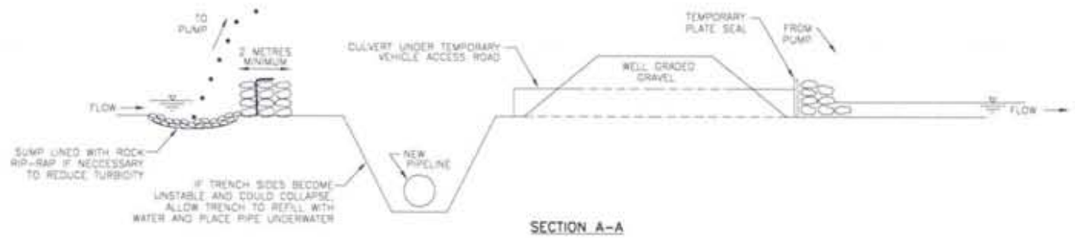
If MNR determines that long term damage to fish habitat has occurred due to failure of this plan to control sediment, a restoration plan will be developed by Union, in consultation with and approval from MNR and DFO for implementation by Union.

Maintenance of Streamflow

If there is any flow in the creek, Union is to install pumps to maintain streamflow around the blocked off section of channel. The pump is to have twice the pumping capacity of anticipated flow. A second standby pump of equal capacity is to be readily available at all times. An energy dissipator is to be built to accept pump discharge without streambed or streambank erosion.



PLAN



SECTION A-A

Detailed Construction Sequence – Dam and Pump Type Crossings

In general terms, the following sequence of construction and mitigation measures will be followed at all "dam and pump" type water crossings.

1. Mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. Install pre-work sediment control measures, including silt fences and measures to contain excavated spoil and backfill. Provide the MNR with adequate advanced notice (min. 48 hours) prior to in-stream work. All necessary equipment and materials to build the dams and to pump water must be on site or readily available prior to commencing in-water construction. Pipe shall be strung, welded and coated ready for installation prior to watercourse trenching.
2. Dams are to be made of steel plate, inflatable rubber dam, sand bags, cobbles, well graded coarse gravel fill or rock fill. An impervious membrane is to be incorporated into the dam if necessary to control seepage flow. Dams may need keying into the banks and streambed. Install downstream dam only if needed to keep the trench area dry. Dewater the area between dams. All pump water is to be discharged well away from the creek and through a sediment trap or the forest floor for filtering of solid material before entering the creek.
3. Excavate trench through plugs and streambed, re-positioning discharge hose as necessary. Lower the pipe in the trench and backfill immediately. During this operation, try to maintain pumping as much as possible. The top 300 mm of trench backfill is to be clean rock or cobble material. Union is to use granular backfill if the native material is not suitable. In this case, the excavated material is to be moved back for disposal away from the crossing. Work is to be completed as quickly as possible and the maximum time between removal of plugs and trench capping is 3 days.
4. When the streambed has been restored, the creek banks are to be trimmed to a stable angle and protected with erosion resistant material compatible with flow velocity (e.g., coarse gravel or rip rap) to the maximum extent possible between dams. If rip rap material contains fines, the completed face is to be washed off and the turbid water pumped to land. The dams are to be removed – downstream first. Dam material is to be disposed of in an approved location. Keep pump running until normal flow is resumed. Complete bank trimming and erosion protection. If sandbags are used for the dams, place and remove by hand to avoid equipment breaking bags.
5. Site stabilization, which includes control of stormwater drainage using combinations of silt fences, erosion blankets, diversion berms and check dams etc., is to be completed within 10 days of trench backfilling. If stabilization is delayed, short term erosion control measures shall be used to prevent sediment entering the water. Material accumulated at silt fences is to be removed or stabilized in place. Silt fences are to be removed when the site is permanently stabilized.
6. If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.

NOTES

DATE	REV NO	REVISION	BY	APP'D
JAN 5/94	5	REVISIONS PER DEC. 1993 MEETING	DTH	WTW
FEB 15/93	5	REVISIONS PER NOV. 1992 MEETING	KC	LHC
SEPT 28/92	4	REVISIONS PER JUNE 1992 MEETING	WST	RBA
FEB 28/92	3	REDRAWN AND GENERAL REVISION	RBA	

Ministry of Natural Resources
Ontario

January 28, 1994

PROJECT
UNION GAS LIMITED
CONSTRUCTION PROGRAM

LOCATION (LOT.,CON.,TWP.,DIST.)
ALL DAM AND PUMP WATER CROSSINGS IN ONTARIO

DRAWING TITLE
GENERIC SEDIMENT CONTROL PLAN FOR DAM AND PUMP WATER CROSSINGS

SCALE	NTS	DATE	FEB. 10/92
FILE No.		PROJECT NO	
DRAWN	CHECKED	DRAWING	REV
RBA	LHC	2 of 3	6

APPROVED

BRANCH DIRECTOR

Objective of Generic Sediment Control Plan – Vehicle Crossings

This plan sets out the measures that will be taken by Union Gas Limited (Union) and its Contractors to control downstream sediment to the lowest level practically achievable during the construction, use and removal of temporary vehicle water crossings at creeks and rivers. The conditions and techniques set out on this plan are to be followed unless approved otherwise by the Ministry of Natural Resources Area Office (MNR).

General Requirements

Union must use materials, construction practices, mitigation techniques and monitoring of operations at every water crossing in order to prevent the unauthorized harmful alteration, disruption or destruction of fish habitat or the impairment of water quality. The following requirements apply to any water body (stream, river, pond) and the land adjacent to it.

* Union must install an engineered structure having a water opening equal to, or larger than, the size guidelines set out on this drawing.
* Prior to removal of the low vegetative cover, effective mitigation techniques for erosion and sediment control must be in place to protect water quality. Limit the areal extent of disturbance to the minimum needed for construction and delay grubbing to immediately prior to the grading operations.
* Fording can be an accepted form of short term access provided good practices are followed and fording occurs within the construction timing window established to protect fish habitat. Good practices include shallow water depth, stable bottom, stable approaches inside approved construction windows, low banks, clean construction equipment, emergency oil containment equipment available and control of sediment movement.
* Except during construction of the crossing Union must not obstruct any watercourse so as to impede the free movement of water and fish.
* All exposed mineral soil must be graded to a stable slope and treated as quickly as possible to prevent erosion and sediment from entering the water.
* The access road and crossing must be built within the Union right-of-way and be removed within 2 years of construction. If work on roads and vehicle water crossings is necessary outside the right-of-way, or if a crossing on the right-of-way is to be left in place permanently, a separate Work Permit must be obtained from the MNR.
* Techniques for erosion and sediment control are to adhere to accepted engineering practice and Union Typical Construction Drawings. The MNR publication Environmental Guidelines For Access Roads and Water Crossings (1990) may also be a useful reference source.
* If flows are in flood stage, work should be delayed if practical.
* If post-construction monitoring reveals erosion problems, remedial work is to be undertaken as quickly as possible.
* Union will be held responsible for implementation of this plan.

Stormwater Runoff Control

Exposed mineral soil near the water poses a potential threat of erosion and sediment entering the water in the event of a rainstorm. The erosion potential is highest on steep slopes (>15%) and where soils are silty or sandy. Union is to assess each site and shall use effective measures to keep sediment on land at all times. To the maximum extent reasonably possible, a silt fence is to separate exposed mineral soil from the creek at all times; this includes the travelled portion of the right-of-way during rain events (if necessary). Accumulated sediment is to be removed regularly. The area around water crossings is to be regularly monitored and if erosion problems develop, immediate action is to be taken with appropriate treatments. Additional measures to be considered are:

* Short term erosion control techniques applied over exposed soil, such as erosion control blankets, gravel sheeting, rip rap, filter cloth, seed and mulch.
* Delay construction during wet periods.
* Diversion berms or check dams to channelize flow and filter prior to re-entering the stream.

Sizing of Water Opening

It is important that the size of the water opening be selected so the structure can safely pass flood flows that can reasonably be expected to occur during the life of the crossing. Either of the following methods can be followed:

(a) Install a bridge that clear spans the creek from top of bank to top of bank (as shown) and with a clearance of at least 1 metre above the annual high water mark. If this criteria is met, prior approval from MNR is not necessary.

(b) Conduct a hydrology analysis to determine theoretical opening size. The design flow will be the two year flood (Q2), unless the culvert is to be left in place through the spring freshet, in which case the theoretical opening size will be based on the five year flood (Q5). Culvert sizes may also be selected to be the same as existing nearby culverts that have been in place for many years and have performed satisfactorily. Culvert sizes and lengths must be approved by MNR prior to installation, allowing three weeks for review and approval. If culverts are used, the approved size or equivalent multiple culverts must be installed. If a bridge is selected with cribs or piers in the water, the opening must provide the same end area as the culvert, plus 1 metre vertical clearance.

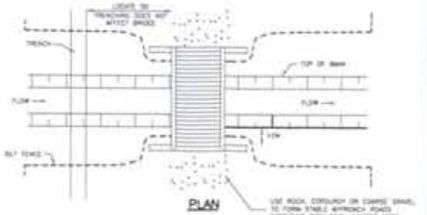
Pre-Construction Preparations

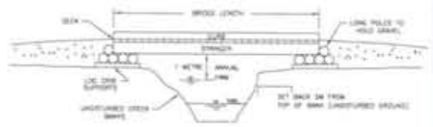
Temporary swamp mat bridges for crossing streams (spanning bank to bank) may only be utilized during the frost end clearing operations. Prior to beginning grading operations within 100 meters of watercourses, mark out and maintain limits of authorized work areas with fencing or flagging tape to avoid unnecessary disturbance of vegetation. Proper crossings as identified on this drawing must be installed during the frost end operations. Ensure equipment operators working on the crossing have been briefed about this plan and the measures needed to protect water quality. All necessary equipment and materials to build the crossing must be on site or readily available prior to commencing in-water construction. Adequate advanced notice (min. 48 hours) will be provided to MNR prior to commencing in-stream work.

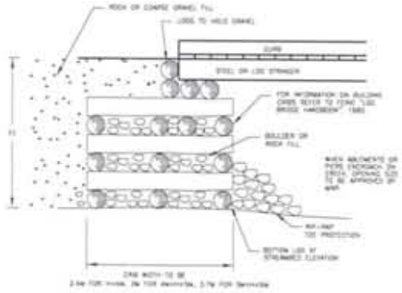
Detailed Construction Sequence – Temporary Bridges

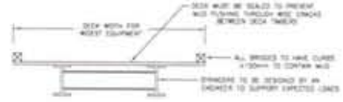
In general terms, the following sequence of construction and mitigation measures will be followed at all temporary bridges:

1. Measure up the approximate bridge length required and follow either method a) or b) for determining the opening size. If a) is followed, a minimum 2 metre setback from top of bank must be preserved as a no disturbance area. Daylight must be visible between the ground and underside of stringers in this "no disturbance area". If abutments or piers in the streambed are required, method b) is to be followed, including MNR approval of the proposed opening size.
2. Install the bridge in a manner that will minimize sediment entering the water. Stringers must be engineered to support the loads expected on the bridge. Curbs at least 150 mm high must be installed along the edge of the deck to contain mud on the bridge. Fasteners connecting components must be strong enough to hold them in position during the life of the bridge. Cribs are to be filled with rock or cobble. Rip rap erosion protection is to be placed around the cribs and on the fill slopes projecting into the water.
3. Road approaches leading to bridges and flume vehicle crossings must be raised and stable so equipment loads are supported a sufficient distance back from the water to reduce mud entering the stream from equipment tracks. This may require using materials such as gravel, rock or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment on land (eg., check dams, filter cloth, rip rap, seed and mulch, sediment traps, etc.)
4. While the bridge is in use, any buildup of mud on the bridge deck or approaches that is affecting water quality is to be scraped off and disposed of in a location approved by the Conservation Authority.
5. Temporary crossings shall be removed as quickly as possible when no longer required. Removal shall not occur outside the construction windows as identified on the Work Permit without prior written approval from MNR Area Office. Surplus gravel and bridge materials are to be removed from the crossing area and disposed of in an approved location. The creek bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (eg., coarse gravel or rip rap) Measures such as berms or logs may be needed to prevent sediment laden water running down the road.





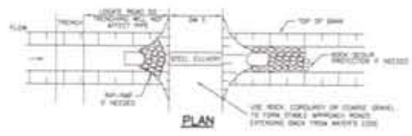


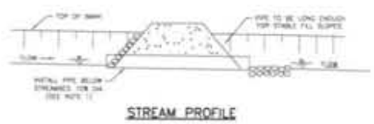


Detailed Construction Sequence – Temporary Culverts

In general terms, the following sequence of construction and mitigation measures will be followed at all temporary culverts:

1. Install culvert pipe of diameter and length as per approval conditions. Culvert invert is to be set 10 percent of diameter below streambed where soil conditions permit (otherwise at at stream grade and slope). If streambed soils are soft, install coarse gravel or rockfill pad under the pipe. Pipe installation can be done in flowing water unless MNR specifies otherwise in the Work Permit. Culvert backfill and fill for the road is to be coarse granular or rock fill material. Erosion protection may be needed on the upstream road fill slope and if scour is possible, rip rap is to be placed in the streambed downstream of the pipe outlet.
2. The road approach leading to the culvert crossing must be raised and stable so equipment loads are supported a sufficient distance back from the water to reduce mud entering the water from equipment tracks. This may require using materials such as gravel, rock or corduroy. If cuts are needed to obtain a satisfactory grade, they are to be dug with side ditches and stable slopes. Erosion and sediment control measures are to be installed to keep sediment on land (eg., check dams, filter cloth, rip rap, seed and mulch, sediment traps, etc).
3. While the culvert is in use, any build-up of mud on the road surface or approaches that is affecting water quality is to be scraped off and disposed of in an approved location.
4. When the temporary crossing is no longer required, it is to be removed as quickly as possible. Removal shall not occur outside the construction windows as identified on the Work Permit without prior written approval from MNR. Surplus gravel is to be removed from the crossing area and disposed of in a location approved by the Conservation Authority. The creek bed and banks are to be restored to a stable angle and protected with erosion resistant material compatible with flow velocity (eg., coarse gravel or rip rap). Measures such as berms or logs may be needed to prevent sediment laden water running down the road.





NOTES

DATE	REV NO	REVISION	BY	APPD
JAN 5/94	7	REVISIONS PER DEC 1993 MEETING	GTH	WTW
MAR 08/93	6	REVISIONS AS PER DISCUSSIONS	KC	LHC
FEB 15/93	5	REVISIONS PER NOV 1992 MEETING	KC	LHC
NOV 15/92	4	REVISIONS PER JUNE 1992 MEETING	RBA	
FEB 28/92	3	REDRAWN AND GENERAL REVISION	RBA	

Ministry of Natural Resources
Ontario

January 28, 1994

PROJECT
UNION GAS LIMITED
CONSTRUCTION PROGRAM

LOCATION (LOT.,CON.,TWP.,DIST.)
ALL TEMPORARY VEHICLE CROSSINGS (BRIDGES & CULVERTS) IN ONTARIO

DRAWING TITLE
GENERIC SEDIMENT CONTROL PLAN FOR TEMPORARY VEHICLE CROSSINGS

SCALE	NTS	DATE	FEB. 11/92
FILE No.		PROJECT NO	
DRAWN	CHECKED	DRAWING	REV
RBA	LHC	3 of 3	7

APPROVED

BRANCH DIRECTOR

Schedule 11

Schedule 11

Summary of Comments

TO BE FILED WHEN RECEIVED

East Windsor Cogeneration Centre Pipeline Project
Total Estimated Costs

Pre-Construction		
Environmental Report	35,000	
Total Pre-Construction	**35,000**	**$ 35,000**
Construction		
Environmental Inspection and Monitoring	5,000	
Site Restoration	67,800	
Total Construction	**72,800**	**$ 72,800**
Post Construction		
Site Restoration	16,900	
Tree Replacement	15,000	
Total Post Construction	**36,900**	**$ 36,900**
Total Estimated Environmental Costs		**$ 144,700**

Province of Ontario

Transfer/Deed of Land

Form 1 — Land Registration Reform Act

Do Process Software Ltd. • (416) 322-6111
1984 EB-2007-0703 Schedule 13

A

(1) Registry ☐ Land Titles ☐ (2) Page 1 of 6 pages

(3) Property Identifier(s) Block Property Additional See Schedule ☐

(4) Consideration

Dollars $

(5) Description This is a: Property Division ☐ Property Consolidation ☐

Servient Lands

FOR OFFICE USE ONLY

New Property Identifiers Additional See Schedule ☐

Executions Additional See Schedule ☐

(6) This Document Contains (a) Redescription New Easement Plan/Sketch [X] (b) Schedule for Description [X] Additional Parties ☐ Other [X]

(7) Interest/Estate Transferred
EASEMENT

(8) Transferor(s) The transferor hereby transfers the land to the transferee and certifies that the transferor is at least eighteen years old and that

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

Name(s)	Signature(s)	Date of Signature Y M D
		2007
		2007

(9) Spouse(s) of Transferor(s) I hereby consent to this transaction

Name(s)	Signature(s)	Date of Signature Y M D

(10) Transferor(s) Address for Service

(11) Transferee(s) Date of Birth Y M D

UNION GAS LIMITED 2007
By its Attorney, Beverly Howard Wilton, Power of Attorney
registered as Instrument No. , To the best
of my knowledge and belief, the Power of Attorney is still in full force and
effect, and has not been revoked. I am at least eighteen years of age.

(12) Transferee(s) Address for Service 50 Keil Drive North, Chatham, Ontario N7M 5M1

(13) Transferor(s) The transferor verifies that to the best of the transferor's knowledge and belief, this transfer does not contravene section 50 of the Planning Act.

Date of Signature Y M D

Signature

Date of Signature Y M D

Signature

Planning Act - OPTIONAL

Solicitor for Transferor(s) I have explained the effect of section 50 of the Planning Act to the transferor and I have made inquiries of the transferor to determine that this transfer does not contravene that section and based on the information supplied by the transferor, to the best of my knowledge and belief, this transfer does not contravene that section. I am an Ontario solicitor in good standing

Name and Address of Solicitor

Date of Signature Y M D

Signature

Affix Statements by Solicitor for Transferee(s) here if necessary

(14) Solicitor for Transferee(s) I have investigated the title to this land and to abutting land where relevant and I am satisfied that the title records reveal no contravention as set out in subclause 50 (22) (c) (ii) of the Planning Act and that to the best of my knowledge and belief this transfer does not contravene section 50 of the Planning Act. I act independently of the solicitor for the transferor(s) and I am an Ontario solicitor in good standing

Name and Address of Solicitor

Date of Signature Y M D

Signature

(15) Assessment Roll Number of Property — City | Mun | Map | Sub | Par | Not Assigned

(16) Municipal Address of Property

Not Assigned

(17) Document Prepared by:

Union Gas Limited
50 Keil Drive North
Chatham, Ontario
N7M 5M1

File:

FOR OFFICE USE ONLY

Fees and Tax	
Registration Fee	
Land Transfer Tax	
Total	

Document prepared using Form Ware LandForms

Additional Property Identifier(s) and/or Other Information

This is an Easement in Gross

EASEMENT FOR TRANSMISSION PIPELINE

WHEREAS the Transferor is the owner in fee simple of those lands and premises more particularly described as

(hereinafter called the "Transferor's lands").

WHEREAS the Transferee is the owner in fee simple of those lands and premises (hereinafter called the "Transferee's lands") situate, lying and being in the geographic Township of Dawn, now the Township of Dawn-Euphemia, in the County of Lambton and Province of Ontario and being composed of the west half (W1/2) of Lot Number 25 in the 2nd Concession of the said Township.

The Transferor (and the Mortgagee) do hereby GRANT, CONVEY, TRANSFER AND CONFIRM unto the Transferee, its successors and assigns, to be used and enjoyed as appurtenant to all or any part of the lands of the Transferee's lands the right, liberty, privilege and easement on, over, in, under and/or through a strip of the Transferor's lands more particularly described in Box 5 of page one of this Schedule (hereinafter referred to as the "Lands") to survey, lay, construct, maintain, inspect, patrol, alter, remove, replace, reconstruct, repair, move, keep, use and/or operate one pipe line for the transmission of pipeline quality natural gas as defined in The Ontario Energy Board Act S.O. 1998 (hereinafter referred to as the "Pipeline") including therewith all such buried attachments, equipment and appliances for cathodic protection which the Transferee may deem necessary or convenient thereto, together with the rights 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, 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 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 therefor. Any gates, fences and tile drains 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 with good drainage practice.

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

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Additional Property Identifier(s) and/or Other Information

accommodate the planning and installation of future tile drainage systems following installation of the pipeline so as not to obstruct or interfere with such tile installation.

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

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

6. In the event that the Transferee fails to comply with any of the requirements set out in 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 lands of the Transferor, other than the Lands, without the consent of the Transferor. In case of emergency the right of entry upon the Transferor's lands for ingress and egress to and from the Lands is hereby granted. The determination of what circumstances constitute an emergency, for purposes of this paragraph is within the absolute discretion of the Transferee, but is a situation in which the Transferee has a need to access the pipeline in the public interest without notice to the Transferor, subject to the provisions of paragraph 2 herein. The Transferee will, within 72 hours of entry upon such lands, advise the Transferor of the said emergency circumstances and thereafter provide a written report to the Transferor with respect to the resolution of the emergency situation.

8. The Transferor shall have the right to fully use and enjoy the Lands except for planting trees over 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 farm fences, constructing or repairing his tile drains and domestic sewer pipes, water pipes, and utility pipes and constructing or repairing his 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 five (5) clear days notice in writing pointing out 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 therefor. 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,

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Additional Property Identifier(s) and/or Other Information

S.O. 1998, or any other laws, which rights the Transferee may exercise at its discretion in the event of the Transferor being unable or unwilling for any reason to perform this Agreement or give to the Transferee a clear and unencumbered title to the easement herein granted.

12. The Transferor covenants that he has the right to convey this easement notwithstanding any act on his part, that he will execute such further assurances of this easement as may be requisite and which the Transferee may at its expense prepare and that the Transferee, performing and observing the covenants and conditions on its part to be performed, shall have quiet possession and enjoyment of the rights, privileges and easement hereby granted. If it shall appear that at the date hereof the Transferor is not the sole owner of the lands, this Indenture shall nevertheless bind the Transferor to the full extent of his interest therein and shall also extend to any after-acquired interest, but all moneys payable hereunder shall be paid to the Transferor only in the proportion that his interest in the lands bears to the entire interest therein.

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

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

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

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

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Municipality of Chatham-Kent

Province of Ontario

DECLARATION REQUIRED UNDER SECTION 80 OF THE PLANNING ACT, R.S.O. 1990, as amended

I, Beverly Howard Wilton, of the Municipality of Chatham-Kent, in the Province of Ontario.

DO SOLEMNLY DECLARE THAT

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

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

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

DECLARED before me at the

Municipality of Chatham-Kent,

in the Province of Ontario

this day of ,200

A Commissioner, etc.

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EB-2007-0[illegible]
Schedule 13

Property Identifier(s) No. –

Ontario

Ministry of Finance
Motor Fuels and
Tobacco Tax Branch
PO Box 625
33 King St West
Oshawa ON L1H 8H9

Land Transfer Tax Affidavit
Land Transfer Tax Act

Refer to instructions on reverse side

In the Matter of the Conveyance of *(insert brief description of land)* _____

BY *(print names of all transferors in full)* _____

TO *(print names of all transferees in full)* UNION GAS LIMITED

I _____

have personal knowledge of the facts herein deposed to and Make Oath and Say that:

1. I am *(place a clear mark within the square opposite the following paragraph(s) that describe(s) the capacity of the deponents)*
   - ☐ (a) the transferee named in the above-described conveyance;
   - ☐ (b) the authorized agent or solicitor acting in this transaction for the transferee(s).
   - ☒ (c) the President, Vice-President, Secretary, Treasurer, Director or Manager authorized to act for UNION GAS LIMITED (the transferee(s)).
   - ☐ (d) a transferee and am making this affidavit on my own behalf and on behalf of *(insert name of spouse or same-sex partner)* _____ who is my spouse or same-sex partner.
   - ☐ (e) the transferor or an officer authorized to act on behalf of the transferor company and ☐ I am tendering this document for registration and ☐ no tax is payable on registration of this document

2. **THE TOTAL CONSIDERATION FOR THIS TRANSACTION IS ALLOCATED AS FOLLOWS:**

(a) Monies paid or to be paid in cash	$ Nil		*All blanks must be filled in. Insert "Nil" where applicable.*
(b) Mortgages (i) Assumed *(principal and interest)*	$ Nil		
(ii) Given back to vendor	$ Nil		
(c) Property transferred in exchange *(detail below in para. 5)*	$ Nil		
(d) Other consideration subject to tax *(detail below)*	$ Nil		
(e) Fair market value of the lands *(see instruction 2)*	$ Nil		
(f) Value of land, building, fixtures and goodwill subject to Land Transfer Tax *(Total of (a) to (e))*	$ Nil	$ Nil	
(g) Value of all chattels - items of tangible personal property which are taxable under the provisions of the *Retail Sales Tax Act*		$ Nil	
(h) Other consideration for transaction not included in (f) or (g) above		$ Nil	
(i) Total Consideration		$ Nil	

3. To be completed where the value of the consideration for the conveyance exceeds $400,000.00
   I have read and considered the definition of "single family residence" set out in subsection 1(1) of the Act. The land conveyed in the above-described conveyance:
   - ☐ does not contain a single family residence or contains more than two single family residences.
   - ☐ contains at least one and not more than two single family residences; or
   - ☐ contains at least one and not more than two single family residences and the lands are used for other than just residential purposes. The transferee has accordingly apportioned the value of consideration on the basis that the consideration for the single family residence is $ _____ and the remainder of the lands are used for _____ purposes

Note: Subsection 2(1)(b) imposes an additional tax at the rate of one-half of one per cent upon the value of the consideration in excess of $400,000.00 where the conveyance contains at least one and not more than two single family residences and 2(2) allows an apportionment of the consideration where the lands are used for other than just residential purposes

4. If consideration is nominal, is the land subject to any encumbrance? ☐ Yes ☐ No

5. Other remarks and explanations, if necessary Exempt from Land Transfer Tax pursuant to Ontario Revised Regulation 695/90 - easement for the purpose of a hydrocarbon transmission pipeline.

Sworn/affirmed before me in the Municipality of Chatham-Kent
Province of Ontario
this _____ day of _____, 20 07

Beverly H. Wilton
Signature(s)

A Commissioner for taking Affidavits, etc

Property Information Record

A Describe nature of instrument Easement for a hydrocarbon transmission pipeline

B (i) Address of property being conveyed *(if available)* Not Assigned

(ii) Assessment Roll No *(if available)* n/a

C Mailing address(es) for future Notices of Assessment under the *Assessment Act* for property being conveyed

D (i) Registration number for last conveyance of property being conveyed *(if available)*

(ii) Legal description of property conveyed Same as in D(i) above ☐ Yes ☐ No ☐ Not known

E Name(s) and address(es) of each transferee's solicitor. Legal Service, Union Gas Limited, 50 Keil Drive North, Chatham, Ontario N7M 5M1

For Land Registry Office Use Only
Registration No
Registration Date (Year/Month/Day)
Land Registry Office No

School Support (Voluntary Election) (See reverse for explanation)

	Yes	No
(a) Are all individual transferees Roman Catholic?	☐	☐
(b) If Yes, do all individual transferees wish to be Roman Catholic Separate School Supporters?	☐	☐
(c) Do all individual transferees have French Language Education Rights?	☐	☐
(d) If Yes, do all individual transferees wish to support the French Language School Board (where established)?	☐	☐

Note: As to (c) and (d) the land being transferred will receive French Public School Board Election unless otherwise directed in (a) and (b).

[illegible]