

August 25, 2020

E-FILED

British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, B.C. V6Z 2N3

Attention: Marija Tresoglavic,
Acting Commission Secretary

Dear Ms. Tresoglavic:

City of Coquitlam

**Application to the British Columbia Utilities Commission (BCUC) for
Reconsideration and Variance of BCUC Order No. G-80-19 (Application)**

In accordance with the regulatory timetable established by BCUC Order G-202-20, we write to submit the evidence of the City of Coquitlam (the **City**) relating to the BCUC's reconsideration of its determination by Order G-80-19 that upon request by the City in circumstances where it interferes with municipal infrastructure, the costs of removal of any portion of the decommissioned NPS 20 pipes owned by FortisBC Energy Inc. (**FEI**) shall be shared equally between FEI and the City.

This reconsideration proceeding was commenced by City in respect of the BCUC's Order G-80-19. By way of Order G-75-20, the BCUC dismissed the City's reconsideration application on the jurisdictional question of whether the BCUC has the power to require the City to allow FEI to abandon in place its permanently decommissioned NPS 20 pipes in City lands and to require the City to pay a portion of the costs of removal of the decommissioned NPS 20 pipes. The City has since applied for leave to appeal the BCUC's determination on jurisdiction to the British Columbia Court of Appeal.

The BCUC has decided to proceed with the remaining issue under reconsideration arising from paragraph 2 of Order G-80-19, which states as follows:

2. Pursuant to section 32 of the UCA, upon request by the City in circumstances where it interferes with municipal infrastructure, the costs of removal of any portion of the decommissioned NPS 20 Pipeline shall be shared equally between FEI and the City.

Ian Webb
D: 604.631.9117
F: 604.694.2932
iwebb@lawsonlundell.com

The BCUC made the above order without evidence or submissions in relation to either the circumstances in which the City might request FEI to remove FEI's decommissioned NPS 20 pipes or what terms might be fair and reasonable in such circumstances.

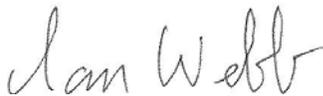
For the BCUC's reconsideration of the issue of cost allocation, the City encloses the following evidence:

- (1) a jurisdictional review, containing evidence relating to how other Canadian jurisdictions deal with circumstances where municipalities require owners or operators of public utility infrastructure to remove or relocate their operating equipment, and copies of the documents referred to therein; and
- (2) further evidence of Mark Zaborniak dated August 25, 2020, outlining considerations, challenges and additional costs for the City arising from the BCUC's order that FEI's NPS 20 pipes shall remain in the City's street until removal is required in circumstances where the pipes interfere with municipal infrastructure, and also enclosing Mr. Zaborniak's previous evidence of October 31, 2018 filed in the underlying BCUC proceeding.

The enclosed evidence is filed by the City in support of its position that there is no need to require the City to pay a portion of FEI's removal costs and, based on the principles applied in other jurisdictions on analogous matters, it is not fair to require the City to pay 50% of such costs. The City submits that paragraph 2 of Order G-80-19 should be varied to this effect, and to require FEI to pay any and all incremental costs of the City that result from FEI's decommissioned NPS 20 pipes remaining in Como Lake Avenue.

Yours very truly,

LAWSON LUNDELL LLP



Ian Webb

cc. Stephanie James, City of Coquitlam
Regulatory Affairs, FortisBC Energy Inc.
Registered Interveners

City of Coquitlam
Application for Reconsideration and Variance of
British Columbia Utilities Commission Order No. G-80-19
Evidence on Cost Allocation – Jurisdictional Review

1. Introduction

In the Order G-80-19 Decision, the BCUC gave the following reasons in support of its order for an equal sharing of the costs of removal of FEI's decommissioned NPS 20 pipes from City lands as requested by the City:

The Panel finds the public interest is safeguarded by specifying a term pursuant to section 32 of the UCA that provides the costs of removal of all, or a portion of, the NPS 20 Pipeline, upon request by the City, in circumstances where it interferes with municipal infrastructure, shall be shared equally between FEI and the City. Such a term ensures that FEI, as a public utility, is able to use municipal public places to provide a valuable service as well as the public interest in the convenience and necessity of receiving the delivery of a natural gas service. It also lessens the likelihood of the City making unnecessary or unreasonable requests for removal of the NPS 20 Pipeline, thereby avoiding unnecessary disruption to the City's streets and public spaces and any resulting cost and inconvenience to the residents, commuters and businesses.¹

This line of reasoning implies that the BCUC decided that FEI must abide by any requests for removal of its decommissioned NPS 20 pipes made by the City but, to avoid removals that might be considered unnecessary or unreasonable, the City should be deterred from making removal requests in the first place with the deterrent being a requirement to pay half of the costs of any requested removal. It appears that under the BCUC's order the City is required to pay half of the

¹ Order G-80-19, page 18 (emphasis in original).

costs of any requested removal of FEI's decommissioned NPS 20 pipe even if the removal is clearly necessary.

In the City's submission, the BCUC's concern with respect to the City making unnecessary or unreasonable requests for removal of the NPS 20 pipes is unfounded, and there is no rational connection to support the order for an equal sharing of FEI's removal costs between the parties. In particular, the City notes:

- (1) the BCUC did not provide any reasons as to why it would be appropriate to deter the City from making requests for removal of the NPS 20 pipes where removal is necessary or why the City should be required to pay half the costs of removal of NPS 20 pipes where removal is necessary;
- (2) the BCUC did not address how FEI's NPS 20 pipe removal costs are to be allocated in circumstances where the requested removal is to accommodate third party infrastructure (*e.g.*, to accommodate TELUS, Shaw or BC Hydro infrastructure);
and
- (3) the BCUC's concern that FEI might have to comply with a City request for removal of the NPS 20 pipe that is deemed to be unnecessary or unreasonable is nullified by the Order G-75-20 Decision, wherein the BCUC found that it retains perpetual jurisdiction over the NPS 20 pipes even once permanently decommissioned, effectively making the BCUC the arbiter of all NPS 20 pipe removal requests on a case-by-case basis forever.

2. Precedents from other Canadian Jurisdictions

To the City's knowledge, there is no precedent from another Canadian jurisdiction directly on point in terms of a government or regulatory body requiring a municipality or other landowner to pay a portion of a gas utility's costs to remove its permanently decommissioned infrastructure where the municipality or other landowner requires removal to accommodate its infrastructure project.

However, the City encloses evidence as to how other Canadian jurisdictions deal with circumstances where municipalities require owners or operators of operating public utility infrastructure to remove or relocate their infrastructure. In the City's submission, these examples illustrate that the BCUC's order for the equal sharing of FEI's NPS 20 pipe removal costs is at odds with the prevailing law in comparable jurisdictions even where the public utility infrastructure is operating and needed to serve utility customers.

2.1 Canada - Canadian Radio-televisions and Telecommunications Commission

In the context of a municipality requiring a telecommunications company to relocate its operating infrastructure, the Canadian Radio-televisions and Telecommunications Commission (CRTC) applies the general principle of cost neutrality to the allocation of costs associated with municipality-initiated facility relocations: "costs directly related to a carrier's infrastructure should be paid by the carrier, not municipal taxpayers"². The CRTC's approach includes certain exceptions or qualifications on this general principle.

Under the CRTC's approach, the municipality may be required to pay a percentage of the carrier's relocation costs which is determined by the number of years that has passed since the carrier's facilities were originally installed, diminishing to zero percent after a certain number of years. The CRTC has applied seven-year, ten-year, and seventeen-year sliding scales. The CRTC's use of a sliding scale model reflects the view that the municipality should know, based on its planning processes, whether the infrastructure it authorizes the carrier to install in municipal lands is in an alignment the municipality will need in the near future. If the municipality needs the carrier to relocate recently installed telecommunications infrastructure, the municipality should contribute to the carrier's relocation costs. Also, it is not reasonable to expect a municipality to foresee need for an alignment increasing years in the future, resulting in the approach of a sliding scale diminishing to zero.

² Appendix 8.

In the case of FEI's decommissioned NPS 20 pipes, which were placed in the City's lands more than 60 years ago, the CRTC's reasoning supports the City's primary position that the appropriate proportion of FEI's removal costs the City should bear is zero.

2.2 British Columbia

In British Columbia, the *Pipeline Crossings Regulation*, B.C. Reg. 147/2012³ specifies the allocation of costs to relocate operating high-pressure natural gas pipelines (*i.e.*, pipelines conveying natural gas at 700kPa or higher) as between gas utilities and municipalities. While the *Pipeline Crossings Regulation* does not govern the removal of the decommissioned NPS 20 pipes (which will not convey anything at any pressure), it reflects the guiding principle that the gas utility should bear a greater share or all of its costs of relocating its pipeline where the relocation is initiated by a municipality.

The *Pipeline Crossings Regulation* distinguishes between relocations that are required by a "specifically enabled person" (*i.e.*, the provincial government, a municipality, or the B.C. Railway Company) and those required by an "enabled person" (*i.e.*, any other person, such as a private developer). Where the relocation is required by the former, the gas utility is required to bear more costs than if the relocation is required by a non-government person. This methodology reflects the public policy that municipal projects are public interest projects and take some degree of precedence over gas utility infrastructure that has been placed in municipal lands.

2.3 Other Canadian Provinces

In Ontario, Alberta, and Nova Scotia, the default arrangement is that the utility is required to bear the majority of its costs to relocate operating infrastructures to accommodate municipal projects. Model operating agreements in these jurisdictions allocate to the utility most, if not all, of the relocation costs.⁴

³ Appendix 3.

⁴ Appendices 1, 2, and 7.

2.4 Summary Table

In the below table, the City provides a summary of the various methodologies that have been applied to allocate costs to relocate operating public utility infrastructure as between cities and utility owners or operators in the jurisdictions of Alberta, British Columbia, Ontario, Nova Scotia, and Canada (telecommunications).

Appended to this letter are copies of the model operating agreements, legislation, and decisions from which these methodologies have been derived.

Allocation of Costs to Relocate Utility Facilities

Governing legislation/agreement	City %	Utility %	Reference
Alberta			
AUC Franchise Agreement Template for Electric	0	100	Appendix 1 – AUC Decision No. 2012-255 (FortisAlberta Inc. / Hinton), Appendix 1, ss. 15(a), (b) (PDF pg. 10 at 40)
AUC Standard Gas Franchise Agreement Template	0	100	Appendix 2 – AUC Decision 20069-D01-2015 (AltaGas Utilities Inc. et al.), Appendix 2, ss. 14(a), (c) (PDF pg. 60 at 90-91)
British Columbia			
<i>Pipeline Crossings Regulation</i> , B.C. Reg. 147/2012 Where s. 3(4) or 3(5) applies: Where s. 3(3) applies:	50 0	50 100	Appendix 3 (PDF pg. 104 at 105)
BC Hydro Methodology (used in absence of an agreement) Materials: Labour & vehicles:	0 50	100 50	Appendix 4 – BC Hydro Cost Estimate, dated November 24, 2016 (PDF pg. 106)
Ontario			
<i>Public Service Works on Highways Act</i> , R.S.O. 1990, c. P.49, s. 2(2) Labour: All other costs:	50 0	50 100	Appendix 5 (PDF pg. 108 at 109)

OEB Model Franchise Agreement for Gas Utility, s. 12(d) If in an unassumed/unopened road: In all other cases:	0 35	100 65	Appendix 6 (PDF pg. 111 at 117)
<i>Nova Scotia</i>			
NS Local Government Resource Handbook – Placement of Natural Gas Pipelines in Roadways, s. 3.11(1)	0	100	Appendix 7 (PDF pg. 120 at 121)
<i>Canada (telecommunications)</i>			
CRTC Telecom Municipal Access Agreement Sliding scale based on # years since equipment was installed			Appendix 8 – CRTC Telecom Decision 2016-51 (Bell Canada / Hamilton), paras. 38-52 (PDF pg. 123 at 130-33)
1-3 years:	100	0	
4 years:	90	10	
5 years:	80	20	
6 years:	70	30	
7 years:	65	35	
8 years:	60	40	
9 years:	55	45	
10 years:	45	55	
11 years:	40	60	
12 years:	35	65	
13 years:	30	70	
14 years:	20	80	
15 years:	10	90	
16 years:	5	95	
17+ years:	0	100	

3. Conclusion

While the BCUC acknowledged in its decision that “a cost allocation requiring the City to pay all the costs of removal or a majority of the costs ... would also not be in the public interest, because

it fails to take into account the fact that the NPS 20 Pipeline is owned by FEI and is occupying the City's public spaces"⁵, its determination that the City should bear half of FEI's costs for any removal requested by the City represents a significant departure from the methodologies that have been applied in or adopted by other jurisdictions in relation to relocation of public utility infrastructure that is operating and needed to serve utility customers. Moreover, to the City's knowledge, there is no precedent from another Canadian jurisdiction of a government or regulatory body requiring a municipality to pay a portion of a gas utility's costs to remove its permanently decommissioned infrastructure where the municipality requires removal to accommodate its infrastructure project.

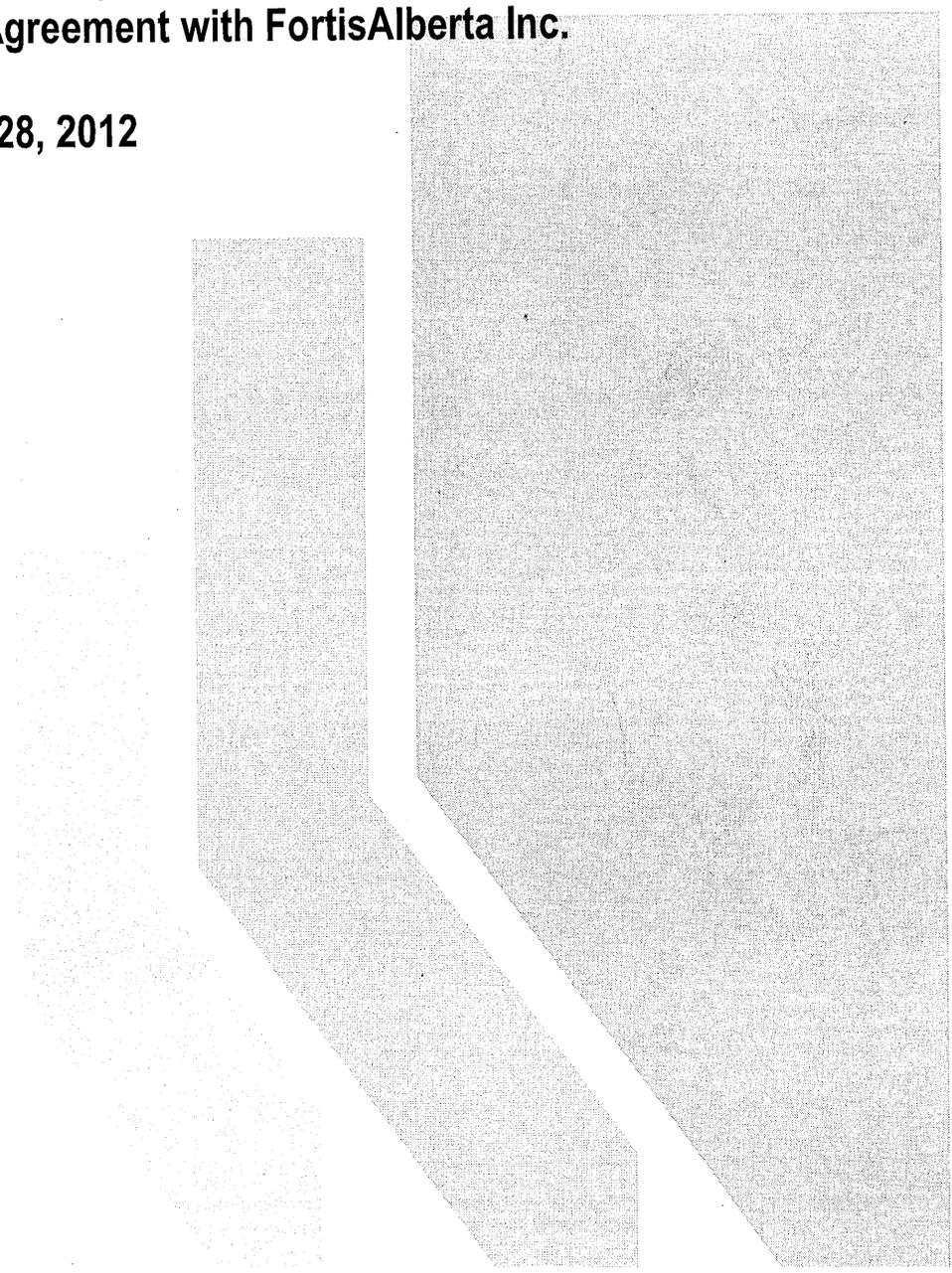
⁵ Order G-80-19, page 18.



Town of Hinton

New Franchise Agreement Template and Franchise Agreement with FortisAlberta Inc.

September 28, 2012



The Alberta Utilities Commission
Decision 2012-255: Town of Hinton
New Franchise Agreement Template and
Franchise Agreement with FortisAlberta Inc.
Application No. 1608547
Proceeding ID No. 1946

September 28, 2012

Published by

The Alberta Utilities Commission
Fifth Avenue Place, Fourth Floor, 425 First Street S.W.
Calgary, Alberta
T2P 3L8

Telephone: 403-592-8845
Fax: 403-592-4406

Web site: www.auc.ab.ca

The Alberta Utilities Commission
Calgary, Alberta

Town of Hinton
New Franchise Agreement Template and
Franchise Agreement with FortisAlberta Inc.

Decision 2012-255
Application No. 1608547
Proceeding ID No. 1946

1 Introduction

1. On June 14, 2012, the Alberta Utilities Commission (the AUC or the Commission) received an application from the Town of Hinton (Hinton) and FortisAlberta Inc. (FortisAlberta) requesting approval to renew their electric distribution franchise agreement (franchise agreement) for a period of ten years. FortisAlberta noted that this was the first submission using the new franchise agreement template that had been recently negotiated between FortisAlberta, ATCO Electric Ltd. (ATCO) and the Alberta Urban Municipalities Association (AUMA). The franchise agreement, which is based on the new franchise agreement template, is attached as Appendix 1 to this decision.

2. The AUC published the notice of application on the AUC website on June 19, 2012, in The Hinton Parklander on June 25, 2012, and The Hinton Voice on June 28, 2012. Anyone with concerns or objections was directed to file a submission with the AUC by July 16, 2012. The AUC did not receive any objections.

3. Given that FortisAlberta requested approval of the new franchise agreement template, and that future franchise agreement renewals from FortisAlberta and ATCO will be based on the new franchise agreement template, the Commission issued information requests to both parties to review the new franchise agreement template and other details associated with a franchise application.

4. Based on the information responses received, the Commission considered that no further testing was required with respect to the new franchise agreement template and the franchise renewal between Hinton and FortisAlberta. The Commission considers that the record closed for this proceeding on August 22, 2012.

5. In reaching the determinations set out within this decision, the Commission has considered all relevant materials comprising the record of the proceeding. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

2 New franchise agreement template

2.1 History of franchise template

6. In Decision 2001-052¹ the Alberta Energy and Utilities Board (AEUB), predecessor to the AUC, issued its findings with respect to the standard electric distribution franchise agreement that had been negotiated by the AUMA, ATCO and UtiliCorp Networks Canada. Previous to this, utility companies developed their own agreements, which were used in negotiations with municipalities.

7. The AEUB indicated the following with respect to the standard electric distribution franchise agreement:

Overall, the Board supports the use of a standard franchise agreement. The Board considers that the use of a standard franchise agreement throughout the province could help clarify and standardize the rights and responsibilities of both utilities and municipalities with respect to the provision of utility services. Such an agreement would also make it easier for both utilities and municipalities to negotiate their franchise agreements at the time of renewals. A standard franchise agreement could be of particular assistance to smaller municipalities, which may not have the same level of resources available to review franchise agreements as larger municipalities.²

8. In Decision 2001-106,³ the AEUB approved the franchise agreement between the Town of Hinton and UtiliCorp Networks Canada. The franchise agreement was based on the standard electric distribution franchise agreement, and incorporated the recommendations made by the AEUB in Decision 2001-52.

2.2 Negotiation process

9. The negotiations to change the 2001 AUC-approved franchise agreement template, took place between legal counsel and business teams of the three proposing parties (FortisAlberta, ATCO and AUMA). Collecting data from the municipalities and utilities, the new template sought to better meet business needs and legislation respecting franchise agreements.

10. The AUMA board, consisting of 15 urban municipalities, approved the development process for the new franchise agreement template. The consultation process included the parties negotiating teams engaging various stakeholders to provide key highlights and changes.

11. With one-on-one consultations and various workshops, representatives from 56 different municipalities participated in the new franchise template development process. The parties agreed on the content after extensive evaluation and revision.

12. Each of FortisAlberta, ATCO and AUMA and considers the changes that have resulted from these negotiations to be improvements that are intended to enhance both the clarity and functionality of the franchise agreement. As a result, the parties submit that while the new

¹ Decision 2001-52: Alberta Urban Municipalities Association, Standard Electric Franchise Agreement With Atco Electric Ltd. And Utilicorp Networks Canada, Application No. 2000361, File No. 6650-1-1, June 19, 2001.

² Decision 2001-052.

³ Decision 2001-106: Town Of Hinton, Application To Renew Its Electric Franchise Agreement With Utilicorp Networks Canada (Alberta) Ltd., Application No. 1237381, File No. 6650-H13, December 11, 2001.

franchise agreement has been refined and updated, it has not changed substantially. The new franchise agreement template will continue to benefit consumers, municipalities, distribution utilities and the AUC.

2.3 Terms in the new franchise agreement

2.3.1 Franchise fees

13. Franchise fees will continue to be recovered from consumers in a municipality through a local rate rider (which rider, for the purposes of clarity, does not include fees from retail service providers). Franchise fees will be calculated based on a percentage of revenue of each utility's transmission and distribution tariff. Under the new franchise agreement, FortisAlberta and ATCO will continue to pay to a municipality both a franchise fee and linear taxes.

2.3.2 Franchise fee cap

14. The parties proposed to maintain the franchise fee cap at 20 per cent which may only be changed with AUC approval. This requirement has become an express provision in the new franchise agreement template

2.3.3 Franchise fee adjustments

15. Under the terms of the new franchise agreement, and subject to the approval process outlined in the *Municipal Government Act*, RSA 2000, c. M-26, municipalities will continue to have the ability to annually adjust the franchise fee charged to distribution utilities, subject to AUC approval. There have been minor changes that relate to the timing of providing notice to each utility to adjust the fee annually in order to reflect the business practices that are currently followed.

2.3.4 Franchise term and renewal

16. The initial term and renewal term in the new franchise agreement template continue to be 10 years and five years respectively. In addition, the renewal provisions have been modified to include a second subsequent five-year term that is subject to acceptance by both parties.

2.4 Changes in the new franchise agreement

2.4.1 Street lighting

17. Due to recent industry trends and developments in the provision of street lighting, the parties have introduced changes that: (i) improve the reporting and communication processes (for example, through the introduction of a street light catalogue) relating to street lighting inventory levels over the term of the agreement, and (ii) update certain references to reflect industry trends and developments. These changes also increase the ability to serve municipalities by improving clarification of processes and information exchanges related to street lighting. This should result in improved communication between the parties regarding ownership and location of facilities.

2.4.2 Municipal boundaries

18. The parties have provided greater clarity in the new franchise agreement template regarding the parties' rights and obligations in the event of a change in the municipality's boundaries, where, for example, an annexation has taken place. These changes clarify service provision and rates within the affected geographic areas.

2.4.3 Maintenance of the distribution system

19. The new franchise agreement template provides greater flexibility regarding the permissible uses of utility work plans and specifications by the municipality, and ensures that liability protection under the agreement corresponds with the *Electric Utilities Act*, SA, 2003, c.E-5.1.

2.4.4 Increased safety with relocation of facilities

20. The new franchise agreement template specifies that FortisAlberta, rather than the municipality, will be responsible for any remedial action when safety concerns arise due to the location of electric distribution facilities.

2.4.5 Core services and company reporting

21. Under the new franchise agreement template, FortisAlberta and ATCO are obligated to provide the municipality with an increased level of specific data relating to rates, site ownership, number of sites, environmental impacts, and consumption within the service area.

2.5 Commission findings

22. Section 45 of the *Municipal Government Act* requires that municipalities receive Commission approval prior to entering into, renewing or amending an individual electric franchise agreement with a person to provide a utility service in the municipality. In granting approval, the Commission must determine whether the proposed agreement is necessary and proper for the public convenience, and properly serves the public interest, as set out in Section 139 of the *Electric Utilities Act*.

23. In considering the new franchise agreement template, the Commission finds that the utilities will continue to pay franchise fees and linear taxes to the municipality. A municipality's ability to charge both a franchise fee and impose linear taxes was approved in Decision 2001-052. The Commission continues to hold these views in this regard and finds that maintaining this ability will provide consistency and a stable financial and operating environment for both utilities and municipalities. On this basis the Commission accepts the continued ability for municipalities to charge both franchise fees and linear taxes.

24. The Commission questioned both FortisAlberta and ATCO with respect to maintaining the franchise fee cap at 20 per cent. Both parties indicated that the 20 per cent cap was not an issue for parties, and that no change to this term of the agreement was required. The new franchise agreement included provisions to increase the franchise fee cap if necessary. Should a municipality wish to exceed the 20 per cent cap, FortisAlberta stated that the process to determine whether the cap should be exceeded was set out in Decision 2001-052:

Should a municipality wish to exceed the level of the cap approved by the Board, or to assess different levels of franchise fees to different customers or customer classes, an application to the Board would be required. The Board would then issue a Notice to interested parties, and would base its final decision on the evidence presented.

The Commission agrees with this process whereby increasing the franchise fee cap will require an application to the Commission.

25. In addition to changing the franchise fee cap, the new franchise agreement template continues to allow municipalities the ability to adjust the franchise fee on an annual basis subject to Commission approval. The Commission approves these provisions and the associated filing deadlines that are incorporated into the new franchise agreement template.

26. With respect to the term of franchise agreements, the new franchise agreement template contemplates an initial 10 year term with two five year extensions. Given that the term will not exceed the 20 year maximum as set out in Section 45 of the *Municipal Government Act*, the Commission approves the associated expiry and renewal provisions contained in the new franchise agreement template.

27. The Commission has also reviewed the other changes and modifications in the new franchise agreement template, and considers that these changes support the continued operations and provision of utility service within a municipality. Based on the comprehensive negotiation process and support for the new franchise template agreement, the Commission accepts and approves the use of the new franchise agreement template.

3 Hinton franchise agreement

28. The municipality determines the level of the franchise fee, which is the consideration paid by the utility for the exclusive right to provide service to the residents of the municipality. The municipality may also opt for the collection of linear property taxes from the utility for the use of municipal lands to provide utility service. Franchise fees and linear property taxes are considered to be a cost of FortisAlberta doing business in the municipality, and therefore, these costs are recovered from electric utility customers in the municipality.

29. Hinton completed first and second reading of Bylaw No.1071, which authorized the municipality to execute a new franchise agreement with FortisAlberta to provide distribution service within Hinton.

30. In the franchise agreement, Hinton proposed to maintain the franchise fee at 10.7 per cent of the delivery revenue received by FortisAlberta. In addition to the collection of the franchise fee, Hinton has also opted to continue the receipt of linear property taxes from FortisAlberta. With the franchise fee and linear property taxes combined, the monthly cost for an average residential customer will increase by \$0.14 to \$4.97 from \$4.83.

31. The term of the franchise agreement is 10 years with the option for two five year renewals. In accordance with Section 45 of the *Municipal Government Act*, a council may grant exclusive right to provide a utility service in all or part of the municipality with a term not exceeding 20 years. The Commission finds that the term of this agreement is in accordance with the legislated time frame.

32. During the term of the franchise agreement, the level of the franchise fee can be changed once annually at the sole discretion of Hinton to a maximum of 20 per cent in accordance with Article 5(b) of the new franchise agreement. This term was approved as part of the new franchise agreement template in this Decision.

33. Therefore, pursuant to Section 45 of the *Municipal Government Act*, Section 106 of the *Public Utilities Act*, RSA 2000, c. P-45 and Section 139 of the *Electric Utilities Act*, the Commission approves the franchise agreement and finds the right granted by Hinton to FortisAlberta to be necessary and proper for the public convenience and properly serves the public interest.

34. The Commission also approves the continued collection of linear property taxes as part of the franchise agreement pursuant to Section 353 of the *Municipal Government Act*. The linear property tax rate for Hinton is 0.67 per cent.

4 Riders

35. Franchise fees and linear property taxes are collected through FortisAlberta's Municipal Franchise Fee Rider and Rider A-1 respectively. FortisAlberta submitted a new Municipal Franchise Fee Rider schedule with the continued franchise fee of 10.7 per cent and an effective date that was to be determined once Commission approval and third reading of Bylaw No. 1071 were received.

36. The Commission previously acknowledged the linear property tax rate and associated Rider A-1 schedule by letter dated May 11, 2012 in Application No. 1608426.

37. In accordance with Section 125 of the *Electric Utilities Act*, and based on the approval of the franchise agreement in this decision, the Commission approves FortisAlberta's Municipal Franchise Fee Rider and Rider A-1 and finds the amounts to be just and reasonable.

5 Order

38. It is hereby ordered that:

- (1) A copy of Bylaw No. 1071 shall be filed with the AUC after third reading along with a copy of the executed franchise agreement. In addition, a final Municipal Franchise Fee Rider schedule with the effective date shall also be filed with the AUC.
- (2) The continuing franchise rate for Hinton as indicated on the Municipal Franchise Fee Rider schedule attached as Appendix 2 to this decision becomes effective after the execution of the franchise agreement.
- (3) Any changes in the level of the franchise fee pursuant to the provisions in Article 5(b) of the franchise agreement are required to be filed with the AUC for acknowledgement on or before the date that the rate comes into effect, including an updated Municipal Franchise Fee Rider schedule.
- (4) Prior to implementing any change in the franchise fee, customers shall be notified of the change in the franchise fee through the publication of a notice in the newspaper having the widest circulation in Hinton at least 45 days prior to the implementation of the revised franchise fee. A copy of the notice shall be filed with the AUC.

Dated on September 28, 2012.

The Alberta Utilities Commission

(original signed by)

Neil Jamieson
Commission Member

Appendix 1 – Town of Hinton franchise agreement with FortisAlberta Inc.

(return to text)



Appendix 1 -
Franchise Agreement

(consists of 36 pages)

Appendix 2 – Franchise fee riders with respect to the Town of Hinton

(return to text)



Appendix 2 -
Franchise Fee Riders

(consists of 3 pages)

ELECTRIC DISTRIBUTION SYSTEM FRANCHISE AGREEMENT

BETWEEN

Town of Hinton

- AND -

FORTISALBERTA INC.

Table of Contents

1) DEFINITIONS AND INTERPRETATION	4
2) TERM	6
3) EXPIRY AND RENEWAL OF AGREEMENT	6
4) GRANT OF FRANCHISE	7
5) FRANCHISE FEE	8
6) CORE SERVICES	10
7) PROVISION OF EXTRA SERVICES	10
8) MUNICIPAL TAXES	10
9) RIGHT TO TERMINATE ON DEFAULT.....	10
10) SALE OF DISTRIBUTION SYSTEM	11
11) STREET LIGHTING.....	11
12) INCREASE IN MUNICIPAL BOUNDARIES	15
13) RIGHT OF FIRST REFUSAL TO PURCHASE.....	16
14) CONSTRUCTION AND MAINTENANCE OF DISTRIBUTION SYSTEM.....	17
15) RESPONSIBILITIES FOR COST OF RELOCATIONS	20
16) DISTRIBUTION SYSTEM EXPANSION AND UPGRADE.....	21
17) JOINT USE OF DISTRIBUTION SYSTEM	21
18) MUNICIPALITY AS RETAILER	23
19) RECIPROCAL INDEMNIFICATION AND LIABILITY.....	24
20) ASSIGNMENT	25
21) NOTICES	26
22) DISPUTE SETTLEMENT	27
23) INTERRUPTIONS OR DISCONTINUANCE OF ELECTRIC SERVICE	27
24) APPLICATION OF WATER, GAS AND ELECTRIC COMPANIES ACT	28
25) FORCE MAJEURE	28
26) TERMS AND CONDITIONS.....	29
27) NOT EXCLUSIVE AGAINST HER MAJESTY	29
28) SEVERABILITY	29
29) AMENDMENTS.....	29
30) DISSOLUTION	29
31) WAIVER	30
32) CONFIDENTIALITY	30
SCHEDULE "A"	31
SCHEDULE "B"	34
SCHEDULE "C"	35

ELECTRIC DISTRIBUTION SYSTEM FRANCHISE AGREEMENT

THIS AGREEMENT made effective the ____ day of _____, 2012.

BETWEEN:

TOWN OF HINTON,
a Municipal Corporation located in the Province of Alberta
(the "Municipality")

OF THE FIRST PART

- and -

FortisAlberta Inc.,
a body corporate and public utility with its
head office in the Calgary, in the Province of Alberta
(the "Company")

OF THE SECOND PART

WHEREAS:

The Municipality desires to grant and the Company desires to obtain an exclusive franchise to provide Electric Distribution Service within the Municipal Service Area on the terms and conditions herein contained;

NOW THEREFORE:

In consideration of the mutual covenants and promises herein contained, the Parties hereby agree as follows:

1) DEFINITIONS AND INTERPRETATION

Unless otherwise expressly provided in this Agreement, the words, phrases and expressions in this Agreement shall have the meanings attributed to them as follows:

- a) **“Commission”** means the Alberta Utilities Commission, as established under the Alberta Utilities Commission Act (Alberta);
- b) **“Company”** means the Party of the second part to this Agreement and includes its successors and assigns;
- c) **“Construct”** means constructing, reconstructing, upgrading, extending, relocating or removing any part of the existing Distribution System or proposed Distribution System;
- d) **“Consumer”** means any individual, group of individuals, firm or body corporate, including the Municipality, with premises or facilities located within the Municipal Service Area from time to time that are provided with Electric Distribution Service by the Company pursuant to the Company’s Distribution Tariff;
- e) **“Core Services”** means all those services set forth in Schedule “A”;
- f) **“Detailed Street Light Patrol”** means a detailed street light patrol of Company-owned street lights conducted by the Company on a schedule reasonably determined by the Company from time to time, currently a seven to nine year cycle as at the date of this Agreement;
- g) **“Distribution System”** means any facilities owned by the Company which are used to provide Electric Distribution Service within the Municipal Service Area, and, without limiting the generality of the foregoing, shall include street lighting, where applicable, and poles, fixtures, luminaires, guys, hardware, insulators, wires, conductors, cables, ducts, meters, transformers, fences, vaults and connection pedestals, excluding any transmission facilities as defined in the EUA;
- h) **“Distribution Tariff”** means the Distribution Tariff prepared by the Company and approved by the Commission on an interim or final basis, as the case may be;
- i) **“Electric Distribution Service”** means electric distribution service as defined in the EUA;
- j) **“Electronic Format”** means any document or other means of communication that is created, recorded, transmitted or stored in digital form or in any other intangible form by electronic, magnetic or optical means or by any other computer-related means that have similar capabilities for creation, recording, transmission or storage;
- k) **“EUA”** means the *Electric Utilities Act* (Alberta);

- l) **"Extra Services"** means those services set forth in Schedule "B" that are requested by the Municipality for itself or on behalf of a Consumer and provided by the Company in accordance with Article 7;
- m) **"First Subsequent Term"** means the Term of this Agreement as set out in Article 3;
- n) **"HEEA"** means the *Hydro and Electric Energy Act* (Alberta);
- o) **"Initial Term"** means the Term of this Agreement as set out in Article 2;
- p) **"Maintain"** means to maintain, keep in good repair or overhaul any part of the Distribution System;
- q) **"Major Work"** means any work to Construct or Maintain the Distribution System that costs more than One Hundred Thousand (\$100,000.00) Dollars;
- r) **"MGA"** means the *Municipal Government Act* (Alberta);
- s) **"Municipal Property"** means all property, including lands and buildings, owned, controlled or managed by the Municipality within the Municipal Service Area;
- t) **"Municipal Service Area"** means the geographical area within the legal boundaries of the Municipality as altered from time to time;
- u) **"Municipality"** means the Party of the first part to this Agreement;
- v) **"Operate"** means to operate, interrupt or restore any part of the Distribution System in a safe and reliable manner;
- w) **"Party"** means any party to this Agreement and **"Parties"** means all of the parties to this Agreement;
- x) **"Plans and Specifications"** means the plans, drawings and specifications reasonably necessary to properly assess and review proposed Work prior to issuing any approval that may be required under this Agreement;
- y) **"Second Subsequent Term"** means the Term of this Agreement as set out in Article 3;
- z) **"Term"** means, as the context requires, the Initial Term, First Subsequent Term or the Second Subsequent Term, and **"Terms"** means all of them;
- aa) **"Terms and Conditions"** means the terms and conditions contained within the Distribution Tariff in effect from time to time for the Company as approved by the Commission; and
- bb) **"Work"** means any work to Construct or Maintain the Distribution System.

The words "hereof", "herein", "hereunder" and other words of similar import refer to this Agreement as a whole, including any attachments hereto, as the same may from time to time be amended or supplemented and not to any subdivision contained in this Agreement. Unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders. References to provisions of statutes, rules or regulations shall be deemed to include references to such provisions as amended, modified or re-enacted from time to time. The word "including" when used herein is not intended to be exclusive and in all cases means "including without limitation". References herein to a section, paragraph, clause, Article or provision shall refer to the appropriate Article in this Agreement. The descriptive headings of this Agreement are inserted for convenience of reference only and do not constitute a part of and shall not be utilized in interpreting this Agreement.

2) TERM

This Agreement shall be for an initial term (the "Initial Term") of ten (10) years, commencing on the later of:

- a) _____ day of _____, 2012, or
- b) the first day after both of the following have occurred:
 - i) Commission approval of this Agreement; and
 - ii) the Municipality having passed third reading of the applicable adopting bylaw _____.

3) EXPIRY AND RENEWAL OF AGREEMENT

Following the expiration of the Initial Term, this Agreement shall be renewed for a further period of five (5) years (the "First Subsequent Term"), provided the Company gives written notice to the Municipality not less than twelve (12) months prior to the expiration of the Initial Term of its intention to renew this Agreement and the Municipality agrees in writing to the renewal not less than six (6) months prior to the expiration of the Initial Term.

- a) During the first (1st) year following the expiration of the Initial Term all the rights and obligations of the parties under this Agreement shall continue to be in effect. Following the expiration of the First Subsequent Term, the Parties agree that this Agreement may be extended for an additional five (5) year term (the "Second Subsequent Term") commencing at the end of the First Subsequent Term, provided that one of the Parties shall provide notice to the other Party of its wish to extend this Agreement for the Second Subsequent Term and the other Party confirms, no later than one (1) year prior to the end of the First Subsequent Term, that it also wishes to extend the Term of this Agreement for the Second Subsequent Term.

- b) If the Municipality has not provided notice to the Company to exercise its right under Article 10 to require the Company to sell the Distribution System within the Municipal Service Area to the Municipality, either Party may submit any items in dispute pertaining to the entering into of a new agreement to binding arbitration before the Commission who shall determine the terms of the new agreement;
- c) Unless either Party has provided notice to the other Party of its intent to terminate or to extend this Agreement, following any expiration of any Term, the respective rights and obligations of the Parties under this Agreement shall continue to be in effect for a period of one (1) year following the expiration of the applicable Term in order to provide the Parties with a reasonable opportunity to negotiate a subsequent agreement;
- d) Commencing one (1) year following the expiration or termination of any Term of this Agreement, unless either Party has invoked the right to arbitration referred to in subparagraph b), this Agreement shall continue to be in effect but shall be amended to provide for the following:
 - i) the franchise fee percentage used to calculate the franchise fee payable by the Company under Article 5 shall be reduced to fifty percent (50%) of the average annual franchise fee percentage used to calculate the franchise fee paid by the Company to the Municipality for the previous five (5) calendar years; and
 - ii) the costs of any relocation requested by the Municipality pursuant to Article 15 shall be paid by the Municipality.

4) GRANT OF FRANCHISE

- a) Subject to subparagraph b) below, and to the terms and conditions hereof, the Municipality hereby grants to the Company the exclusive right within the Municipal Service Area:
 - i) to provide Electric Distribution Service;
 - ii) to Construct, Operate, and Maintain the electric distribution system, as defined in the EUA, within the Municipal Service Area; and
 - iii) to use designated portions of roads, rights-of-way, and other lands owned, controlled or managed by the Municipality necessary to provide Electric Distribution Service or to Construct, Operate and Maintain the Distribution System, including the necessary removal, trimming of trees, shrubs or bushes or any parts thereof.

This grant shall not preclude the Municipality from providing wire services to municipally owned facilities where standalone generation is provided on site or immediately adjacent sites excepting road allowances. Such services are to be

provided by the Municipality directly and not by any other third party wire services provider.

Subject to Article 12 of this Agreement, in the event that a third party (including a Rural Electrification Association (REA)) owns, operates or controls any electrical distribution facilities or lighting within the Municipal Service Area at any time during the Term of this Agreement, the Municipality agrees that it will support the Company's efforts, as is reasonable, to purchase such electrical distribution facilities or, to the extent that it has the authority to do so, the Municipality shall otherwise require such third party to sell such facilities to the Company. Where the Municipality supports the Company's efforts to purchase such electrical distribution facilities or, to the extent that it has the authority to do so, otherwise requires a third party to sell its facilities to the Company, the Company shall be responsible for all reasonable fees, costs and disbursements of external legal counsel incurred by the Municipality in expending such good faith efforts.

b) The Company agrees to:

- i) bear the full responsibility of an owner of an electric distribution system within the Municipal Service Area and to ensure all services provided pursuant to this Agreement are provided in accordance with the Distribution Tariff, insofar as applicable;
- ii) Construct, Operate and Maintain the Distribution System within the Municipal Service Area;
- iii) use designated portions of roads, rights-of-way, and other lands including other lands owned, controlled or managed by the Municipality necessary to Construct, Operate and Maintain the Distribution System, including the necessary removal, trimming of trees, shrubs or bushes or any parts thereof; and
- iv) use the Municipality's roads, rights-of-way and other Municipal Property granted hereunder solely for the purpose of providing Electric Distribution Service and any other service contemplated by this Agreement.

5) FRANCHISE FEE

a) Calculation of Franchise Fee

In consideration of the provisions of Article 4 and the mutual covenants herein, the Company agrees to pay to the Municipality a franchise fee. For each calendar year, the franchise fee will be calculated as a percentage of the Company's actual revenue in that year from the Distribution Tariff rates charged for Electric Distribution Service within the Municipal Service Area, excluding any amounts refunded or collected pursuant to riders.

For the first (1st) calendar year of the Term of this Agreement, the franchise fee percentage shall be 10.7 percent (10.7%).

By no later than September first (1st) of each year, the Company shall:

- i) advise the Municipality in writing of the revenues that were derived from the Distribution Tariff within the Municipal Service Area for the prior calendar year (excluding any amounts refunded or collected pursuant to riders); and
- ii) with the Municipality's assistance, provide in writing an estimate of revenues to be derived from the Distribution Tariff (excluding any amounts refunded or collected pursuant to riders) within the Municipal Service Area for the next calendar year.

b) Adjustment to Franchise Fee

At the option of the Municipality, the franchise fee percentage may be changed annually by providing written notice to the Company.

If the Municipality wishes to amend the franchise fee percentage so that the amended franchise fee percentage is effective January first (1st) of the following calendar year, then the Municipality shall, no later than November first (1st) of the immediately preceding year, advise the Company in writing of the franchise fee percentage to be charged for the following calendar year.

If the Municipality provides such notice after November first (1st) of the immediately preceding year for a January first (1st) implementation, or at any other time with respect to a franchise fee change that will be implemented after January first (1st) of the following year, the Company will implement the new franchise fee percentage as soon as reasonably possible.

c) Franchise Fee Cap

The municipal franchise fee cap is 20 percent (20%) and shall not at any time exceed twenty percent (20%), unless there has been prior Commission approval and provided that the Municipality has complied with Article 5d) below.

d) Adjustment to Franchise Fee Cap

At the option of the Municipality, the franchise fee cap may be changed annually by providing written notice to the Company, subject to Commission approval. If the Municipality wishes to amend the franchise fee cap so that the amended franchise fee cap is effective January first (1st) of the following calendar year, then the Municipality shall, no later than November first (1st) of the immediately preceding year, advise the Company in writing of the franchise fee cap to be in effect for the following calendar year.

If the Municipality provides such notice after November first (1st) of the immediately preceding year for a January first (1st) implementation, or at any other time with respect to a franchise fee cap change that will be implemented for January first (1st) of the following year, the Company will recognize the new franchise fee cap as soon as reasonably possible, subject to Commission approval.

e) Payment of Franchise Fee

The Company shall pay the franchise fee amount, billed to each Consumer, to the Municipality on a monthly basis, within forty-five (45) days after billing each retailer.

f) Reporting Considerations

Upon request, the Company shall provide to the Municipality along with payment of the franchise fee amount, the financial information used by the Company to verify the franchise fee amount as calculated under this Article.

6) CORE SERVICES

The Company agrees to provide those Core Services to the Municipality as set forth in Schedule "A" and further agrees to the process contained in Schedule "A". The Company and the Municipality may amend Schedule "A" from time to time upon mutual agreement.

7) PROVISION OF EXTRA SERVICES

Subject to an agreement being reached on cost and other terms, the Company agrees to provide to the Municipality those Extra Services, if any, as set forth in Schedule "B", as requested by the Municipality from time to time.

The Company is entitled to receive from the Municipality a reasonable amount for the provision of those Extra Services in accordance with Schedule "B". The Company and the Municipality may amend Schedule "B" from time to time upon mutual agreement.

8) MUNICIPAL TAXES

Amounts payable to the Municipality pursuant to the terms and conditions hereof shall be in addition to the municipal taxes and other levies or charges made by the Municipality against the Company, its land and buildings, linear property, machinery and equipment, and the Distribution System.

9) RIGHT TO TERMINATE ON DEFAULT

In the event either Party breaches any material provision of this Agreement, the other Party may, at its option, provide written notice to the Party in breach to remedy such breach.

If the said breach is not remedied within two (2) weeks after receipt of the written notice or such further time as may be reasonably required by the Party in breach using best efforts on a commercially reasonable basis to remedy the breach, the Party not in breach may give six (6) months notice in writing to the other Party of its intent to terminate this Agreement, and unless such breach is remedied to the satisfaction of the Party not in breach, acting reasonably, this Agreement shall terminate six (6) months from the date such written notice is given, subject to prior Commission approval.

10) SALE OF DISTRIBUTION SYSTEM

Upon the expiration of the Term of this Agreement, or the termination of this Agreement pursuant to the terms and conditions hereof or by operation of law or order of a governmental authority or court of law having jurisdiction, the Municipality may, subject to the approval of the Commission under Section 47 of the MGA, exercise its right to require the Company to sell to it the Distribution System within the Municipal Service Area pursuant to the provisions of the MGA or HEEA, as applicable. If the Parties are unable to agree on price or terms and conditions of the purchase, the unresolved matters shall be referred to the Commission for determination.

The Parties acknowledge that the Distribution System may be comprised of component parts that are not transferable by the Company to the Municipality including technologies that have been licensed by third Parties to the Company, and therefore the Company may not be able to transfer such component parts to the Municipality on any such sale. However, the Company shall acting reasonably assist the Municipality in obtaining the necessary approval or consent to such transfer.

11) STREET LIGHTING

a) Investment Option Rate

The Company agrees to provide and maintain an investment option rate for street lighting within the Municipal Service Area to the level of service and standards specified in the appropriate rate for investment option street lighting. This Commission approved rate includes an allowance for the replacement of street lighting.

The Company will provide Company standard and non-standard street lighting under the investment option rate for street lighting. The Company will maintain an inventory of its standard street lighting as listed in its street lighting catalogue. The Company will use reasonable commercial efforts, based on prudent electrical utility practices, to carry stock of such inventory for a reasonable period of time.

- i) In the event that:
 - A. the Company, in its sole discretion, reasonably exercised, decides to change its classifications of what constitutes standard street lighting in its inventory and such change has relevance to the classes of street lights

used by the Municipality, then the Company shall provide one (1) year's prior written notice to the Municipality of its intention to effect such a change and will use its commercially reasonable good faith efforts to determine appropriate alternative sources of such equipment, and arrangements for the associated maintenance, for the Municipality; and

B. a change in the classifications of what constitutes standard street lighting in the Company's inventory arises as a result of the actions of any third party and such change has relevance to the classes of street lights used by the Municipality, then forthwith upon becoming aware that such a change is forthcoming, the Company shall provide notice to the Municipality of the forthcoming change and will use its commercially reasonable good faith efforts to determine reasonable alternatives for such equipment, and arrangements for the associated maintenance, for the Municipality.

ii) If:

A. the Municipality requests street lighting that is not part of the standard offering of the Company at the time;

B. the Municipality requests street lighting that was previously part of the standard street lighting inventory but, at the time of the applicable request, has ceased to be part of the standard street lighting offering of the Company; or

C. the Municipality converts nonstandard street lighting that is not part of the standard offering of the Company at the time to investment option rate street lighting under Article 11c) below;

then the Municipality will be required to enter into a non-standard lighting agreement with the Company, which form of agreement is referenced on the Company's website or in the Company's street lighting catalogue. For such non-standard lighting, the Company will not be responsible for paying a credit under Article 1b) of Schedule "C" to the Municipality to the extent that a delay in replacing the burnt out light is outside of the reasonable control of the Company, including any delay resulting from the failure by the Municipality to carry replacement parts for non-standard lighting.

The Company shall not be required to install any non-standard street lighting that does not meet the Company's minimum specifications for street lighting, and such street lighting must be metered and owned, installed and operated by the Municipality.

The time periods and deadlines contained in Schedule "C" shall be extended for investment-rate, non-standard street lighting for the period of time, if any, the

Company is waiting for receipt of non-standard equipment, supplies and materials from the Municipality.

b) No-Investment Option Rate

The Company and Municipality agree that all new street lighting provided, and any Municipality-requested relocation of any no-investment option rate street lighting, after the date of this Agreement will be provided or relocated, as the case may be, on the basis of the investment option rate. For no-investment option rate street lighting, the Company agrees to maintain street lighting within the Municipal Service Area to the level of service and standards specified in the appropriate rate for no-investment option rate street lighting. This Commission-approved rate does not include an allowance for the replacement of no-investment option rate street lighting.

c) Conversion of No-Investment Rate to Investment Option Rate

The Municipality has the option to convert all street lighting on the Company no-investment option street light rate to the Company investment option rate upon providing sixty (60) days written notice to the Company. Where such option is exercised, the Municipality has the right to obtain the Company investment for such street lighting up to the maximum Commission-approved Company investment levels for such street lighting. For the purpose of clarity, any calculation of "Commission-approved Company investment level" for street lighting in this Agreement shall be determined at the time of conversion of the applicable street lighting. The investment for street lighting shall be calculated according to the following formula:

$$A \times (1 - N/30)$$

Where:

A = the maximum allowable Commission-approved Company investment level per street light; and

N = the age of the street light in years.

The Company will invest in all, but, unless otherwise decided by the Company in its sole discretion, not less than all, no-investment option street lighting within the Municipal Service Area that is converted to the investment option rate.

The Company, in consultation with the Municipality, may use the average age of street lights and the average contributions made by the Municipality in calculating refunds.

d) Street Light Rates

The distribution rates charged by the Company to the Municipality for street lighting shall include only those costs and expenses that pertain to street lighting facilities all at rates approved by the Commission. Other terms and conditions for non-standard street lighting are outlined in the non-standard street lighting agreement between the Company and the Municipality.

e) Municipality Owned Street Lighting

Notwithstanding any other provision of this Article, it is understood and agreed that the Municipality shall have the right to own street lighting and to pay the applicable rate, recognizing the Municipality's ownership.

In such cases where the Municipality owns its street lighting, the Municipality agrees that:

- i) it will bear sole and full responsibility for any liability resulting therefrom and for properly operating, servicing, maintaining, insuring and replacing such street lighting in accordance with good and safe electrical operating practices;
- ii) such street lighting is not to form part of the Distribution System and shall be capable of being isolated from the Distribution System; and
- iii) such street lighting will be separately metered, provided that this provision will not necessarily require individual street lights to be separately metered.

f) Street Light Inventory

The Company and the Municipality agree to meet annually to discuss and exchange information relating to street light facilities owned by each Party. The Company shall have the right, but not the obligation, to mark street lighting facilities owned by the Municipality. The form and place of marking used by the Company to mark street light facilities owned by the Municipality shall first be approved in writing by the Municipality, who shall act reasonably in granting or denying such approval.

Within twelve (12) months of any request by the Municipality, the Company shall provide to the Municipality an inventory of all street lighting facilities within the Municipal Service Area detailing those that:

- i) form part of the Distribution System owned by the Company, and upon request, indicate whether they are jointly used by the Company and a third party, or otherwise; and
- ii) are a dedicated street light facility, and upon request, indicate whether they are jointly used by the Company and a third party, or otherwise.

The inventory shall indicate which street lights are at the investment option rate or the no-investment option rate. Any changes to inventory will be updated on an annual basis. The Company will also conduct a Detailed Street Light Patrol and will update the inventory of street lighting facilities within the Municipality after completion of the patrol.

g) Detailed Street Light Patrol

Detailed Street Light Patrols shall include an inspection of each Company-owned street light as well as audit services to verify the quantity, wattage, rate, and ownership of such street lights. Any changes identified during the inspection or audit, in comparison to the then most recently completed previous audit, will be noted and the street light records will be updated after completion of the patrol. It should be noted that a Municipality with multiple street light circuits may not all be audited within the same calendar year, however, all street light circuits will be inspected and audited within the street light patrol cycle. Metered street lights owned by the Municipality will not be part of the Detailed Street Light Patrol and the Municipality is responsible for inspecting its own street lights. Upon request, the Company shall provide to the Municipality a list of the standard street light offerings of the Company at the time of the request.

As of the date of this Agreement, Detailed Street Light Patrols will be conducted by the Company on a seven to nine year cycle. In the event that the Company wishes to change the scheduling of this cycle, no such change in schedule will be effective without:

- i) the Company having provided the Municipality with prior notice of its intention to effect any such change; and
- ii) the Municipality having a reasonable amount of time to challenge such change before the Commission, if the Municipality wishes to do so.

12) INCREASE IN MUNICIPAL BOUNDARIES

Where the Municipal Service Area is increased through annexation or otherwise by:

- a) 640 acres or more; or
- b) less than 640 acres, but where such annexation or other increase constitutes at least 25% of the then current area;

the Municipality shall have the right to:

- i) purchase the portion of the Distribution System within the increased area provided that the Municipality gives notice in writing to the Company of its intention to purchase within ninety (90) days of the effective date of the increase in area. If the Parties are unable to agree on price or terms and

conditions of the purchase, the unresolved matters shall be referred to the Commission for determination;

- ii) add the increased area to the Municipal Service Area already served by the Company so that the rights and obligations contained in this Agreement will apply in respect of the whole Municipal Service Area, including the increased area, except that, and subject to Commission approval, the Municipality may require the Company to charge the Consumers within the increased area a different franchise fee percentage; or
- iii) add the increased area to the Municipal Service Area already served by the Company so that the rights and obligations contained in this Agreement will apply in respect of the whole Municipal Service Area, including the increased area.

For all other increases to the Municipal Service Area through annexation or otherwise, the rights and obligations contained in this Agreement will apply in respect of the whole Municipal Service Area, including the increased area. In the event that the Municipality increases its area and the result is that a third party (including an REA) owns, operates or controls any existing electrical distribution facilities or lighting within the newly increased area, the Municipality agrees that it will support the Company's efforts to purchase the electrical distribution facilities or, to the extent that it has the authority to do so, otherwise require such third party to sell such facilities to the Company, unless the Municipality otherwise exercises its rights under this Article, however, nothing in this Article will require the Municipality to take any action which will directly prevent the annexation from being approved.

Where the Municipality increases its area through annexation or otherwise, the Company shall be responsible for all reasonable external legal costs, fees and disbursements incurred by a Municipality in its efforts to have any electrical distribution facilities sold to the Company by any third party owner.

13) RIGHT OF FIRST REFUSAL TO PURCHASE

- a) If during the Term of this Agreement, the Company receives a bona fide arm's length offer to operate, take control of or purchase the Distribution System which the Company is willing to accept, then the Company shall promptly give written notice to the Municipality of the terms and conditions of such offer and the Municipality shall during the next ninety (90) days, have the right of first refusal to operate, take control of or purchase the Distribution System, as the case may be, for the same price and upon the terms and conditions contained in the said offer.
- b) This right of first refusal only applies where the offer pertains to the Distribution System and the right of first refusal does not apply to offers that include any other distribution systems or distribution facilities of the Company located outside of the Municipal Service Area. If such offer includes other distribution systems of the

Company, the aforesaid right of first refusal shall be of no force and effect and shall not apply.

14) CONSTRUCTION AND MAINTENANCE OF DISTRIBUTION SYSTEM

a) Municipal Approval

Before undertaking any Major Work or in any case in which the Municipality specifically requests any Major Work, the Company will submit to and obtain the approval from the Municipality, or its authorized officers, of the Plans and Specifications for the proposed Major Work and its location. Approval by the Municipality shall not signify approval of the structural design or the ability of the Work to perform the function for which it was intended. The Company agrees that the Municipality may use such Plans and Specifications for any other proper municipal purpose provided that it shall not use such Plans and Specifications for any purpose or in any manner that may reasonably have an adverse effect on the Company without first obtaining the prior written consent of the Company, such consent not to be unreasonably withheld.

In the event that the Municipality uses such Plans and Specifications for any purposes whatsoever other than for the granting of an approval under this Article, the Municipality acknowledges and agrees that the Company shall not be liable for any liability, actions, demands, claims, damages, losses and expenses (including all legal fees, costs and disbursements) whatsoever as a result of the Municipality's use of or reliance upon such Plans and Specifications.

For greater clarity, the Municipality acknowledges that the Company does not represent, warrant or guarantee the accuracy of the Plans and Specifications provided to the Municipality under this Article for any purpose other than enabling the Municipality to conduct its approval process in accordance with this Article. Prior to commencing any Work, the Company shall obtain such other permits as are required by the Municipality.

The Company shall obtain approval from the Municipality for any traffic lane or sidewalk closures required to be made at least forty-eight (48) hours prior to the commencement of the proposed Work.

For the purposes of obtaining the approval of the Municipality for Major Work under this Agreement, the Company will provide the Municipality with the Plans and Specifications for the proposed Major Work in Electronic Format (or upon request, the Company will provide the Municipality with a hard copy of the materials). The Plans and Specifications will include a description of the project and drawings of a type and format generally used by the Company for obtaining approvals from Municipalities, and will illustrate the proposed changes to the Distribution System. Notwithstanding anything to the contrary that may be contained in any approvals granted under this Agreement, as liability and indemnification are dealt with under the EUA (and the regulations promulgated thereunder) and in Article 19 of this

Agreement, the Company and the Municipality agree that any approval granted under this Agreement that incorporates an indemnity provision different than the indemnification provisions set out in the EUA (and the regulations promulgated thereunder) and in Article 19 of this Agreement, shall, to the extent necessary to eliminate such difference, be deemed to be rejected and shall form no part of the agreement between the Company and the Municipality regarding the subject matter of this Agreement unless such approval:

- i) explicitly amends the liability and indemnification provisions of this Agreement, wherein this Agreement is specifically referenced as being superseded; and
- ii) is accepted in writing by both Parties. In addition, for the purpose of clarity, any approval granted under this Agreement shall be subject to the indemnification provisions set out in the EUA (and the regulations promulgated thereunder) and in Article 19 of this Agreement.

b) Restoration of Municipal Property

The Company agrees that when it or any agent employed by it undertakes any Work on any Municipal Property, the Company shall complete the said Work promptly and in a good and workmanlike manner and, where applicable, in accordance with the approved Plans and Specifications. Further, the Company shall forthwith restore the Municipal Property to the same state and condition, as nearly as reasonably possible, in which it existed prior to the commencement of such Work, subject to reasonable wear and tear and to the satisfaction of the Municipality acting reasonably. The Company shall, where reasonable and prudent, locate its poles, wires, conduits and cables down, through and along lanes in preference to streets.

The Company further covenants that it will not unduly interfere with the works of others or the works of the Municipality. Where reasonable and in the best interests of both the Municipality and the Consumer, the Company will cooperate with the Municipality and coordinate the installation of the Distribution System along the designated rights-of-way pursuant to the direction of the Municipality. During the performance of the Work, the Company shall use commercially reasonable efforts to not interfere with existing Municipal Property. If the Company causes damage to any existing Municipal Property during the performance of any Work, it shall cause such damage to be repaired at its own cost to the same state and condition, as nearly as reasonably possible, in which it existed prior to the commencement of such Work, subject to reasonable wear and tear.

Upon default by the Company or its agent to repair damage caused to Municipal Property as set out above, the Municipality may provide written notice to the Company to remedy the default. If the default is not remedied within two (2) weeks after receipt of the written notice or such further time as may be reasonably required and requested by the Company using best efforts on a commercially

reasonable basis to remedy the default, the Municipality may undertake such repair work and the Company shall be liable for the reasonable costs thereof.

c) Urgent Repairs and Notification to Municipality

If any repairs or maintenance required to be made to the Distribution System are of an urgent nature because of safety concerns or because reliability is materially compromised or potentially materially compromised, the Company shall be entitled to conduct such repairs or maintenance as are commercially reasonable, without prior notice to the Municipality, on the understanding and agreement that the Company will provide written or verbal notice to the Municipality as soon as practicable, and in any event no later than seventy-two (72) hours after the repairs are commenced.

For the purposes of providing notice under this Agreement to the Municipality of the Work, the Company will provide the Municipality with the Plans and Specifications for the proposed Work to be completed in Electronic Format (or upon request, the Company will provide the Municipality with a hard copy of the materials). The Plans and Specifications will include a description of the project and drawings of a type and format generally used by the Company for obtaining approvals from Municipalities, and will illustrate the proposed changes to the Distribution System.

d) Company to Obtain Approvals from Other Utilities

The Company shall be solely responsible for locating, or causing to be located, all existing utilities or utility lines on or adjacent to the work site. The Company shall notify all other utility asset operators and ensure that utilities and utility lines are staked prior to commencement of construction. Unless the Municipality has staked such utility assets and lines, staking shall not be deemed to be a representation or warranty by the Municipality that the utility assets or lines are located as staked. The Municipality shall not be responsible for any damage caused by the Company to any utility assets or any third party as a result of the Company's Work, unless the Municipality has improperly staked the utility assets or lines. Approval must be obtained by the Company from the owner of any third party utility prior to relocation of any facility owned by such third party utility.

e) Revised Plans and Specifications

Following completion of the Major Work, the Company shall provide the Municipality with the revised Plans and Specifications, updated after construction, in Electronic Format (or upon request, the Company will provide the Municipality with a hard copy of the materials) within three (3) months of the request. The Company shall provide the Municipality with copies of any other revised Plans and Specifications as reasonably requested by the Municipality. For the purposes of this paragraph, the Company may satisfy its obligations to provide revised Plans and Specifications in Electronic Format by:

- i) advising the Municipality that the revised Plans and Specifications are posted to a web-based forum that contains such information; and
 - ii) allowing the Municipality access to such web-based forum.
- f) **Approvals**

Where any approvals are required to be obtained from either Party under this Article, such approvals shall not be unreasonably withheld. Where an approval is requested from a Party under this Article, an approval, or a disapproval along with a reasonable explanation of the disapproval, or, at a minimum, the reasons for the delay shall be communicated to the other Party within ten (10) business days of receipt of the request for an approval.

15) RESPONSIBILITIES FOR COST OF RELOCATIONS

- a) Subject to Article 15b), upon receipt of one (1) year's notice from the Municipality, the Company shall, at its own expense, relocate to, on, above or below Municipal Property such part of the Distribution System that is located on Municipal Property as may be required by the Municipality due to planned Municipal construction.
- b) The cost of any relocations referred to in Article 15a) shall be recovered on a specific municipal based rider or any other method approved by the Commission, or if such a rider or other method is not approved by the Commission, the Municipality shall be responsible for such costs. In order to encourage the orderly development of Municipal facilities and the Distribution System, the Municipality and the Company agree that they will meet regularly to:
 - i) review the long-term facility plans of the Municipality and the Company;
 - ii) determine the time requirements for final design specifications for each relocation; and
 - iii) determine the increased notice period that may be required beyond one (1) year for major relocations.

In cases of emergency, the Company shall take measures that are commercially reasonable and necessary for the public safety with respect to relocating any part of the Distribution System that may be required in the circumstances.

If the Company fails to complete the relocation of the Distribution System in accordance with the preceding paragraph, or fails to repair or do anything else required by the Company pursuant to this clause in a timely and expeditious manner to the satisfaction of the Municipality, acting reasonably, the Municipality, in addition to and not in limitation of any other rights, remedies or damages available to it at law or in equity, shall be entitled to, but is not obligated to, seek an order of specific performance to require the Company to complete the work.

In the event the relocation, or any part thereof, requires the approval of the Municipality or a third party, the Municipality will assist the Company in obtaining municipal approvals and the Municipality will use reasonable efforts to assist the Company in any negotiation with such third party to obtain the necessary approval(s).

In the event the relocation results from the demand or order of an authority having jurisdiction, other than the Municipality, the Municipality shall not be responsible for any of the costs of such relocation.

16) DISTRIBUTION SYSTEM EXPANSION AND UPGRADE

At no cost to the Municipality, with the exception of customer contributions, the Company shall, at its sole cost and expense, on a timely basis and pursuant to its Terms and Conditions, use its best efforts on a commercially reasonable basis to meet the Distribution System expansion requests of the Municipality or a Consumer, and provide the requisite facilities for connections for new Consumers to the Distribution System.

For the purposes of this Agreement, and subject to Schedules "B" and "C", it is understood and agreed that the Municipality cannot insist on relocating or upgrading any overhead lines to an underground service, if there is a less expensive or more practical solution. If there is not a less expensive or more practical solution, the Municipality and the Company will meet to negotiate suitable arrangements.

17) JOINT USE OF DISTRIBUTION SYSTEM

a) Municipal Use

The Municipality may, upon notice to the Company and upon confirmation from the Company that the intended use of the Distribution System by the Municipality complies with good and safe electrical operating practices, applicable legislation, and does not unreasonably interfere with the Company's use thereof, make use of the Distribution System of the Company for any reasonable municipal purpose (that is not commercial in nature or that could reasonably adversely affect the Company's exclusive franchise, as granted by the Municipality under this Agreement), at no charge by the Company to the Municipality, provided at all times that such use complies with the intended use.

The Municipality is responsible for its own costs, for the costs of removing any signage or repairing any of the facilities of the Company, and any necessary and reasonable costs incurred by the Company, including the costs of any alterations that may be required in using the poles and conduits of the Company.

The Municipality may, upon notice to the Company and upon confirmation from the Company that the intended use of the rights of way by the Municipality complies with good and safe electrical operating practices, applicable legislation, and does not unreasonably interfere with the Company's use thereof, make use of the rights of

way of the Municipality, at no charge by the Company to the Municipality, provided at all times that such use of the rights of way complies with the intended use.

The Company agrees to act reasonably and in a timely manner in making its determination above. Where a request is made by a Municipality to the Company under this Article 17a), the confirmation, the inability to provide a confirmation along with a reasonable explanation of the reasons why a confirmation cannot be provided, or the reasons for the delay shall, at a minimum, be communicated to the Municipality within five (5) business days of receipt of the request.

b) Third Party Use and Notice

The Company agrees that should any third party, including other utilities, desire to jointly use the Company's poles, conduits or trenches or related parts of the Distribution System, the Company shall not grant the third party joint use except in accordance with this Article, unless otherwise directed by any governmental authority or court of law having jurisdiction.

The Company agrees that the following procedure shall be used in granting permission to third parties desiring joint use of the Distribution System:

- i) first, the third party shall be directed to approach the Company to initially request conditional approval from the Company to use that part of the Distribution System it seeks to use;
- ii) second, upon receiving written conditional approval from the Company, the third party shall be directed to approach the Municipality to obtain its written approval to jointly use that part of the Distribution System on any Municipal Property or right-of-way; and
- iii) third, upon receiving written conditional approval from the Municipality, the third party shall be directed to obtain final written approval from the Company to jointly use that part of the Distribution System.

Providing the Company has not precluded the Municipality's ability to obtain compensation or has entered restrictive agreements with any third parties using any Municipal Property, the Municipality agrees that the procedure outlined above shall apply only to agreements made after January 1, 2011.

c) Cooperation

The Company and the Municipality agree they will use reasonable efforts to cooperate with each other in any negotiations with third parties desiring joint use of any part of the Distribution System located on Municipal Property.

d) Payment

The compensation paid or to be paid by such third party to the Municipality for the use of the Municipal Property including its rights-of-way, shall be determined between the Municipality and the third party.

The compensation paid or to be paid by such third party to the Company for the joint use of its poles, conduits or related parts of the Distribution System shall be determined between the Company and the third party, subject to the jurisdiction of any governmental authority over the matter and the Municipality's right to intervene in any related regulatory proceeding.

e) Provision of Agreements

Upon request by the Municipality, the Company shall provide to the Municipality a copy of all agreements between the Company and any third parties involved in the joint use of any part of the Distribution System. The Company shall be entitled to redact:

- i) any confidential or proprietary information of the Company or the third party;
and
- ii) such information that it reasonably determines to be of a commercially or competitively sensitive nature, from any such copy provided.

An inventory listing of these agreements shall be updated by the Company and provided to the Municipality upon request and at no cost to the Municipality. The Municipality agrees that the requirement to provide the Municipality with a copy of all agreements between the Company and any third parties involved in the joint use of any part of the Distribution System outlined above shall apply only to agreements made after January 1, 2001.

The Company acknowledges that it does not have the authority to allow nor to grant to any third party the right to use any right-of-way that the Municipality authorized the Company to-use.

f) Compensation for Costs

Subject to Article 17c), in the event that either Party to this Agreement is required by law to appear before any applicable regulatory authority, including the Canadian Radio-television and Telecommunications Commission ("CRTC"), the Commission, or a court of law, as a direct result of the actions of the other Party (the "Denying Party") relating to the denial of use to a third party of any part of the Distribution System, then the Denying Party shall pay all reasonable and necessary legal costs incurred by the other Party that are directly related to any such regulatory or judicial proceeding.

18) MUNICIPALITY AS RETAILER

The provisions of this Agreement shall not in any way restrict the right of the Municipality to become a retailer within the meaning of the EUA.

19) RECIPROCAL INDEMNIFICATION AND LIABILITY

- a) It is intended that this provision create reciprocal rights and obligations between the Company and the Municipality.
- b) The Company, as an owner of the Distribution System, is provided liability protections under the EUA, and nothing in this Agreement is intended to abrogate, alter or diminish the liability protections granted to the Company under the EUA. The Company further acknowledges and agrees that the liability protection provisions, if any, under the EUA shall apply, with the necessary changes, to the Municipality with reciprocal rights thereunder.
- c) The Company will indemnify and save the Municipality, its servants, agents, employees, licensees, contractors and invitees, harmless from and against any and all liability, actions, demands, claims, damages, losses and expenses (including all legal costs and disbursements) which may be brought against or suffered, sustained, paid or incurred by the Municipality, its servants, agents, employees, contractors, licensees and invitees, arising from, or otherwise caused by:
 - i) any breach by the Company of any of the provisions of this Agreement; or
 - ii) the negligence or wilful misconduct of the Company, or any of its servants, agents, employees, licensees, contractors or invitees in carrying on its business within the Municipal Service Area.
- d) The Municipality shall indemnify and save the Company, its servants, agents, employees, licensees, contractors and invitees, harmless from and against any and all liability, actions, demands, claims, damages, losses and expenses (including all legal costs and disbursements) which may be brought against or suffered, sustained, paid or incurred by the Company, its servants, agents, employees, licenses, contractors and invitees, arising from, or otherwise caused by:
 - i) any breach by the Municipality of any of the provisions of this Agreement; or
 - ii) the negligence or wilful misconduct of the Municipality, or any of its servants, agents, employees, licensees, contractors or invitees, that has a direct adverse effect on the Electric Distribution Service of the Company.
- e) In accordance with the liability protections under the EUA, notwithstanding anything to the contrary herein contained, in no event shall the Municipality or the Company be liable under this Agreement, in any way, for any reason, for any loss or damage other than direct loss or damage, howsoever caused or contributed to. For the purpose of this Article, "direct loss or damage" does not include loss of profits, loss of revenue, loss of production, loss of earnings, loss of contract or any other indirect,

special or consequential loss or damage whatsoever, arising out of or in any way connected with this Agreement or the actions or omissions of the Company or the Municipality.

20) ASSIGNMENT

In the event that the Company agrees to sell the Distribution System to a third party purchaser, the Company will request that the third party purchaser confirm in writing that it will agree to all the terms and conditions of this Agreement between the Company and the Municipality. The Company agrees that it will provide to the Municipality a copy of the third party purchaser's confirmation letter.

The Company agrees to provide the Municipality with reasonable prior written notice of a sale of the Distribution System to a third party purchaser. The Parties shall thereafter meet to discuss the technical and financial capabilities of the third party purchaser to perform and satisfy all terms and conditions of this Agreement.

The Municipality has thirty (30) days from the meeting date with the Company to provide written notice to the Company of its intention to consent or withhold its consent to the assignment of this Agreement to the third party purchaser. The Municipality agrees that it may provide notice of its intention to withhold its consent to the assignment of this Agreement to the third party purchaser solely on the basis of reasonable and material concerns regarding the technical capability or financial wherewithal of the third party purchaser to perform and satisfy all terms and conditions of this Agreement. In this case, such notice to the Company must specify in detail the Municipality's concern. Should the Municipality not reply within the thirty (30) day period, it is agreed that the Municipality will be deemed to have consented to the assignment. The Company further agrees that, when it applies to the Commission for approval of the sale, it will include in the application any notice received from the Municipality, including the reasons given by the Municipality for withholding its consent. The Municipality shall have the right to make its own submissions to the Commission.

Subject to the Company having fulfilled the obligations outlined in the preceding three paragraphs, the Company shall be entitled to assign this Agreement to an arm's length third party purchaser of the Distribution System without the consent of the Municipality, subject to having obtained the Commission's approval for the sale of the Distribution System and, the third party purchaser's confirmation in writing that it agrees to all the terms and conditions of this Agreement.

Where the Commission approves such sale of the Distribution System to a third party and the third party provides written confirmation to assume all liabilities and obligations of the Company under this Agreement, then upon the assignment of this Agreement, the Company shall be released from all its liabilities and obligations hereunder.

The Company shall be entitled to assign this Agreement to a subsidiary or affiliate of the Company without the Municipality's consent. Where the Company assigns this Agreement to a subsidiary or affiliate, the Company will remain jointly and severally liable.

Further, it is a condition of any assignment that the subsidiary, affiliate or third party purchaser, as the case may be, shall provide written notice to the Municipality indicating that it will assume all liabilities and obligations of the Company under this Agreement. Any disputes arising under the operation of this Article shall be submitted to the Commission for determination.

21) NOTICES

All notices, demands, requests, consents, or approvals required or permitted to be given pursuant to the terms of this Agreement shall be in writing and shall be deemed to have been properly given if personally served or sent by registered mail or sent by fax to the Municipality or to the Company, as the case may be, at the addresses set forth below:

a) To the Company:

FortisAlberta Inc.
Address: 100 Chippewa Road, Sherwood Park, Alberta, T8A 4H4
Facsimile: 780-464-8398
Attention: Customer Relations

With a copy to:

FortisAlberta Inc.
Address: 310 – 17 Street SW, Calgary, Alberta, T2S 2V1
Facsimile: 403-514-5378
Attention: Legal Department

b) To the Municipality:

Municipality: Town of Hinton
Address: 2nd Floor, 131 Civic Centre Rd, Hinton, Alberta, T7V 2E5
Facsimile: 780-865-5706
Attention: Bernie Kreiner, CAO

c) The date of receipt of any such notice as given above shall be deemed to be as follows:

- i) in the case of personal service, the date of service;
- ii) in the case of registered mail, the seventh (7th) business day following the date of delivery to the Post Office, provided, however, that in the event of an interruption of normal mail service, receipt shall be deemed to be the seventh (7th) day following the date on which normal service is restored; or
- iii) in the case of a fax, the date the fax was actually received by the recipient.

22) DISPUTE SETTLEMENT

- a) If any dispute or controversy of any kind or nature arises relating to this Agreement or the Parties' rights or obligations hereunder, the Parties agree that such dispute or controversy will be resolved by negotiation, and where such negotiation does not result in the settlement of the matter within thirty (30) days of notice of such dispute being provided by one Party to the other Party, and to the extent permitted by law, the Company and Municipality agree that unresolved disputes pertaining to this Agreement, other than those contemplated in Articles 3 and 20 and Section 3 of Schedule "A", or those related to the sale of the Distribution System as contemplated in Article 10 and 12 hereof, or any other matter that is within the exclusive jurisdiction of a governmental authority having jurisdiction, shall be submitted to arbitration for determination and may be commenced by either Party providing written notice to the other Party stating the dispute to be submitted to arbitration.

The Parties shall attempt to appoint a mutually satisfactory arbitrator within ten (10) business days of the said notice. In the event the Parties cannot agree on a single arbitrator within the ten (10) business days, the dispute shall be forwarded to the Commission for resolution or determination.

In the event the Commission declines to assist in resolving the dispute or declines to exercise or claim jurisdiction respecting the dispute, both Parties agree to have the dispute resolved by an arbitration panel in accordance with the following procedure. Each Party shall appoint an arbitrator within the ten (10) business days thereafter by written notice, and the two arbitrators shall together appoint a third arbitrator within twenty-five (25) business days of written notice for arbitration. The dispute shall be heard by the arbitration panel within forty-five (45) business days of the written notice for arbitration unless extended by mutual agreement between the Parties. The arbitration panel shall render a decision within twenty (20) business days of the last day of the hearing.

Save as otherwise expressly provided in this Agreement, the provisions of the Arbitration Act (Alberta) (as amended from time to time) shall apply to any arbitration undertaken under this Agreement subject always to the Commission's jurisdiction over any matter submitted to arbitration. Pending resolution of any dispute, the Municipality and the Company shall continue to perform their respective obligations hereunder.

- b) The Company shall advise the Commission of any dispute submitted to arbitration within ten (10) business days of it being submitted and shall advise the Commission of the results of arbitration within ten (10) business days following receipt of the decision of the arbitrator(s).

23) INTERRUPTIONS OR DISCONTINUANCE OF ELECTRIC SERVICE

Subject to its Distribution Tariff, the Company shall use its best efforts on a commercially reasonable basis to avoid and minimize any interruption, reduction or discontinuance of Electric Distribution Service to any consumer. However, the Company reserves the right to do so for any one of the following reasons:

- a) Where the Company is required to effect necessary repairs or changes to the Distribution System;
- b) On account of or to prevent fraud or abuse of the Distribution System;
- c) On account of defective wiring or other similar condition which in the opinion of the Company, acting reasonably, may become dangerous to life or property;
- d) Where insufficient energy or power is available for distribution by the Company to a consumer; or
- e) Where required by a retailer, due to non-payment of power bills.

To the extent the Company has any planned major interruptions, reductions or discontinuances in Electric Distribution Service, it shall notify the Municipality as soon as practicable in the circumstances. For any other major interruption, reductions or discontinuances in Electric Distribution Service, the Company shall provide verbal notice to the Municipality as soon as is practicable in the circumstances.

24) APPLICATION OF WATER, GAS AND ELECTRIC COMPANIES ACT

This Agreement shall be deemed to operate as consent by the Municipality to the exercise by the Company of those powers which may be exercised by the Company with the consent of the Municipality under and pursuant to the provisions of the *Water, Gas and Electric Companies Act* (Alberta), as amended.

25) FORCE MAJEURE

If either Party shall fail to meet its obligations hereunder within the time prescribed, and such failure is caused or materially contributed by an event of "force majeure", such failure shall be deemed not to be a breach of the obligations of such Party hereunder, but such Party shall use best efforts on a commercially reasonable basis to put itself in a position to carry out its obligations hereunder. The term "force majeure" shall mean any acts of God, strikes, lock-outs, or other industrial disturbances, acts of the Queen's enemies, acts of terrorism (either foreign or domestic), sabotage, war, blockades, insurrections, riots, epidemics, lightening, earthquakes, storms, fires, wash-outs, nuclear and radiation activity or fall-out, restraints of rulers and people, orders of governmental authorities or courts of law having jurisdiction, the inability to obtain any necessary approval from a governmental authority having jurisdiction (excluding in the case of the Municipality that requires an approval from itself, the particular Municipality), civil disturbances, explosions, mechanical failure, and any other causes similar in nature not specifically enumerated or otherwise specified herein that are not within the control of such Party, and all of which by the exercise of due diligence of such Party could not have been prevented. Lack of finances shall be deemed not to be an event of "force majeure".

26) TERMS AND CONDITIONS

The Terms and Conditions that apply to the Company and are approved by the Commission, as revised or amended from time to time by the Commission, shall apply to the Municipality.

27) NOT EXCLUSIVE AGAINST HER MAJESTY

Notwithstanding anything to the contrary herein contained, it is mutually understood and agreed that the rights, powers and privileges conferred and granted by this Agreement shall not be deemed to be exclusive against Her Majesty in the right of the Province of Alberta.

28) SEVERABILITY

If for any reason any covenant or agreement contained in this Agreement, or the application thereof to any Party, is to any extent held or rendered invalid, unenforceable or illegal, then such covenant or agreement will be deemed to be independent of the remainder of this Agreement and to be severable and divisible from this Agreement. The invalidity, unenforceability or illegality will not affect, impair or invalidate the remainder of this Agreement or any part thereof. The intention of the Municipality and the Company is that this Agreement would have been executed without reference to any portion which may, for any reason and extent, be declared or held invalid, unenforceable or illegal.

29) AMENDMENTS

This Agreement may only be amended by written agreement of the Parties, such amendments to be subject to regulatory approvals as required by law.

30) DISSOLUTION

In the event that the Municipality intends or resolves to dissolve:

- a) this Agreement shall be assigned to the successor governing authority to the Municipal Service Area;
- b) subject to an agreement to the contrary between the Company and the successor party, the Municipal Service Area of the Municipality as at the date of dissolution shall thereafter be the Municipal Service Area of the successor party for the purposes of this Agreement; and
- c) the rights and obligations contained herein shall otherwise continue and shall be binding upon the Company and the successor party.

31) WAIVER

A waiver of any default, breach or non-compliance under this Agreement is not effective unless in writing and signed by the Party to be bound by the waiver. No waiver will be inferred from or implied by any failure to act or delay in acting by a Party in respect of any default, breach or non-observance or by anything done or omitted to be done by the other Party. The waiver by a party of any default, breach or non-compliance under this Agreement will not operate as a waiver of that Party's rights under this Agreement in respect of any continuing or subsequent default, breach or non-compliance under this Agreement (whether of the same nature or any other nature).

32) CONFIDENTIALITY

The Company acknowledges that the Municipality is governed by the provisions of the *Freedom of Information and Protection of Privacy Act* (Alberta).

IN WITNESS WHEREOF the Parties hereto have executed these presents as of the day and year first above written.

MUNICIPALITY

PER: _____
«MAYOR»

PER: _____
Name:
Title:
(Bylaw attached)

FORTISALBERTA INC.

PER: _____
Name:
Title:

PER: _____
Name:
Title:

SCHEDULE "A"

Core Services

The Company shall provide to the Municipality the following basic services as Core Services:

- 1) The Electric Distribution Service required to be provided by the Company pursuant to the Company's Distribution Tariff, the EUA, any regulations thereto, and any Commission orders and decisions;
- 2) The Company shall provide to the Municipality, on request, copies of any and all Electric Distribution Service related written information or reports required to be filed with the Commission, with the exception of responses to questions from interveners or the Commission related to rate hearings. A list of service area wide distribution services related measures requested by the Commission could include:
 - a) The results of customer satisfaction surveys relating to the services provided by the Company;
 - b) The indices of system reliability;
 - c) The responses to notification of outages and hazards;
 - d) Call Centre targets and statistics as related to the services provided by the Company;
 - e) Consumer connect service and disconnect service statistics;
 - f) Meter reading frequency and accuracy statistics;
 - g) Consumer complaints related to the services provided by the Company; and
 - h) Employee safety statistics.

Notwithstanding the above, should the Company implement Commission approved Performance Based Regulation ("PBR"), it will provide the Municipality, on request, the results of the Performance Standards as set out in the PBR.

- 3) The Company shall provide to the Municipality, upon request, an annual report on the following standards specific to the Municipality:
 - a) Reliability measures, to the extent that distribution feeders are an appropriate indicator of the overall reliability for the Municipality. In some cases, the distribution feeder information will be an appropriate indicator of the overall reliability in a Municipal Service Area. In other cases, where the distribution feeder serves customers outside of the Municipal Service Area, it may not be appropriate indicator;

- b) The total number of outages, by distribution feeder, for each of the preceding three (3) years;
- c) The average duration of the outages, by distribution feeder, for each of the preceding three (3) years;
- d) Street light performance, as discussed in Schedule "C";
- e) Subject to any applicable privacy legislation, the Code of Conduct Regulation under the EUA, or other rules prohibiting or restricting such disclosure, a spreadsheet listing:
 - i) The total number of sites within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years;
 - ii) The total number of Municipality owned sites within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years;
 - iii) The total kWh of electricity consumed by Consumers within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years;
 - iv) The total kWh of electricity consumed at Municipality owned sites within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years;
 - v) The franchise fee revenue collected from Consumers within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years;
 - vi) The franchise fee revenue collected from the Municipality from sites the Municipality owns within the Municipal Service Area, by Company rate class, per month, for each of the last three (3) years; and
 - vii) Such other information as may be agreed upon by the Parties from time to time, and
- f) A copy of the Annual Service Quality Report as provided by the Company to the Commission as per Rule 2 which provides overall company Service Reliability Measures and Customer Satisfaction Measures.

Where privacy legislation, the Code of Conduct Regulation under the EUA, or other rules under the EUA prohibiting such disclosure prevent the Company from providing the information above, the Company shall make reasonable attempts to aggregate the information by aggregating rate classes in order to comply with the applicable rules, but shall not be obligated to provide such aggregated information if

the Company does not believe such aggregation will allow the Company to comply with the applicable rules.

In the event that the service levels indicated in the Annual Service Quality Report referred to in Section 3f) of this Schedule A show deterioration to the extent that the Municipality or Municipal Service Area is materially adversely impacted, the Municipality shall contact its appropriate Company representative in an effort to remedy any identified deficiencies. If such discussions are not successful in addressing the Municipality's concerns, the Municipality shall then contact senior management of the Company to determine appropriate solutions.

SCHEDULE "B"

Extra Services

- 1) Where the Municipality requests Extra Services, the Company will provide its applicable operations and maintenance standards for Distribution System field services.
- 2) If the Company and the Municipality agree that the Company will provide Extra Services requested by the Municipality, the Parties shall complete the information required in subparagraph 3), and subparagraph 4) shall apply in respect of such Extra Services.
- 3) In consideration for the provision of the Extra Services, the Municipality shall pay to the Company the sum of _____ (\$_____.00) which may be deducted from the franchise fee.
- 4) Annually, the Company shall provide a written report to the Municipality, outlining the actual performance of the Extra Services provided and the related costs for each service for the Municipality to assess if the performance standards have been met.
- 5) Nothing in this Agreement precludes the Company from subcontracting with the Municipality to provide all or any part of the Extra Services to the Municipality.

SCHEDULE "C"

Street Lighting

- 1) As set out in Article 11c) of this Agreement, once all street lighting within the Municipal Service Area has been converted to the applicable Company investment option rate, the Company agrees to provide the following services for street lighting within the Municipal Service Area as part of its Core Services:
 - a) **Lights-out Patrols:** On a monthly basis, during the time period of September 15th to May 15th, the Company will conduct a "lights-out" street light patrol to identify lights that are not working. Formal street light patrols will not be conducted during the summer months; however, normal reporting and replacement procedures will be maintained.
 - b) **Lights-out:** The Company will replace or repair a failed light identified in its patrol or reported by customers, within two (2) weeks. If the reported light is not replaced or repaired within two (2) weeks, the Company will provide a two (2) month credit to the Municipality based on the rate in the Distribution Tariff for the failed lights. Such two (2) month credit shall continue to apply for each subsequent two (2) week period during which the same failed light(s) have not been replaced. The Company agrees to use good faith commercially reasonable efforts to replace or repair:
 - i) failed street lights at critical locations; or
 - ii) failed street lighting circuits at any location, as the case may be, as soon as possible. The location of the critical street lights will be agreed to by both Parties.
 - c) **Underground Breaks:** As a minimum, the Company will provide a temporary overhead repair within two (2) weeks of an identified or reported outage. Underground breaks identified during the summer months of April 15th to September 15th will be repaired (underground) by October 31st of the current summer construction period. A permanent repair will be made by October 31st of the next year if the outage is identified between the winter months of September 15th to April 15th.
 - d) **Street light Painting:** The Company will provide a regular street light "painting" patrol as part of its Street light inspection program. The Municipality may request that it participates in select street light inspection patrols and may review the results of the street light inspection program. Street lights that are identified as requiring immediate work through the Street light inspection program will be re-painted by October 31st of the next maintenance season.

- e) **Street light Pole Test Program:** Street lights will be tested at least every nine (9) years as part of the Company's Pole Test Program. This program will identify poles that need to be replaced and those that should be treated. This replacement and treatment work will be completed by October 31st of the next summer maintenance season.
 - f) **Street light Patrols:** The Company will include regular street light inspection patrols as part of its inspection of equipment and lines, as specified in the Alberta Electrical Utility Code.
- 2) On an annual basis, the Company will provide the Municipality with:
- i) the number of "lights-out" identified from the street light patrols;
 - ii) the number of temporary overhead repairs of street lights at year-end; and
 - iii) the number of permanent underground repairs of street lights made during the year.



MUNICIPAL FRANCHISE FEE RIDERS

Availability Effective for all consumption, estimated or actual, on and after the first of the month following Commission approval, the following franchise fee riders apply to all FortisAlberta distribution tariffs, except riders and rebates, in each municipality.

Price Adjustment A percentage surcharge per the table below will be added to the gross distribution tariff, excluding any riders or charges that relate to pool price deferral account amounts, calculated for each site within each municipality and will be billed to the applicable retailer.

FortisAlberta will pay to each municipality each month, in accordance with the franchise agreements between FortisAlberta and the municipalities, the franchise fee revenue collected from the retailers.

Municipality	Percentage Surcharge	Effective
Acme	3%	2002/02/01
Airdrie	8%	2012/01/01
Alix	17%	2011/01/01
Amisk	0%	2002/11/01
Athabasca	4%	2012/01/01
Barnwell	0%	2002/03/01
Banff	4%	2012/01/01
Barons	0%	2002/03/01
Barrhead	5%	2003/02/01
Bashaw	3%	2011/01/01
Bassano	9.4%	2012/01/01
Bawlf	0%	2006/04/01
Beaumont	5%	2009/01/01
Beiseker	0%	2002/04/01
Bentley	0%	2002/09/01
Bittern Lake	5%	2003/05/01
Black Diamond	10%	2007/01/01
Blackfalds	20%	2010/03/01
Bon Accord	20%	2010/07/01
Bow Island	5%	2007/01/01
Bowden	12.55%	2007/01/01
Boyle	3%	2002/08/01
Breton	20%	2012/01/01
Brooks	12.63%	2004/01/01
Bruderheim	0%	2004/02/01

Municipality	Percentage Surcharge	Effective
Calmar	20%	2007/01/01
Camrose	6%	2012/01/01
Canmore	8%	2005/02/01
Carmangay	0%	2002/02/01
Caroline	3%	2003/02/01
Carstairs	5%	2008/01/01
Champion	15%	2011/03/01
Chauvin	6%	2012/01/01
Chestermere	0%	2006/06/01
Chipman	0%	2007/03/01
Claresholm	2%	2003/02/01
Clive	9%	2012/01/01
Clyde	9%	2011/01/01
Coaldale	9%	2008/01/01
Coalhurst	7%	2004/01/01
Cochrane	15%	2006/01/01
Coutts	3%	2004/01/01
Cowley	5%	2011/01/01
Cremona	10%	2009/01/01
Crossfield	0%	2002/04/01
Crowsnest Pass	14%	2012/01/01
Czar	5%	2003/07/01
Daysland	5%	2008/01/01
Devon	12%	2009/07/01
Didsbury	12.5%	2012/01/01



FortisAlberta Inc.
2012 DT Rates Filing
Rider Schedules

Page 2

MUNICIPAL FRANCHISE FEE RIDERS

Effective: the first of the month following
Commission approval for consumption from
the first of the month following Commission
approval

Municipality	Percentage Surcharge	Effective
Drayton Valley	8%	2008/03/01
Duchess	12%	2010/01/01
Eckville	10%	2004/01/01
Edberg	6%	2010/01/01
Edgerton	12%	2012/01/01
Edson	5%	2006/01/01
Ferintosh	6%	2009/01/01
Foremost	3%	2002/02/01
Fort Saskatchewan	0%	2003/06/01
Gibbons	0%	2002/05/01
Glenwood	0%	2002/04/01
Granum	3.5%	2006/03/01
Hardisty	5%	2011/01/01
Hay Lakes	5%	2007/08/01
High River	20%	2005/10/01
Hill Spring	0%	2002/05/01
Hinton	10.7%	TBD
Holden	3.5%	2008/01/01
Hughenden	0%	2002/12/01
Hussar	3%	2003/05/01
Innisfail	7%	2011/01/01
Irma	5%	2002/05/01
Irricana	0%	2002/01/01
Island Lake	0%	2006/05/01
Killam	5%	2005/01/01
Lacombe	6.2%	2004/01/01
Lamont	5%	2002/09/01
Leduc	16%	2004/07/01
Legal	0%	2002/10/01
Lomond	0%	2002/05/01
Longview	15%	2008/01/01
Lougheed	5%	2011/01/01
Magrath	8%	2010/01/01
Mayerthorpe	4%	2004/01/01

Municipality	Percentage Surcharge	Effective
Milk River	5%	2008/01/01
Millet	8%	2011/01/01
Milo	10%	2010/04/01
Morinville	20%	2006/01/01
Nakamun Park	0%	2003/03/01
Nanton	3%	2003/02/01
New Norway	6%	2009/01/01
Nobleford	0%	2004/11/01
Okotoks	7%	2003/08/01
Olds	8.59%	2011/01/01
Oneway	5%	2008/01/01
Penhold	19%	2006/01/01
Picture Butte	8%	2009/01/01
Pincher Creek	8%	2009/01/01
Provost	20%	2012/01/01
Raymond	6%	2005/01/01
Redwater	0%	2003/05/01
Rimbey	7%	2004/01/01
Rocky Mtn House	6.5%	2012/01/01
Rosemary	6%	2011/01/01
Ryley	0%	2004/01/01
Seba Beach	0%	2003/07/01
Sedgewick	6%	2012/01/01
Silver Sands	3%	2008/02/01
South Baptiste	0%	2005/05/01
South View	0%	2008/02/01
Spruce Grove	14.25%	2006/01/01
St. Albert	0%	2002/05/01
Standard	0%	2002/12/01
Stavely	3%	2003/02/01
Stirling	5%	2008/01/01
Stony Plain	10%	2011/02/01
Strathmore	5%	2009/05/01
Strome	8%	2003/04/01

FortisAlberta's Retailer Terms and Conditions of Distribution Tariff Services provide for other charges, including an arrears charge of 1.5% per month.



MUNICIPAL FRANCHISE FEE RIDERS

Effective: the first of the month following Commission approval for consumption from the first of the month following Commission approval

Municipality	Percentage Surcharge	Effective
Sundre	0%	2002/03/01
Sunrise Beach	0%	2008/08/01
Sunset Point	0%	2003/03/01
Sylvan Lake	10%	2004/01/01
Taber	20%	2004/01/01
Thorsby	10%	2010/01/01
Tilley	7.5%	2011/01/01
Tofield	5%	2002/10/01
Turner Valley	10%	2009/01/01
Vauxhall	0%	2004/09/04
Vulcan	20%	2011/01/01

Municipality	Percentage Surcharge	Effective
Viking	7%	2012/01/01
Wabamun	0%	2002/10/01
Wainwright	3%	2002/04/01
Warburg	10%	2009/01/01
Warner	0%	2002/04/01
Westlock	6%	2003/02/01
Wetaskiwin	10%	2009/01/01
Whitecourt	3%	2012/01/01

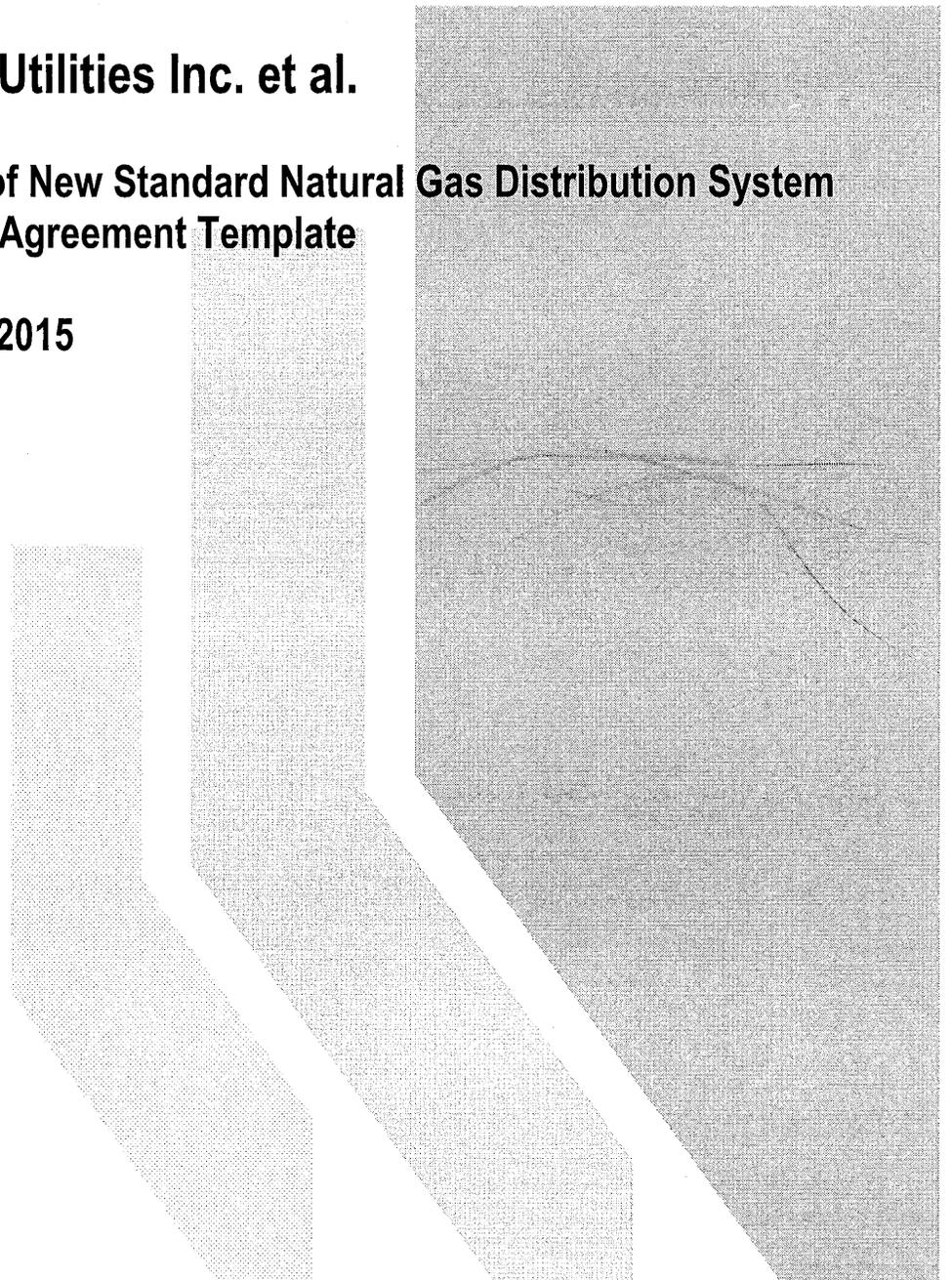
FortisAlberta's Retailer Terms and Conditions of Distribution Tariff Services provide for other charges, including an arrears charge of 1.5% per month.



AltaGas Utilities Inc. et al.

**Approval of New Standard Natural Gas Distribution System
Franchise Agreement Template**

March 20, 2015



Alberta Utilities Commission

Decision 20069-D01-2015

AltaGas Utilities Inc. et al.

Approval of New Standard Natural Gas Distribution System Franchise Agreement Template
Proceeding 20069

March 20, 2015

Published by the:

Alberta Utilities Commission

Fifth Avenue Place, Fourth Floor, 425 First Street S.W.

Calgary, Alberta

T2P 3L8

Telephone: 403-592-8845

Fax: 403-592-4406

Website: www.auc.ab.ca

Contents

1	Introduction.....	1
2	Background	1
3	Commission findings.....	2
	3.1 Role of the Commission and use of the agreement.....	2
	3.2 Negotiation process.....	3
	3.3 Changes to the agreement	3
	3.4 Franchise fees collected from NGTL.....	4
	3.5 Franchise fee	6
	3.6 Term	7
	3.7 Increase in municipal boundaries.....	7
	3.8 Conclusion	8
4	Order.....	9
	Appendix 1 – Proceeding participants	11
	Appendix 2 – Standard natural gas distribution system franchise agreement template	12

Alberta Utilities Commission
Calgary, Alberta

AltaGas Utilities Inc. et al.

**Approval of New Standard Natural Gas Distribution System
 Franchise Agreement Template**

**Decision 20069-D01-2015
 Proceeding 20069**

1 Introduction

1. On January 19, 2015, AltaGas Utilities Inc. (AUI) filed a joint application on behalf of ATCO Gas and Pipelines Ltd. (ATCO) and the Alberta Urban Municipalities Association (AUMA) seeking approval of a new standard natural gas distribution system franchise agreement (the agreement) template, as attached in Appendix 2.

2. The Alberta Utilities Commission issued notice of application for this proceeding on January 21, 2015, and invited anyone who wished to express objections to, concerns about, or support of the application, to make a written submission by February 4, 2015. The Commission did not receive any submissions to the notice of application.

3. Given that the agreement will be used by AUI and ATCO as a starting point for franchise agreement negotiations with municipalities, the Commission established the following written process to review the application:

Process step	Schedule
Information requests from AUC to AltaGas, ATCO Gas and the AUMA	February 11, 2015
Information responses from AltaGas, ATCO Gas and the AUMA	February 27, 2015
Additional process (if any)	TBD

4. Based on the information responses received, the Commission determined that no further testing was required with respect to this proceeding, and closed the record for this proceeding on February 27, 2015.

5. In reaching the determinations set out within this decision, the Commission has considered all relevant materials comprising the record of the proceeding. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

2 Background

6. Following the approval of the standard electric franchise agreement template in 2001, the AUMA, ATCO and AUI negotiated a standard natural gas franchise agreement template to clarify and standardize the rights and responsibilities of both utilities and municipalities with respect to the provision of natural gas distribution services, and to make it easier for both utilities and municipalities to negotiate their franchise agreements. The Commission approved standard

natural gas franchise agreement templates in Decision 2003-065¹ and Decision 2003-067² for ATCO and AUI, respectively.

7. At the request of the AUMA, ATCO, AUI and the AUMA (collectively the parties) met on several occasions to discuss revisions to the approved standard natural gas franchise agreements for ATCO and AUI. In revising and developing the agreement the parties indicated that they used the approved standard electric franchise agreement as a guide.³

8. Once consensus was reached by the parties on the agreement, the AUMA sent a survey to municipalities being affected by the revisions. The survey identified the changes to the agreement and the effect the changes would have on the municipalities. No concerns were identified by the municipalities in the survey.

9. After the results of the AUMA survey were received, the parties set up three meetings with municipalities. The meetings were held in Grande Prairie on June 10, 2014, in Leduc on June 13, 2014, and in Lethbridge on June 17, 2014. At the meetings the AUMA provided an explanation of the agreement and the methods used to develop it. The meetings were well received and the municipalities did not identify any further revisions to the agreement.

10. Following the meetings, the agreement was finalized and agreed upon by the parties. Final approval of the agreement was provided by the AUMA board on October 23, 2014.

3 Commission findings

3.1 Role of the Commission and use of the agreement

11. In Decision 2001-52,⁴ dated June 2001, the Commission issued its findings on the first standard electric distribution franchise agreement template. Since that time the Commission has approved the use of standard franchise agreement templates for both electric and natural gas distribution in the following decisions:

- Decision 2001-106: Town of Hinton, Application to renew its Electric Franchise Agreement with UtiliCorp Networks Canada (Alberta) Ltd., Application 1237381-1, File 6650-H13, December 11, 2001.
- Decision 2003-065: Town of Bow Island, Review of Proposed Standard Natural Gas Franchise Agreement with ATCO Gas and Pipelines Ltd., Application 1281638-2, September 9, 2003.
- Decision 2003-067: Town of Bonnyville, Review of Proposed Standard Natural Gas Franchise Agreement with AltaGas Utilities Inc., Application 1284188-2, September 9, 2003.

¹ Decision 2003-065: Town of Bow Island, Review of Proposed Standard Natural Gas Franchise Agreement with ATCO Gas and Pipelines Ltd., Application 1281638-2, September 9, 2003.

² Decision 2003-067: Town of Bonnyville, Review of Proposed Standard Natural Gas Franchise Agreement with AltaGas Utilities Inc., Application 1284188-2.

³ Exhibit 20069-X0002, application, paragraph 1.

⁴ Decision 2001-52: Alberta Urban Municipalities Association Standard Electric Franchise Agreement with ATCO Electric Ltd. and UtiliCorp Networks Canada, Application 2000361, File 6650-1-1, June 19, 2001.

- Decision 2012-255: Town of Hinton, New Franchise Agreement Template and Franchise Agreement with FortisAlberta Inc., Proceeding 1946, Application 1608547-1, September 28, 2012.
- Decision 2012-294: Town of Fairview, Franchise Agreement with ATCO Electric Ltd. and Amendment to Rider A, Proceeding 2124, Application 1608821-1, October 31, 2012.

12. In the decisions approving the templates, the Commission has stated that its purpose in reviewing franchise agreements is to determine whether “the privilege or franchise is necessary and proper for the public convenience and properly conserves the public interests.”⁵

13. The Commission continues to hold this view and will focus its review primarily on provisions which may cause concern with respect to the public interest or to ensuring rates are just and reasonable.

14. The Commission’s experience is that using franchise agreement templates has simplified and reduced the effort required for municipalities, utilities and the Commission to reach an approved agreement for the provision of utility service. In addition, standard franchise agreements clarify and standardize the rights and responsibilities of both utilities and municipalities. The Commission supports the continued use of standard franchise agreement templates.

15. The evidence of the parties is that the agreement will serve as a starting point for the negotiations between the municipality and utility (in cases where the utility is AUI or ATCO) for a franchise agreement or renewal thereof. While municipalities are not obliged to use the agreement, the Commission understands that the majority of municipalities will likely follow the agreement. Franchise agreements that are not based on the standard template or that substantially modify the agreement may require further testing by the Commission.

3.2 Negotiation process

16. The AUMA indicated one of the main reasons it initiated negotiations for a new franchise agreement template was because there were a large number of existing gas franchise agreements that were expiring and there was a need to review and update the template agreement that was made some 10 years earlier.⁶ The parties indicated that the negotiation process was open, fair and allowed for meaningful participation. Further, following the negotiation process, the parties sought input from the municipalities, and no major concerns were expressed with the agreement.

17. Based on the evidence of the parties, the Commission accepts that the agreement reflects the consensus of the parties and appears to be acceptable to the municipalities.

3.3 Changes to the agreement

18. The application included a comparison⁷ between the current franchise agreement templates and the agreement. The Commission has reviewed the changes to the agreement, and

⁵ *Gas Utilities Act*, RSA 2000, c. G-5, Section 49(2).

⁶ Exhibit 20069-X0016, AUMA information responses, AUMA-AUC-2015FEB11-001(a).

⁷ Exhibit 20069-X0006.

finds that the majority of the changes were for the purposes of updating the agreement or revisions intended to clarify matters addressed in the agreement.

19. The following new clauses have been included in the agreement:

Clause 1 – Definitions and Interpretation – the following new terms were included in this section: Agreement, Electronic Format, Major Work, MGA, Natural Gas, NOVA Gas Transmission Limited (NGTL), Party or Parties

Clause 2(b) – Term – expiry date of the agreement

Clause 3(b) – Expiry of Term of Agreement – continuation of Agreement after expiry pursuant to the provisions of the *Municipal Government Act*

Clause 3(d) – Expiry of Term of Agreement – provision to amend the franchise agreement should the Commission approve a franchise agreement template during the term of the agreement

Clause 5(g) – Franchise Fee – franchise fees collected from NGTL customers

Clause 13(e) – Construction and/or Maintenance of Natural Gas Distribution System – following the completion of major work the Company will provide the municipality with revised plans and specifications

Clause 18 – Municipality as a Retailer – the Agreement does not restrict the right of a municipality to become a retailer

Clause 29 – Amendments – the agreement may only be amended by written agreement of the parties

Clause 30 – Waiver – a waiver of any default, breach or non-compliance in not effective unless in writing and signed by the party to be bound by the waiver

Clause 31 – Confidentiality – the company acknowledges that the municipality is governed by the provisions of the *Freedom of Information and Protection of Privacy Act*

Schedule A – Core Services – annual usage reporting

20. The Commission finds that the new clauses clarify the rights and responsibilities of both utilities and municipalities. These changes will support the continued use of the agreement for the arrangement of utility services within a municipality, thereby conserving the public interest.

3.4 Franchise fees collected from NGTL

21. To streamline the provision of natural gas transmission services and address competitive pipeline issues in Alberta, ATCO Pipelines, a division of ATCO Gas and Pipelines Ltd., and NGTL entered into the Alberta system integration agreement, which the Commission approved in Decision 2010-228.⁸ Under integration, ATCO Pipelines and NGTL agreed, subject to regulatory approval, to combine their physical assets in Alberta under single rates and service structure and to operate such assets as a single integrated system. NGTL would be the party that

⁸ Decision 2010-228: ATCO Pipelines, 2010-2012 Revenue Requirement Settlement and Alberta System Integration, Proceeding 223, Application 1605226-1, May 27, 2010.

interfaces contractually with customers, while ATCO Pipelines and NGTL would continue to separately own and operate assets within distinct operating territories within Alberta.

22. In Decision 2012-310,⁹ the Commission approved an application by ATCO Pipelines requesting approval to transfer certain assets to NGTL consistent with the terms of the integration agreement approved in Decision 2010-228. As part of this application, ATCO Pipelines filed a supplemental amending agreement that outlined the process for the collection of franchise fees in those communities where ATCO holds a franchise agreement and an NGTL customer is provided service from the system owned by ATCO.

23. In order to specifically address the above-noted transactions, Clause 5(g) was added to the agreement (which is specific to franchise agreements negotiated between a municipality and ATCO):

Franchise Fees Collected from NOVA Gas Transmission Ltd. Customers

In the event certain customers in the Municipal Service Area connected to the Company's Natural Gas Distribution System are customers of the NOVA Gas Transmission Ltd. (NGTL), a franchise fee will be collected from such customers by NGTL in accordance with NGTL's applicable tariff and such franchise fee once remitted to the Company will be aggregated with the franchise fee as calculated in paragraph 5 a) to be dealt with in accordance with paragraph 5 d).

24. Franchise fees are calculated and collected on the following basis:

1. NGTL provides ATCO with the monthly billing amounts (\$) for these customers based on the NGTL tariff.
2. ATCO uses this monthly revenue to calculate the applicable franchise charge.
3. ATCO provides this info to NGTL.
4. NGTL adds the calculated franchise fee to the customer's bill.
5. NGTL transfers the funds to ATCO.
6. ATCO then sends the franchise fee amounts to the community.¹⁰

25. The Commission questioned whether it had jurisdiction to approve Clause 5(g), in light of Section 50(1) of the *Gas Utilities Act*, which states:

No municipality shall enter into any agreement with, or grant any franchise to, any company the business and operations of which are not subject to the legislative authority of Alberta for the operation, management or control of any system, works, plant or equipment for the production, transmission, delivery or furnishing of gas, either directly or indirectly, to the municipality, unless there is contained in the agreement or grant a provision whereby the company agrees to submit its business and operations to the control and supervision of the Commission in the same manner and to the same extent as if the company were an owner of a gas utility within the meaning of this Act.

⁹ Decision 2012-310: ATCO Gas and Pipelines Ltd., Asset Swap Application, Proceeding 1723, Application 1608166-1, November 22, 2012.

¹⁰ Exhibit 20069-X0002, application, paragraph 10.

26. ATCO responded to an information request from the Commission on this issue and advised that:

ATCO Gas does not believe that section 50(1) of the Gas Utilities Act (Alberta) is applicable since NGTL is not a party to the template Natural Gas Distribution System Franchise Agreement (“Franchise Agreement”). In other words, NGTL is not entering into any agreement with nor is it being granted a franchise by the municipality. NGTL is simply collecting franchise fees as set out in Clause 5(g) of the Franchise Agreement and in accordance with Section 10.2 of the Supplemental Amending Agreement dated May 3, 2011 amending the Integration Agreement. Section 10.2(d) of the Supplemental Amending Agreement provides that NGTL collects the fees “..for and on behalf of ATCO...”. Section 10.1 of the Supplemental Amending Agreement provides that ATCO is responsible for negotiating and obtaining AUC approval of all franchise agreements and fees. That is the extent of the involvement of NGTL such that there is no statutory obligation to be controlled and supervised by the AUC.¹¹

27. The Commission accepts that NGTL is not a party to the agreement. On this basis the Commission finds that Clause 5(g) of the agreement is not contrary to Section 50(1) of the *Gas Utilities Act*. In approving a franchise agreement that contains Clause 5(g), or in approving any subsequent franchise agreements between a municipality and ATCO that are based on a template that contains Clause 5(g), the Commission is not approving any agreement with, or a grant of a franchise to, NGTL.

3.5 Franchise fee

28. One of the Commission’s key concerns in any franchise agreement is with respect to the franchise fee, and whether or not the proposed franchise fee will result in rates that are just and reasonable.

29. The parties have proposed to calculate the franchise fee on the same basis as approved in decisions 2003-065 and 2003-067. Specifically, Clause 5(a) states:

For each calendar year the franchise fee will be calculated as a percentage of the Company’s actual total revenue derived from the Delivery Tariff, including without limitation the fixed charge, base energy charge, demand charge, but excluding the cost of Natural Gas (being the calculated revenues from the Natural Gas cost recovery rate rider or the deemed cost of Natural Gas and Natural Gas supply related riders) in that year for Natural Gas Distribution Service within the Municipal Service Area.¹²

30. The Commission finds that basing the franchise fee on the distribution charges will reduce the volatility in revenue and utility billings that may be experienced by municipalities and customers respectively compared to a franchise fee that is based on both distribution and commodity charges. The Commission considers this will lead to rates that are just and reasonable.

31. The Commission also confirmed the continuation of the franchise fee cap of 35 per cent. The parties submitted that the franchise fee cap of 35 per cent provides flexibility to municipalities, and since the approval of the first natural gas franchise agreement template, no municipality has requested a franchise fee in excess of 35 per cent. In addition, the parties stated

¹¹ Exhibit 20069-X0017, ATCO information responses, ATCOGAS-AUC-2015FEB11-004(e).

¹² Exhibit 20069-X0003, Standard franchise agreement, Clause 5.

that little has changed since the first approvals so there is no need to warrant departure from the 35 per cent cap.

32. Knowing that municipal councils are accountable to their ratepayers, and that applications containing a franchise fee that exceeds 35 per cent will be tested and reviewed on the specific circumstances supporting the requested fee percentage, the Commission approves the continuation of the 35 per cent franchise fee cap.

33. The agreement continues to provide municipalities the option to adjust the franchise fee on an annual basis, subject to Commission approval. The Commission considers this provides flexibility to municipalities. Given that annual franchise fee adjustments must be within the franchise fee cap, the Commission finds this aspect of the agreement to be reasonable. In addition, the Commission directs franchise applicants that, prior to implementing any change in the franchise fee, customers shall be notified of the change in the franchise fee through the publication of a notice in the newspaper having the widest circulation in the municipality at least 45 days prior to the implementation of the revised franchise fee.

3.6 Term

34. Section 45(1) of the *Municipal Government Act*, specifies that a right granted by a municipality to provide utility service shall not be for more than 20 years. The agreement specifies a minimum term of 10 years in Clause 2(a) and provides for a specific expiry date to be agreed upon by the parties in Clause 2(b). The Commission finds that the proposed minimum term is reasonable, and will only approve a franchise agreement if the franchise agreement contains an agreed-upon expiry date in Clause 2(b) that is no more than 20 years following the effective date of the franchise agreement.

35. Clause 3(d) of the agreement provides that:

In the event a franchise agreement template is approved by the Commission during the Term of this Agreement and the provisions are materially different from the provisions of this Agreement, the Parties may, by agreement in writing, amend this Agreement to conform to such franchise agreement template.

36. Any amendment as contemplated in Clause 3(d) would be subject to obtaining Commission approval pursuant to Section 45(2) of the *Municipal Government Act*.

3.7 Increase in municipal boundaries

37. Clause 16 of the agreement states as follows:

16) Increase in Municipal Boundaries

Where the Municipality increases its geographical area, through annexation or amalgamation, as understood under the MGA, by the greater of 640 acres and twenty five (25%) percent of the current area or more, the Municipality will have the option to:

(a) terminate this Agreement provided the Municipality gives notice in writing to the Company of its intention to do so; or

(b) add the increased area to the Municipal Service Area already served by the Company so that the rights and obligations contained in this Agreement will apply in respect of the Municipal Service Area, including the increased area.

*For all other increases to the Municipal Service Area through annexation or amalgamation as understood under the MGA, the rights and obligations contained in this Agreement will apply in respect of the whole Municipal Service Area, including the increased area.*¹³ [italics added]

38. It appears to the Commission that a conflict could potentially arise with respect to Clause 16 and Section 127.1(2) of the *Municipal Government Act*. Section 127.1 of the *Municipal Government Act* provides:

Public utilities

127.1(1) In this section, “utility agreement” means an agreement approved by the Alberta Utilities Commission in which a municipality grants a right to a person to provide a public utility in all or part of the municipality.

(2) An annexation of land does not affect any right under a utility agreement to provide a public utility on the annexed land unless the annexation order provides otherwise.

(3) This section does not apply to a right to provide a natural gas service if the right is subject to section 23 of the Gas Distribution Act.

39. A conflict might arise in a situation where two municipalities, whose rights are not subject to Section 23 of the *Gas Distribution Act*, RSA 2000, c. G-3, each maintain respective franchise agreements with different franchisees. However, this potential conflict would be eliminated if, as provided in Section 127.1(2), “the annexation order provides otherwise.” As such, it is the Commission’s expectation that if such a conflict might occur, the parties to the franchise agreements will make all reasonable efforts to ensure that the annexation order addresses how the annexation of land affects any right under a franchise agreement to provide service on the annexed land.

3.8 Conclusion

40. Based on the Commission’s findings above, its review of the agreement, the negotiation process and the support for the agreement, the Commission approves the new standard natural gas distribution franchise agreement.

¹³ Exhibit 20069-X0003, Standard franchise agreement, Clause 16.

4 Order

41. It is hereby ordered that:

- (1) The new standard natural gas distribution system franchise agreement template, attached in Appendix 2 is approved.

Dated on March 20, 2015.

Alberta Utilities Commission

(original signed by)

Neil Jamieson
Panel Chair

(original signed by)

Bill Lyttle
Commission Member

Appendix 1 – Proceeding participants

Name of organization (abbreviation) counsel or representative
Alberta Urban Municipalities Association (AUMA)
AltaGas Utilities Inc. (AUI)
ATCO Gas and Pipelines Ltd. (ATCO)

<p>Alberta Utilities Commission</p> <p>Commission panel</p> <ul style="list-style-type: none"> N. Jamieson, Panel Chair B. Lyttle, Commission Member <p>Commission staff</p> <ul style="list-style-type: none"> K. Kellgren (Commission counsel) C. Burt
--

Appendix 2 – Standard natural gas distribution system franchise agreement template

(return to text)



Appendix 2 -
Standard franchise a

(consists of 28 pages)

NATURAL GAS DISTRIBUTION SYSTEM FRANCHISE AGREEMENT

2014

BETWEEN:

- AND -

Table of Contents

1) Definitions and Interpretation.....	3
2) Term.....	6
3) Expiry of Term of Agreement	6
4) Grant of Franchise	7
5) Franchise Fee	8
6) Core Services	9
7) Provision of Extra Services	9
8) Municipal Taxes	10
9) Right to Terminate on Default.....	10
10) Sale of Natural Gas Distribution System.....	10
11) Provision of Detailed Plans and Equipment	10
12) Right of First Refusal to Purchase	11
13) Construction and/or Maintenance of Natural Gas Distribution System	12
14) Responsibilities For Cost of Relocations.....	15
15) Natural Gas Distribution System Expansion	17
16) Increase in Municipal Boundaries	18
17) Joint Use of Municipal Rights-of-Way.....	18
18) Municipality as a Retailer	19
19) Reciprocal Indemnification and Liability	19
20) Assignment	20
21) Notices	21
22) Interruptions or Discontinuance of Delivery Service	22
23) Dispute Settlement.....	22
24) Application of Water, Gas and Electric Companies Act	23
25) Force Majeure	23
26) Terms and Conditions	24
27) Not Exclusive Against Her Majesty	24
28) Severability	24
29) Amendments	24
30) Waiver.....	24
31) Confidentiality	25
SCHEDULE “A” Core Services.....	26
SCHEDULE “B” Extra Services	28

NATURAL GAS DISTRIBUTION SYSTEM FRANCHISE AGREEMENT

BETWEEN:

_____,
a municipality located in the Province of Alberta
(the “**Municipality**”)

OF THE FIRST PART

– and –

_____,
a corporation having its head office at the City of _____,
in the Province of Alberta
(the “**Company**”)
OF THE SECOND PART

WHEREAS the Municipality desires to grant and the Company, collectively the “**Parties**”, desires to obtain an exclusive franchise to provide Natural Gas Distribution Service within the Municipal Service Area on the terms and conditions herein contained;

NOW THEREFORE in consideration of the mutual covenants and promises herein contained, the Parties hereby agree as follows:

1) Definitions and Interpretation

Unless otherwise expressly provided in this Agreement, the words, phrases and expressions in this Agreement will have the meanings attributed to them as follows:

- a) “**Agreement**” means this Natural Gas Distribution System Franchise Agreement;
- b) “**Alternative Course of Action**” shall have the meaning set out in paragraph 14 (c);
- c) “**Commission**” means the Alberta Utilities Commission (AUC) as established under the *Alberta Utilities Commission Act* (Alberta);
- d) “**Company**” means the Party of the second part to this Agreement and includes its successors and permitted assigns;
- e) “**Construct**” means constructing, reconstructing, upgrading, extending, relocating, or removing any part of the Natural Gas Distribution System;

- f) **“Consumer”** or **“Consumers”** as the text may require, means any individual, group of individuals, firm or body corporate, including the Municipality, with premises or facilities located within the Municipal Service Area from time to time that are provided with Natural Gas Distribution Service by the Company pursuant to the Company’s Delivery Tariff;
- g) **“Core Services”** means all those services set forth in Schedule “A” of this Agreement;
- h) **“Delivery Tariff”** means the rates and Terms and Conditions of service approved by the Commission from time to time on an interim or final basis, as the case may be, for the Company to deliver Natural Gas to the Consumer;
- i) **“Electronic Format”** means any document or other means of communication that is created, recorded, transmitted or stored in digital form or in any other intangible form by electronic, magnetic or optical means or by any other computer-related means that have similar capabilities for creation, recording, transmission or storage;
- j) **“Extra Services”** means those services set forth in Schedule “B” that are requested by the Municipality for itself or on behalf of its citizens and provided by the Company in accordance with paragraph 7 of this Agreement;
- k) **“GUA”** means the *Gas Utilities Act* (Alberta);
- l) **“Intended Time Frame”** shall have the meaning set out in paragraph 14 (c);
- m) **“Maintain”** means to maintain and keep in good repair any part of the Natural Gas Distribution System;
- n) **“Major Work”** means any Work to Construct or Maintain the Distribution System that costs more than _____ (\$ _____) Dollars;
- o) **“MGA”** means the *Municipal Government Act* (Alberta);
- p) **“Modified Plans”** shall have the meaning set out in paragraph 14 (c)(ii);
- q) **“Municipality”** means the Party of the first part to this Agreement;
- r) **“Municipal Compensation”** shall have the meaning set out in paragraph 20;
- s) **“Municipal Service Area”** means the geographical area within the legal boundaries of the Municipality where the Company has been granted rights hereunder in connection with, among other matters, Natural Gas Distribution Service, as altered from time to time;
- t) **“Municipal Property”** means all property, including lands and buildings, owned, controlled or managed by the Municipality within the Municipal Service Area;
- u) **“Natural Gas”** means a combustible mixture of hydrocarbon gases;

- v) **“Natural Gas Distribution Service”** means the delivery of Natural Gas in accordance with the Company’s Delivery Tariff;
- w) **“Natural Gas Distribution System”** means any facilities owned by the Company which are used to provide Natural Gas Distribution Service within the Municipal Service Area, and without limiting the generality of the foregoing, will include all mains, pipes, conduits, valves and all other installations used and required for the purpose of delivering Natural Gas to the Consumer within the Municipal Service Area and includes any Natural Gas transmission lines owned by the Company within the Municipal Service Area;
- x) **“NOVA Gas Transmission Ltd. (NGTL)”** means NGTL and its successors, as applicable, for purposes of paragraph 5 g) of this Agreement. For greater certainty, the provisions of paragraph 5 g) may only apply in relation to franchises held by ATCO;
- y) **“Operate”** means to operate the Natural Gas Distribution System, or to interrupt or restore service in any part of the Natural Gas Distribution System, in a safe and reliable manner;
- z) **“Party”** means any party to this Agreement and **“Parties”** means all of the parties to this Agreement;
- aa) **“Plans and Specifications”** means the plans, drawings and specifications reasonably necessary to properly assess and review proposed Work prior to issuance of any approval that may be required under this Agreement;
- bb) **“Term”** means the term of this Agreement set out in paragraph 2;
- cc) **“Terms and Conditions”** means the terms and conditions contained within the Delivery Tariff in effect from time to time for the Company as approved by the Commission;
- dd) **“Work”** means any work to Construct or Maintain the Natural Gas Distribution System; and
- ee) **“Work Around Procedures”** shall have the meaning set out in paragraph 14 (c)(ii).

The words “hereof”, “herein”, “hereunder” and other words of similar import refer to this Agreement as a whole, including any attachments hereto, as the same may from time to time be amended or supplemented and not to any subdivision contained in this Agreement. Unless the context otherwise requires, words importing the singular include the plural and vice versa and words importing gender include all genders. References to provisions of statutes, rules or regulations will be deemed to include references to such provisions as amended, modified or re-enacted from time to time. The word “including” when used herein is not intended to be exclusive and in all cases means “including without limitation”. References herein to a section, paragraph, clause, Article or provision will refer to the appropriate section, paragraph, clause, article or provision of this Agreement. The descriptive headings of this Agreement are inserted for convenience of reference only and do not constitute a part of and will not be utilized in interpreting this Agreement.

2) Term

- a) Subject to sub-paragraph 2(b), this Agreement will be for a minimum term of ten years, commencing on the later of:
 - i) _____ day of _____, 20____; and
 - ii) the first (1st) business day after both of the following have occurred:
 - A. the Commission has approved and acknowledged this Agreement; and
 - B. Council of the Municipality has passed third reading of the applicable adopting bylaw.
- b) This Agreement will expire on the ___ day of _____, 20__.
- c) It is agreed this Agreement supersedes and replaces any prior Natural Gas franchise agreements between the Municipality and the Company.

3) Expiry of Term of Agreement

- a) Provided the Company gives written notice to the Municipality not less than twelve (12) months prior to the expiration of the Term of its intention to negotiate a new franchise agreement, at any time following the expiration of the Term, and if the Municipality has not provided written notice to the Company to exercise its rights to purchase the Natural Gas Distribution System, either Party may submit any items in dispute pertaining to a new franchise agreement to binding arbitration by the Commission.
- b) Subject to subparagraph 3c) of this Agreement, upon expiry of the Term, this Agreement will continue in effect pursuant to the provisions of the MGA.
- c) Commencing one (1) year following the expiration of the Term of this Agreement, unless either Party has invoked the right to arbitration referred to in subparagraph 3a) , or the Municipality has given written notice to purchase the Natural Gas Distribution System, this Agreement will be amended to provide the following:
 - i) Fifty percent (50%) of the franchise fee otherwise payable under this Agreement to the Municipality will be held back and deposited in trust in an interest bearing trust account by the Company, for the sole benefit of the Municipality. The trust money along with all accumulated interest will be paid to the Municipality immediately upon execution of another Natural Gas Franchise Agreement with the Company, or if the Municipality purchases the Natural Gas Distribution System, or if the Company transfers or sells the Natural Gas Distribution System, or upon further Order of the Commission.
- d) In the event a franchise agreement template is approved by the Commission during the Term of this Agreement and the provisions are materially different from the provisions of this

Agreement, the Parties may, by agreement in writing, amend this Agreement to conform to such franchise agreement template.

4) Grant of Franchise

- a) Subject to the terms and conditions hereof, the Municipality hereby grants to the Company the exclusive right within the Municipal Service Area to:
 - i) provide Natural Gas Distribution Service;
 - ii) Construct, Operate, and Maintain the Natural Gas Distribution System; and
 - iii) use portions of roads, rights-of-way, and other lands owned, controlled or managed by the Municipality which have been designated by the Municipality for such use and which are necessary to provide Natural Gas Distribution Service or to Construct, Operate and Maintain the Natural Gas Distribution System.
- b) Subject to subparagraph 4c) , and to the terms and conditions hereof, the Municipality agrees it will not, during the Term, grant to any other person, firm or corporation, the right to Construct, Operate and Maintain any natural gas distribution system nor the exclusive right to use the portions of the roads, rights-of-way and other lands owned, controlled or managed by the Municipality which have been designated by the Municipality for such use and which are necessary to provide Natural Gas distribution service or to Construct, Operate and Maintain a Natural Gas distribution system, for the purpose of delivering Natural Gas in the Municipal Service Area for Consumers, so long as the Company delivers the Consumers' requirements of Natural Gas.
- c) The Company agrees to:
 - i) bear the full responsibility of an owner of a Natural Gas distribution system and to ensure all services provided pursuant to this Agreement are provided in accordance with the Delivery Tariff, insofar as applicable;
 - ii) Construct, Operate and Maintain the Natural Gas Distribution System;
 - iii) use designated portions of roads, rights-of-way, and other lands including other lands owned, controlled or managed by the Municipality necessary to Construct, Operate and Maintain the Natural Gas Distribution System, including the necessary removal, trimming of trees, shrubs or bushes or any parts thereof; and
 - iv) use the Municipality's roads, rights-of-way and other Municipal Property granted hereunder solely for the purpose of providing Natural Gas Distribution Service and any other service contemplated by this Agreement.

5) Franchise Fee

a) Calculation of Franchise Fee

In consideration of the rights granted pursuant to paragraph 4 and the mutual covenants herein and subject to Commission approval the Company agrees to collect from Consumers and pay to the Municipality a franchise fee. The Parties agree s. 360(4) of the *MGA*, as amended, does not apply to the calculation of the franchise fee in this Agreement. For each calendar year the franchise fee will be calculated as a percentage of the Company's actual total revenue derived from the Delivery Tariff, including without limitation the fixed charge, base energy charge, demand charge, but excluding the cost of Natural Gas (being the calculated revenues from the Natural Gas cost recovery rate rider or the deemed cost of Natural Gas and Natural Gas supply related riders) in that year for Natural Gas Distribution Service within the Municipal Service Area.

For the first (1st) calendar year or portion thereof of the Term of this Agreement, the franchise fee percentage will be ____ percent (____ %).

By no later than September 1st of each year, the Company will:

- i) advise the Municipality in writing of the total revenues that were derived from the Delivery Tariff within the Municipal Service Area for the prior calendar year; and
- ii) with the Municipality's assistance, provide in writing an estimate of total revenues to be derived from the Delivery Tariff within the Municipal Service Area for the next calendar year.

b) Adjustment to the Franchise Fee

At the option of the Municipality and subject to Commission approval, the franchise fee percentage may be changed annually by providing written notice to the Company.

If the Municipality wishes to amend the franchise fee percentage, then the Municipality will, no later than November 1st in any year of the Term, advise the Company in writing of the franchise fee percentage to be charged for the following calendar year. Upon receipt of notice, the Company will work with the Municipality to ensure all regulatory requirements are satisfied on a timely basis and agrees to use best efforts to obtain approval from the Commission for implementation of the proposed franchise fee percentage as and from January 1st of the following calendar year.

If the Municipality provides written notice at any other time with respect to a franchise fee change, the Company will implement the new franchise fee percentage as soon as reasonably possible.

c) Notice to Change Franchise Fee

Prior to implementing any change to the franchise fee, the Municipality will notify its intent to change the level of the franchise fee and the resulting effect such change will have on an average residential Consumer's annual Natural Gas bill through publication of a notice once

in the newspaper with the widest circulation in the Municipal Service Area at least forty five (45) days prior to implementing the revised franchise fee. A copy of the published notice will be filed with the Commission.

d) Payment of Franchise Fee

The Company will pay the Municipality the franchise fee amount billed to Consumers on a monthly basis within forty-five (45) days after billing Consumers.

e) Franchise Fee Cap

The franchise fee percentage will not at any time exceed thirty five percent (35%) without prior Commission approval.

f) Reporting Considerations

Upon request, the Company will provide to the Municipality, along with payment of the franchise fee amount information on the total Delivery Tariff billed, the franchise fee percentage applied, and the derived franchise fee amount used by the Company to verify the payment of the franchise fee amount as calculated under this paragraph 5.

g) Franchise Fees Collected from NOVA Gas Transmission Ltd. Customers

In the event certain customers in the Municipal Service Area connected to the Company's Natural Gas Distribution System are customers of the NOVA Gas Transmission Ltd. (NGTL), a franchise fee will be collected from such customers by NGTL in accordance with NGTL's applicable tariff and such franchise fee once remitted to the Company will be aggregated with the franchise fee as calculated in paragraph 5 a) to be dealt with in accordance with paragraph 5 d).

6) Core Services

The Company agrees to provide to the Municipality the Core Services set forth in Schedule "A". The Company and the Municipality may amend Schedule "A" from time to time upon mutual agreement.

7) Provision of Extra Services

Subject to an agreement being reached, the Company agrees to provide to the Municipality the Extra Services, if any, set forth in Schedule "B", as requested by the Municipality from time to time. The Company is entitled to receive from the Municipality a reasonable amount for full compensation for the provision of the Extra Services in accordance with Schedule "B". The Company and the Municipality may amend Schedule "B" from time to time upon mutual agreement.

Any breach by the Company in connection with the provision of any Extra Services contained in this Agreement will not constitute a breach of a material provision of this Agreement for the purposes of paragraph 9.

8) Municipal Taxes

Amounts payable to the Municipality pursuant to this Agreement will be (without duplication) in addition to the municipal taxes and other levies or charges made by the Municipality against the Company, its land and buildings, linear property, machinery and equipment.

9) Right to Terminate on Default

In the event either Party breaches any material provision of this Agreement, the other Party may, at its option, provide written notice to the Party in breach to remedy such breach. If the said breach is not remedied within two (2) weeks after receipt of the written notice or such further time as may be reasonably required by the Party in breach using best efforts on a commercially reasonable basis, the Party not in breach may give six (6) months notice in writing to the other Party of its intent to terminate this Agreement, and unless such breach is remedied to the satisfaction of the Party not in breach acting reasonably this Agreement will terminate six (6) months from the date such written notice is given, subject to prior Commission approval.

10) Sale of Natural Gas Distribution System

Upon the expiration of the Term of this Agreement or the termination of this Agreement pursuant to the terms and conditions hereof or by operation of law or order of a governmental authority or court of law having jurisdiction the Municipality may, subject to the approval of the Commission under Section 47 of the MGA:

- i) exercise its right to require the Company to sell to it the Natural Gas Distribution System within the Municipal Service Area pursuant to the provisions of the MGA, where applicable; or
- ii) if such right to require the Company to sell the Natural Gas Distribution System is either not applicable or has been repealed, require the Company to sell to it the Natural Gas Distribution System. If, upon the expiration of the Agreement, the parties are unable to agree on the price or on any other terms and conditions of the purchase, the unresolved matters will be referred to the Commission for determination.

11) Provision of Detailed Plans and Equipment

a) Detailed Plans

The Company agrees to provide to the Municipality for the Municipality's purposes only, the most current set of detailed plan sheets including as-built drawings and specifications

showing the locations (excluding depth) and alignments of the Natural Gas Distribution System, excepting service lines and installations on private property, according to the plan sheets in hard copy and in Electronic Format, where available, together with as many prints of the overall Natural Gas Distribution System as the Municipality may reasonably require. These plans and plan sheets will be updated by the Company on at least an annual basis.

The Municipality will, upon reasonable request, provide to the Company any subdivision development plans of the Municipality in hard copy and in Electronic Format, where available. The subdivision development plans are provided to the Company for the sole purpose of assisting the Company in delivering Natural Gas to the Consumer.

b) Provision of Equipment

The Company agrees to provide the Municipality's fire department with the equipment necessary for the operation of curb boxes and service valves. In case of fire, the service valves may be turned off by the fire department if they reach a fire before the Company's representative. The Municipality will notify one of the Company's representatives of fires which may affect the Natural Gas Distribution System and/or the operations thereof as quickly as reasonably possible or, in the event they cannot reach a Company representative, the Municipality will advise the Company's standby personnel of such fires. The Company will ensure its representatives reasonably cooperate with the Municipality in preventing, controlling and investigating fires involving or affecting the Natural Gas Distribution System.

12) Right of First Refusal to Purchase

- a) If during the Term of this Agreement, the Company receives a *bona fide* arm's length offer to operate, take control of, or purchase the Natural Gas Distribution System within the Municipal Service Area, which the Company is willing to accept, then the Company will promptly give written notice to the Municipality of the terms and conditions of such offer and the Municipality will during the next one hundred and twenty (120) days, have the right of first refusal to operate, take control of or purchase the Natural Gas Distribution System, as the case may be, for the same price and upon the terms and conditions contained in the said offer.

Notwithstanding the foregoing, in the event the Municipality fails or refuses to exercise its right of first refusal, the Municipality will retain the right to withhold its consent to an assignment of this Agreement in accordance with paragraph 20 below. For the purposes of this paragraph 12, "operate, take control" will not be construed as including the subcontracting by the Company of only some portions of its operations where the Company continues to be responsible for the performance of this entire Agreement;

- b) If the Municipality does not exercise its right of first refusal and the said *bona fide* offer the Company is willing to accept does not proceed to closure, the Municipality retains its right of first refusal on any other offer.

- c) This right of first refusal applies where the offer pertains only to the entire Natural Gas Distribution System. The right of first refusal does not apply to offers that include any other distribution systems or distribution facilities of the Company located outside of the Municipal Service Area. If such offer includes other distribution systems of the Company, the aforesaid right of first refusal will be of no force and effect and will not apply.
- d) Where the Municipality exercises its rights to purchase the Natural Gas Distribution System from the Company and thereby acquires the Natural Gas Distribution System, the Municipality agrees, should it no longer wish to own the Natural Gas Distribution System within five (5) years after it acquires the said system and the Municipality receives any *bona fide* offer from an arms-length third party to purchase the Natural Gas Distribution System, which it is willing to accept, then it will promptly give written notice to the Company of the terms and conditions of such offer. The Company will during the next one hundred and twenty (120) days have the first right of refusal to purchase the Natural Gas Distribution System for the same price and upon the same terms and conditions as contained in the said offer.
- e) The Municipality's right of first refusal will not apply where the Company has agreed to transfer the Natural Gas Distribution System to a third party utility company in exchange for certain other assets provided all of the following conditions are met:
 - i) the third party utility can demonstrate to the reasonable satisfaction of the Municipality that it meets the necessary technical and financial requirements to own and operate the Natural Gas Distribution System;
 - ii) the only consideration that will be exchanged between the Company and the third party utility company is the transfer and exchange of assets and monetary consideration limited to a maximum of 49% of the net book value of the Natural Gas Distribution System;
 - iii) there is no adverse impact to the Municipality resulting from the transfer and exchange above referenced as determined by the Commission;
 - iv) the Company and the third party utility company obtain all the requisite regulatory requirements prior to completing the transfer and exchange; and
 - v) full compensation is paid to the Municipality for all reasonable costs including administrative and legal costs incurred by the Municipality in ensuring all of the conditions i) through iv) above are satisfied.

13) Construction and/or Maintenance of Natural Gas Distribution System

a) Municipal Approval

Before undertaking any Major Work, or in any case in which the Municipality specifically requests any Major Work, the Company will submit to and obtain the written approval from the Municipality, or its authorized officers, of the Plans and Specifications for the proposed

Major Work and its location. Approval by the Municipality granted in accordance with this paragraph will be limited to an approval of the location and alignment of the Major Work only, and will not signify approval of the structural design or the ability of the work to perform the function for which it was intended.

Prior to commencing the Work, the Company will obtain such other applicable permits as are required by the Municipality. The Company will notify the Municipality of all Work done within the Municipal Service Area prior to commencing the Work where reasonably practicable. However, only Major Work is subject to a formal approval process.

The Company will obtain prior written approval from the Municipality for any traffic lane or sidewalk closures required to be made at least forty-eight (48) hours prior to the commencement of the proposed Work.

For the purposes of obtaining the approval of the Municipality for Major Work under this Agreement, the Company will provide the Municipality with the Plans and Specifications for the proposed Major Work in Electronic Format (or upon request, the Company will provide the Municipality with a hard copy of the materials). The Plans and Specifications will include a description of the project and drawings of a type and format generally used by the Company for obtaining approvals from municipalities and will illustrate the proposed changes to the Natural Gas Distribution System.

b) Restoration of Municipal Property

The Company agrees when it or any agent employed by it undertakes any Work on any Municipal Property, the Company will complete the said Work promptly and in a good and workmanlike manner and, where applicable, in accordance with the approved Plans and Specifications. Further, and unless otherwise agreed to by the Parties, the Company will forthwith restore the Municipal Property to the same state and condition, as nearly as reasonably possible, in which it existed prior to the commencement of such Work, subject to reasonable wear and tear and to the satisfaction of the Municipality acting reasonably.

The Company will, where reasonably practicable and prudent, locate its pipelines and related equipment in lanes and alleys rather than in the streets and main thoroughfares.

The Company further covenants it will not unduly interfere with the works of others or the works of the Municipality. Where reasonable and in the best interests of both the Municipality and the Consumer, the Company will cooperate with the Municipality and coordinate the installation of the Natural Gas Distribution System along the designated rights-of-way pursuant to the direction of the Municipality. During the performance of the Work, the Company will use commercially reasonable efforts to not interfere with existing Municipal Property and to cause as little damage as possible to the property of others (including the Municipality Property). If the Company causes damage to any existing Municipal Property during the performance of any Work, it will cause such damage to be repaired at its own cost.

Upon default by the Company or its agent to repair damage caused to Municipal Property as set out above, the Municipality may provide written notice to the Company to remedy the

default. If the default is not remedied within two (2) weeks after receipt of the written notice or such further time as may be reasonably required and requested by the Company using best efforts on a commercially reasonable basis to remedy the default, the Municipality may undertake such repair work and the Company will be liable for the reasonable costs thereof.

c) Urgent Repairs and Notification to Municipality

If any repairs or maintenance required to be made to the Natural Gas Distribution System are of an urgent nature where the operation or reliability of the Natural Gas Distribution System is materially compromised or potentially materially compromised, the Company will be entitled to conduct such repairs or maintenance as are commercially reasonable without prior notice to the Municipality and, unless otherwise specified by the Municipality, the Company will provide notice to the Municipality as soon as practicable and, in any event, no later than seventy-two (72) hours after the repairs are commenced.

d) Company to Obtain Approvals from Other Utilities

The Company will be solely responsible for locating, or causing to be located, all existing utilities or utility mains, pipes, valves and related facilities in, on or adjacent to the Work site. The Company will notify all other utility operators and ensure utilities and utility mains, pipes, valves and related facilities are staked prior to commencement of construction. Unless the Municipality has staked the location for the utility property, staking will not be deemed to be a representation or warranty by the Municipality the utility or utility property are located as staked. The Municipality will not be responsible for any damage caused by the Company to any utility or any third party as a result of the Company's Work, unless the Municipality has improperly staked the utility property. Approval must be obtained by the Company from the owner of any third party utility prior to relocation of any facility owned by such third party utility.

e) Revised Plans and Specifications

Following completion of the Major Work, the Company will provide the Municipality with the revised Plans and Specifications, updated after construction, in Electronic Format, where available and upon request, the Company will provide the Municipality with a hard copy of the materials within three (3) months of the request. The Company will provide the Municipality with copies of any other revised Plans and Specifications as reasonably requested by the Municipality. For the purposes of this paragraph and paragraph 11, the Company may satisfy its obligations to provide revised Plans and Specifications in Electronic Format by:

- i) advising the Municipality the revised Plans and Specifications are posted to a web-based forum that contains such information; and
- ii) allowing the Municipality access to such web-based forum.

f) Approvals

Where any approvals are required to be obtained from either Party under this paragraph, such approvals will not be unreasonably withheld.

The Company will ensure all Work is performed in accordance with the requirements of all applicable legislation, rules and regulations. The Company will immediately notify the Municipality of any lien, claim of lien or other action of which it has or reasonably should have knowledge, and will cause the same to be removed within thirty (30) days (or such additional time as the Municipality may allow in writing), failing which the Municipality may take such action as it reasonably deems necessary to remove the same and the entire cost thereof will be immediately due and payable by the Company to the Municipality.

14) Responsibilities For Cost of Relocations

- a) Upon receipt of one (1) year's notice from the Municipality, the Company will, at its own expense, relocate to Municipal Property such part of the Natural Gas Distribution System that is located on Municipal Property as may be reasonably required by the Municipality due to planned municipal construction. In order to encourage the orderly development of Municipal facilities and the Natural Gas Distribution System, the Municipality and the Company agree they will meet regularly to:
- i) review the long-term facility plans of the Municipality and the Company; and
 - ii) determine the time requirements and costs for final design specifications for each relocation. Providing the Municipality is not the developer requesting the relocation for commercial or residential resale to third parties, the Company will bear the expenses of the required relocation.
- b) Notwithstanding the foregoing, the Company will not be required to move any part of the Natural Gas Distribution System after receipt of notice from the Municipality in accordance with this paragraph where:
- i) the Company has illustrated to the satisfaction of the Municipality, acting reasonably, an appropriate Alternative Course of Action is available;
 - ii) the Municipality has provided the Company with its written approval of the Alternative Course of Action (which approval may not be unreasonably withheld by the Municipality); and
 - iii) the Company has provided its written undertaking to carry out the Alternative Course of Action promptly and within a sufficiently short period of time so as to ensure the Municipality will be left with sufficient time to complete the said planned municipal construction within the Intended Time Frame (taking into account any delays which the Municipality may encounter as a result of the Company utilizing the Alternative Course of Action).

- c) For the purposes of this paragraph 14, the term “Alternative Course of Action” will mean any course of action that will enable the Municipality to complete the said Municipal construction and will result in a net cost savings to the Company (taking into account all additional costs incurred by the Company in carrying out the Alternative Course of Action and any additional costs which the Municipality may incur and which the Company will be required to pay in accordance with this paragraph 14 and “Intended Time Frame” will mean the period of time within which the Municipality would have reasonably been able to complete the said Municipal construction if the Company would have relocated the Natural Gas Distribution System in accordance with this paragraph 14.

If the Municipality agrees to permit the Company to utilize an Alternative Course of Action, the Company will pay any and all costs incurred in carrying out the Alternative Course of Action and will pay on demand to the Municipality (on a full indemnity basis) any and all costs incurred by the Municipality:

- i) in conducting a review of the Alternative Course of Action to determine whether the Alternative Course of Action is acceptable to the Municipality;
 - ii) in modifying any plans the Municipality may have prepared in respect of the said municipal construction (“Modified Plans”) or in preparing or developing plans and procedures (“Work Around Procedures”) to work around the Natural Gas Distribution System or any improvement, thing, or component utilized by the Company in effecting the Alternative Course of Action; and
 - iii) in the course of conducting the said planned municipal construction where such costs would not have been incurred by the Municipality if the Company had relocated the Natural Gas Distribution System in accordance with this paragraph 14 (including any reasonable additional cost the Municipality may incur in completing the said municipal construction in accordance with the Modified Plans or in effecting any Work Around Procedures).
- d) The following example illustrates the intended application of the foregoing provisions:

Where:

- i) The Municipality requires the Company to move a Natural Gas line so the Municipality can replace its own sewer lines. The cost of moving the Natural Gas line is \$10,000. The cost of carrying out the replacement of the sewer line after moving the Natural Gas line is \$40,000;
- ii) The Company proposes to simply brace the Natural Gas line (at a cost of \$2,000) and the Municipality, acting reasonably, approves of this as an Alternative Course of Action;
- iii) As a result of having to prepare Modified Plans and to prepare and implement Work Around Procedures to work around the braces, the actual cost incurred by the Municipality in replacing the sewer line is \$45,000 (being a net increase in cost of \$5,000);

the Company is required to pay the \$2,000 cost of the bracing together and the additional cost of \$5,000 incurred by the Municipality (resulting in a net savings of \$3,000 to the Company).

In cases of emergency, the Company will take all measures that are commercially reasonable and necessary to ensure public safety with respect to relocating any part of the Natural Gas Distribution System that may be required in the circumstances.

If the Company fails to complete the relocation of the Natural Gas Distribution System or fails to repair or do anything else required by the Company pursuant to this subparagraph without valid justification and in a timely and expeditious manner to the satisfaction of the Municipality's representative, acting reasonably, the Municipality may, but is not obligated to, complete such relocation or repair and the Company will pay the reasonable costs of such relocation or repair forthwith to the Municipality. If the Municipality chooses to complete such relocation or repair the Municipality will ensure such work is completed using the Company's design specifications and standards, as provided by the Company, including the use of good and safe operating practices.

The Municipality is not responsible, either directly or indirectly, for any damage to the equipment which forms part of the Natural Gas Distribution System which may occur during its installation, maintenance or removal by the Company, nor is the Municipality liable to the Company for any losses, claims, charges, damages and expenses whatsoever suffered by the Company including claims for loss of revenue or loss of profits, on account of the actions of the Municipality, its agents or employees, working in, under, over, along, upon and across its highways and rights-of-ways or other Municipal Property other than direct loss or damage to the Company caused by the negligence or wilful misconduct of the Municipality, its agents or employees.

In the event the relocation or any part thereof requires the approval of a third party, the Municipality will use reasonable efforts to assist the Company in any negotiation with such third party to obtain the necessary approval(s).

In the event the relocation results from the demand or order of an authority having jurisdiction, other than the Municipality, the Municipality will not be responsible for any of the costs of such relocation.

15) Natural Gas Distribution System Expansion

Subject to the Terms and Conditions, and at no cost to the Municipality unless otherwise provided for under the Terms and Conditions, the Company will, on a timely basis, use its best efforts on a commercially reasonable basis to meet the Natural Gas Distribution System expansion requests of the Municipality or a Consumer and provide the requisite facilities for connections for new Consumers to the Natural Gas Distribution System.

16) Increase in Municipal Boundaries

Where the Municipality increases its geographical area, through annexation or amalgamation, as understood under the MGA, by the greater of 640 acres and twenty five (25%) percent of the current area or more, the Municipality will have the option to:

- (a) terminate this Agreement provided the Municipality gives notice in writing to the Company of its intention to do so; or
- (b) add the increased area to the Municipal Service Area already served by the Company so that the rights and obligations contained in this Agreement will apply in respect of the Municipal Service Area, including the increased area.

For all other increases to the Municipal Service Area through annexation or amalgamation as understood under the MGA, the rights and obligations contained in this Agreement will apply in respect of the whole Municipal Service Area, including the increased area.

17) Joint Use of Municipal Rights-of-Way

a) Municipal Use

The Municipality will upon written notice to the Company have, for any reasonable municipal purpose, the right to make use of any municipal rights-of-way granted to the Company by the Municipality, provided such use complies with good and safe operating practices, as determined by the Company acting reasonably, applicable legislation, and does not unreasonably interfere with the Company's use thereof, at no charge to the Municipality. The Municipality is responsible for its own costs and any necessary and reasonable costs incurred by the Company including the costs of any alterations that may be required in using municipal rights-of-way.

b) Third Party Use and Notice

If any third party, including other utilities, desire to jointly use the municipal rights-of-way, the Company agrees it will not grant the third party joint use except in accordance with this paragraph, or unless otherwise directed by any governmental authority or court of law having jurisdiction.

The Company agrees the following procedure will be used in granting permission to third parties desiring joint use of the municipal rights-of-way:

- i) first, the third party will be directed to approach the Company to initially request conditional approval from the Company to use that part of the municipal rights-of-way it seeks to use;
- ii) second, upon receiving written conditional approval from the Company, the third party will be directed to approach the Municipality to obtain its written approval to jointly

use that part of the municipal rights-of-way. As a condition of granting its consent, the Municipality may require such third party enter into an agreement with the Municipality, and such agreement may require such third party pay compensation to the Municipality; and

- iii) third, upon receiving written conditional approval from the Municipality, the third party will be directed to obtain final written approval from the Company to jointly use that part of the municipal rights-of-way. Once a joint use agreement has been entered into between the Company and the third party, it will not be subsequently amended without the written consent of the Municipality (which consent will not be unreasonably withheld).

c) Cooperation

The Company and the Municipality agree they will use reasonable efforts to cooperate with each other in encouraging the use of joint trenching and in any negotiations with third parties desiring joint use of any part of the municipal rights-of-way located on Municipal Property.

d) Payment

The compensation paid or to be paid by such third party to the Municipality for the use of the Municipal Property including its rights-of-way, will be determined between the Municipality and the third party.

The compensation paid or to be paid by such third party to the Company for the joint use of any portion of the municipal rights-of-way will be determined between the Company and the third party, subject to the jurisdiction of any governmental authority over the matter and the Municipality's right to intervene in any related regulatory proceeding.

e) Provision of Agreements

Upon reasonable request by the Municipality, copies of these agreements will be updated by the Company and provided to the Municipality at no cost to the Municipality.

18) Municipality as a Retailer

The provisions of this Agreement will not in any way restrict the right of the Municipality to become a retailer within the meaning of the GUA.

19) Reciprocal Indemnification and Liability

- a) The Company will indemnify and save the Municipality, its servants, agents, employees, licensees, contractors and invitees, harmless from and against any and all liability, actions, demands, claims, damages, losses and expenses (including all legal costs and disbursements), including indemnity from and against any claim, loss, cost, demand and legal or other expense, whether in respect of any lien, encumbrance or otherwise, arising out of any Work performed

by or for the Company, which may be brought against or suffered, sustained, paid or incurred by the Municipality, its servants, agents, employees, contractors, licensees and invitees, arising from, or otherwise caused by:

- i) any breach by the Company of any of the provisions of this Agreement; or
 - ii) the negligence or wilful misconduct of the Company, or any of its servants, agents, employees, licensees, contractors or invitees in carrying on its business within the Municipal Service Area.
- b) The Municipality will indemnify and save the Company, its servants, agents, employees, licensees, contractors and invitees, harmless from and against any and all liability, actions, demands, claims, damages, losses and expenses (including all legal costs and disbursements) which may be brought against or suffered, sustained, paid or incurred by the Company, its servants, agents, employees, licenses, contractors and invitees, arising from, or otherwise caused by:
- i) any breach by the Municipality of any of the provisions of this Agreement; or
 - ii) the negligence or wilful misconduct of the Municipality, or any of its servants, agents, employees, licensees, contractors or invitees, in carrying on the business of the Municipality.
- c) Notwithstanding anything to the contrary herein contained, in no event will the Municipality or the Company be liable under this Agreement, in any way, for any reason, for any indirect, special or consequential damages (including damages for pure economic loss, loss of profits, loss of earnings or loss of contract), howsoever caused or contributed to.

20) Assignment

In the event the Company agrees to sell the Natural Gas Distribution System to a third party purchaser, the Company will comply with paragraph 10 above. In addition, the Company will request the third party purchaser confirm in writing it will agree to all the terms and conditions of this Agreement between the Company and the Municipality. The Company agrees it will provide to the Municipality a copy of the third party purchaser's confirmation letter.

The Company agrees to provide the Municipality with reasonable prior written notice of a sale of the Natural Gas Distribution System to a third party purchaser. The Parties will thereafter meet to discuss the technical and financial capabilities of the third party purchaser to perform and satisfy all terms and conditions of the Agreement, and the compensation payable to the Municipality for all costs including administrative and legal costs relating to providing its written consent to the Assignment("Municipal Compensation").

The Municipality has thirty (30) days from the meeting date with the Company to provide written notice to the Company of its intention to consent or withhold its consent to the assignment of the Agreement to the third party purchaser. The Company agrees the Municipality may provide notice of its intention to withhold its consent to the assignment of this Agreement to the third party

purchaser if the Municipal Compensation is inadequate or if the third party purchaser fails to covenant, in favour of the Municipality, to perform and observe all of the covenants and obligations of the Company to be performed and observed under this Agreement and otherwise solely on the basis of reasonable and material concerns regarding the technical capability or financial wherewithal of the third party purchaser to perform and satisfy all terms and conditions of the Agreement. In this case, such notice to the Company must specify in detail the Municipality's concern.

Should the Municipality not reply within the thirty (30) day period, it is agreed the Municipality will be deemed to have consented to the assignment. The Company further agrees when it applies to the Commission for approval of the sale, it will include in the application any notice received from the Municipality, including the reasons given by the Municipality for withholding its consent. The Municipality will have the right to make its own submissions to the Commission.

Subject to the Company having fulfilled the obligations outlined in the preceding three paragraphs, the Company will be entitled to assign this Agreement to an arm's length third party purchaser of the Natural Gas Distribution System without the consent of the Municipality, subject to paying the Municipal Compensation for the assignment, and having obtained the Commission's approval for the sale of the Natural Gas Distribution System and, the third party purchaser's confirmation in writing that it agrees to all the terms and conditions of this Agreement.

Where the Commission approves such sale of the Natural Gas Distribution System to a third party and the third party provides written confirmation to assume all liabilities and obligations of the Company under this Agreement, then upon the assignment of this Agreement and the payment of the Municipal Compensation for its consent to the Assignment subject to Commission approval, the Company will be released from all its liabilities and obligations thereunder.

The Company will be entitled to assign this Agreement to a subsidiary or affiliate of the Company without the Municipality's written consent. Where the Company assigns this Agreement to a subsidiary or affiliate, the Company will remain jointly and severally liable.

Further, it is a condition of any assignment that the subsidiary, affiliate or third party purchaser, as the case may be, will provide written notice to the Municipality indicating it will assume all liabilities and obligations of the Company under this Agreement.

Any disputes arising under the operation of this paragraph will be submitted to the Commission for determination.

21) Notices

a) All notices, demands, requests, consents, or approvals required or permitted to be given pursuant to the terms of this Agreement will be in writing and will be deemed to have been properly given if personally served, sent by registered mail or sent in Electronic Format to the Municipality or to the Company as the case may be, at the addresses set forth below:

i) To the Company:

- ii) To the Municipality:
- b) The date of receipt of any such notice as given above, will be deemed to be as follows:
 - i) In the case of personal service, the date of service;
 - ii) In the case of registered mail, the seventh (7th) business day following the date of delivery to the Post Office, provided, however, in the event of an interruption of normal mail service, receipt will be deemed to be the seventh (7th) day following the date on which normal service is restored; or
 - iii) In the case of delivery in Electronic Format, the date the notice was actually received by the recipient or, if not a business day, then the next business day.

22) Interruptions or Discontinuance of Delivery Service

Subject to its Delivery Tariff, the Company will use its best efforts on a commercially reasonable basis to avoid and minimize any interruption, reduction or discontinuance of Natural Gas Distribution Service to any Consumer. However, the Company reserves the right to do so for any one of the following reasons:

- a) Where the Company is required to effect necessary repairs or changes to the Natural Gas Distribution System;
- b) On account of or to prevent fraud or abuse of the Natural Gas Distribution System;
- c) On account of defective aspects of the Natural Gas Distribution Systems which in the opinion of the Company, acting reasonably, may become dangerous to life or property;
- d) Where required, under the Terms and Conditions, due to a Consumer's non-payment of Natural Gas bills.

To the extent the Company has any planned major interruptions, reductions or discontinuances in Natural Gas Distribution Service, it will notify the Municipality in writing as soon as practicable in the circumstances. For any other major interruption, reductions or discontinuances in Natural Gas Distribution Service, the Company will provide notice (in a format acceptable to the Municipality) as soon as is practicable in the circumstances.

23) Dispute Settlement

- a) If any dispute or controversy of any kind or nature arises relating to this Agreement or the Parties' rights or obligations hereunder, the Parties agree such dispute or controversy will be resolved by negotiation, and where such negotiation does not result in the settlement of the matter within thirty (30) days of notice of such dispute being provided by one Party to the other Party, and to the extent permitted by law, the Company and Municipality agree that unresolved disputes pertaining to this Agreement, other than those contemplated in paragraphs 3 and 20

and Section 3 of Schedule “A”, or those related to the sale of the Natural Gas Distribution System as contemplated in paragraphs 10 and 12 hereof, or any other matter within the exclusive jurisdiction of a governmental authority having jurisdiction, will be submitted to arbitration for determination and may be commenced by either Party providing written notice to the other Party stating the dispute to be submitted to arbitration.

The Parties will attempt to appoint a mutually satisfactory arbitrator within ten (10) business days of the said notice. In the event the Parties cannot agree on a single arbitrator within the ten (10) business days, the dispute will be forwarded to the Commission for resolution or determination.

In the event the Commission declines to assist in resolving the dispute or declines to exercise or claim jurisdiction respecting the dispute, both Parties agree to have the dispute resolved by an arbitration panel in accordance with the following procedure.

Each Party will appoint an arbitrator within the ten (10) business days thereafter by written notice, and the two arbitrators will, together, appoint a third arbitrator within twenty-five (25) business days of written notice for arbitration. The dispute will be heard by the arbitration panel within forty-five (45) business days of the written notice for arbitration unless extended by mutual agreement between the Parties. The arbitration panel will render a decision within twenty (20) business days of the last day of the hearing.

Except, as otherwise expressly provided in this Agreement, the provisions of the Arbitration Act (Alberta) (as amended from time to time) will apply to any arbitration undertaken under this Agreement subject always to the Commission's jurisdiction over any matter submitted to arbitration. Pending resolution of any dispute, the Municipality and the Company will continue to perform their respective obligations hereunder.

- b) The Company will advise the Commission of any dispute submitted to arbitration within ten (10) business days of it being submitted and will advise the Commission of the results of arbitration within ten (10) business days following receipt of the decision of the arbitrator(s).

24) Application of Water, Gas and Electric Companies Act

This Agreement will be deemed to operate as consent by the Municipality to the exercise by the Company of those powers which may be exercised by the Company with the consent of the Municipality under and pursuant to the provisions of the *Water, Gas and Electric Companies Act* (Alberta), as amended.

25) Force Majeure

If either Party fails to meet its obligations hereunder within the time prescribed, and such failure is caused or materially contributed by an event of “force majeure”, such failure will be deemed not to be a breach of the obligations of such Party hereunder, but such Party will use its best efforts on a commercially reasonable basis to put itself in a position to carry out its obligations hereunder. The term “force majeure” will mean any acts of God, strikes, lock-outs, or other industrial disturbances, acts of the Queen’s enemies, acts of terrorism (either foreign or domestic), sabotage,

war, blockades, insurrections, riots, epidemics, lightening, earthquakes, storms, fires, wash-outs, nuclear and radiation activity or fall-out, restraints of rulers and people, orders of governmental authorities or courts of law having jurisdiction, the inability to obtain any necessary approval from a governmental authority (excluding the Municipality) having jurisdiction, civil disturbances, explosions, mechanical failure, and any other causes similar in nature not specifically enumerated or otherwise specified herein that are not within the control of such Party, and all of which by the exercise of due diligence of such Party could not have been prevented. Lack of finances will be deemed not to be an event of “force majeure”.

26) Terms and Conditions

The Terms and Conditions applicable to the Company and approved by the Commission, as revised or amended from time to time by the Commission, will apply to the Municipality. Nothing in this Agreement is intended to supersede the Terms and Conditions.

27) Not Exclusive Against Her Majesty

Notwithstanding anything to the contrary herein contained, it is mutually understood and agreed the rights, powers and privileges conferred and granted by this Agreement will not be deemed to be exclusive against Her Majesty in right of the Province of Alberta.

28) Severability

If for any reason any covenant or agreement contained in this Agreement, or the application thereof to any Party, is to any extent held or rendered invalid, unenforceable or illegal, then such covenant or agreement will be deemed to be independent of the remainder of this Agreement and to be severable and divisible from this Agreement. The invalidity, unenforceability or illegality will not affect, impair or invalidate the remainder of this Agreement or any part thereof. The intention of the Municipality and the Company is that this Agreement would have been executed without reference to any portion which may, for any reason or to any extent, be declared or held invalid, unenforceable or illegal.

29) Amendments

This Agreement may only be amended by written agreement of the Parties, such amendments to be subject to any regulatory approvals required by law.

30) Waiver

A waiver of any default, breach or non-compliance under this Agreement is not effective unless in writing and signed by the Party to be bound by the waiver. No waiver will be inferred from or implied by any failure to act or delay in acting by a Party in respect of any default, breach or non-observance or by anything done or omitted to be done by the other Party.

The waiver by a Party of any default, breach or non-compliance under this Agreement will not operate as a waiver of that Party's rights under this Agreement in respect of any continuing or subsequent default, breach or non-compliance under this Agreement (whether of the same nature or any other nature).

31) Confidentiality

The Company acknowledges the Municipality is governed by the provisions of the *Freedom of Information and Protection of Privacy Act* (Alberta).

IN WITNESS WHEREOF the Parties hereto have executed these presents as of the day and year first above written.

(Municipality)

PER: _____

PER: _____

(Company)

PER: _____

PER: _____

SCHEDULE "A" Core Services

The Company will provide to the Municipality the following basic services as Core Services:

- 1) The Company will deliver Natural Gas to the Consumers in accordance with the Company's Terms and Conditions, the Company's Distribution Tariff, the GUA, any regulations thereto, and any Commission orders and decisions.
- 2) The Company will install all Natural Gas facilities required to provide service to the Consumers in accordance with all applicable regulations, codes, applicable standards and common industry practices.
- 3) As required by legislation, the Company will provide and install all necessary regulators and meters necessary for measuring the Natural Gas supplied to each Consumer.
- 4) The Company agrees to collaborate with the Municipality's emergency response services in an effort to mutually develop emergency response procedures relating to Natural Gas emergencies.
- 5) The Company will provide personnel twenty-four (24) hours a day to investigate and make safe any suspected gas leak inside or outside the Consumer's premises.
- 6) The Company will utilize the services of qualified personnel for designing all Natural Gas facilities to satisfy all applicable regulatory codes and standards, preparing necessary work order plans and monitoring the distribution network pressures to ensure the Company's facilities will satisfy the Consumer's current and future Natural Gas delivery requirements.
- 7) The Company will provide to the Municipality, on request, copies of any and all Natural Gas Distribution Service related written or electronic, where available information or reports required to be filed with the Commission by the Company.
- 8) The Company will provide to the Municipality, upon request and to the extent the information is available, an annual report on the following standards:
 - a) **System Reliability** - will be measured by:
 - i. The number of major outages resulting in a loss of service to Consumers;
 - ii. The number of Consumers affected by each major outage; and
 - iii. The duration of each major outage.
 - b) **Consumer Satisfaction** - will be measured by:
 - i. Company-wide call centre targets and statistics (wait times, abandoned calls, call volumes, etc); and
 - ii. any Consumer complaints received by the Commission.

c) **Public Safety** - will be measured by:

- i. the number of customer injuries and/or damages due to Natural Gas Distribution System failure;
- ii. the number of line hits per total locates completed;
- iii. the number of line hits as a result of inaccurate locates;
- iv. the percentage of the area of the Municipality surveyed for leaks and yearly cathodic protection measures;
- v. the number and nature of calls received from the Municipality and any of its Municipal agencies (including fire department, police department etc.) regarding the Natural Gas Distribution System.

9) Once per year, upon request and subject to any applicable privacy legislation, the GUA Code of Conduct Regulation or other rules prohibiting or restricting such disclosure, the Company will provide to the Municipality:

- a) The total number of sites billed within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two (w) years;
- b) The total gigajoules (GJ) of Natural Gas consumed by Consumers billed within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two (2) years;
- c) The franchise fee revenue billed to Consumers within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two(2) years;
- d) Where the Municipality is the customer of record and the Municipality provides a list of those sites to the Company on the form provided by the Company:
 - i. The total number of those sites billed within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two (2) years;
 - ii. The total gigajoules (GJ) of Natural Gas at those sites billed within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two (2) years;
 - iii. The franchise fee revenue billed to those sites within the Municipal Service Area, by Company rate class, per revenue month, for each of the last two (2) years; and
- e) Such other information as may be agreed upon by the Parties from time to time.

Where privacy legislation, the GUA Code of Conduct Regulation or other rules prohibiting such disclosure prevent the Company from providing the information above, the Company will make reasonable attempts to aggregate the information so as to comply with the applicable rules. The

Company will not be obligated to provide such aggregated information if it believes such aggregation will not allow the Company to comply with the applicable rules.

- 10) Upon request by either Party, the Company will meet with the Municipality. Through a mutual exchange of information the Company will keep the Municipality apprised of the Company's construction and upgrading programs planned for the Municipal Service Area and the Municipality will advise the Company of any issues or plans relating to, or potentially impacting, the Natural Gas Distribution System.

SCHEDULE "B" Extra Services

Nothing in this Agreement precludes the Parties from contracting for Extra Services outside the provisions of this Agreement. In the event the Parties do elect to contract for the provision of Extra Services within the provisions of this Agreement and unless otherwise agreed upon by the Parties, nothing in this Agreement will preclude the Company from sub-contracting with third parties for the provision of Extra Services.

Subject to Commission approval, as may be required, any payments from the Municipality to the Company for Extra Services, if agreed to by the Municipality, may be deducted from the Franchise Fee collected from Consumers and otherwise remitted to the Municipality pursuant to paragraph 5 of this Agreement. The timing and quantum of such payments will be as agreed upon by the Parties and set forth in (insert paragraph number from Schedule B) of this Schedule.

PIPELINE CROSSINGS REGULATION 147/2012

B.C. Reg. 147/2012

[deposited June 25, 2012]

Contents

1. Definitions
2. Pipeline crossing distances
3. Cost allocation for pipeline crossings

[Provisions relevant to the enactment of this regulation: *Oil and Gas Activities Act*, SBC 2008, c. 36, s. 99.]

Definitions

1. In this regulation:

"**Act**" means the *Oil and Gas Activities Act*;

"**enabled action**" means the construction or activity that may be carried out by an enabled person;

"**enabled person**" means a person who, under section 76 (1) (c), (d) or (e) of the Act, may do anything referred to in subsection (1) (a) or (b) of that section;

"**ground activity**" means any work, operation or activity that results in a disturbance of the earth, including a mining activity as defined in section 1 of the *Mines Act*, but not including

(a) cultivation to a depth of less than 45 cm below the surface of the ground, or

(b) a disturbance, other than cultivation referred to in paragraph (a), of the earth to a depth of less than 30 cm;

"**specified enabled person**" means an enabled person that is the government, a municipality or the British Columbia Railway Company.

Pipeline crossing distances

2. (1) A ground activity is a prescribed activity for the purposes of section 76 (1) (b) of the Act.
- (2) The prescribed distance for the purposes of section 76 (1) of the Act is 30 m.
- (3) For the purpose of section 76 (1) (e) of the Act, the following requirements are prescribed respecting a person carrying out a ground activity at least 10 m away from the pipeline nearest to the site of the ground activity:
 - (a) subject to subsection (4), the person, before disturbing the earth for the purposes of the ground activity, must
 - (i) advise BC One Call of the proposed site of the activity, and

- (ii) if BC One Call advises that there are one or more pipelines within 30 m of the proposed site of the activity, confirm with each pipeline permit holder that the pipeline is at least 10 m away from the proposed site of the activity;
- (b) if physical contact is made with a pipeline as a result of the carrying out of the ground activity, the person must notify
 - (i) the commission, and
 - (ii) the pipeline permit holder of the contacted pipeline.
- (4) A person is not required to comply with subsection (3) (a) respecting a ground activity if the person has, for another purpose, previously determined, in part on the advice of BC One Call, that the nearest pipeline to the proposed site of the ground activity is more than 30 m away from the site.

Cost allocation for pipeline crossings

- 3. (1) Subject to subsections (3) to (5), an enabled person is responsible for all costs incurred by the enabled person in carrying out an enabled action.
- (2) Subject to subsections (3) to (6), an enabled person is responsible for any costs incurred by a pipeline permit holder as a result of the enabled person's carrying out of an enabled action, including, without limitations, costs
 - (a) to realign, raise or lower the pipeline,
 - (b) to excavate material from around the pipelines, and
 - (c) to add casing or other appurtenances that an official considers necessary for the protection of the pipeline.
- (3) Subject to an order issued under section 76 (6) of the Act and to subsections (4) to (6) of this section, a specified enabled person is not responsible for any costs incurred by a pipeline permit holder as a result of the carrying out of an enabled action.
- (4) The costs referred to in subsection (3) must be shared equally between the specified enabled person and the pipeline permit holder if
 - (a) the specified enabled person is a municipality, and
 - (b) the enabled action is the construction of a new highway within the boundaries of that municipality on either an existing right of way or a newly dedicated right of way.
- (5) The costs incurred by a pipeline permit holder as the result of the carrying out of an enabled action must be shared equally between the enabled person and the pipeline permit holder if the enabled action is the construction of a new road for a subdivision within a municipality.
- (6) The cost allocation rules set out in subsections (2) to (5) may be varied by agreement between the parties.

[Provisions relevant to the enactment of this regulation: *Oil and Gas Activities Act*, SBC 2008, c. 36, s. 99.]



BC Hydro T&D
Phone: (604) 543-6067

Date: 24 November 2016
Design: 4001981

To Jeremy Hanson
Aplin & Martin
JHanson@aplinmartin.com

RE: Municipal Request for Distribution Work (64 Avenue Road Widening)

As requested, we have prepared relocation design for this project.

The relocation work is indicated on the enclosed Drawings. These drawing must be submitted to the Municipal Engineering Department for their approval.

ESTIMATED COSTS:

This estimate is quoted for the city of Surrey, who has not supplied a GST Registration Number.

BC Hydro has calculated the costs for this project; in the absence of a specific relocation agreement, the municipality pays the following:

1. **For overhead infrastructure;**
 - I. There will be no charge to the municipality for the following:
 - i. New materials (as the materials are provided at no charge, the municipality will not be eligible to receive the equipment salvage credit).
 - II. The municipality shall pay 50% of costs associated with the following:
 - i. Total labour,
 - ii. Vehicles,
 - iii. Board and lodging (if applicable)
2. **For underground infrastructure;**
 - I. The municipality shall pay 100% of costs associated with the following:
 - i. New work,
 - ii. Dismantling work; less
 - iii. The asset renewal credit OR equipment salvage credit.

BC Hydro's construction charges for this project have been calculated at \$216,242.25, including GST.

Customer Share of Construction Costs	\$ 324,808.00
<i>less</i> Municipality Credit Value	\$ 113,863.00
Net Construction Cost	\$ 210,945.00
GST @ 5% BC Hydro GST Registration No. R121454151	\$ 10,547.25

SCANNED

less Design Deposit Received	\$ 5,250.00
(Payment Required)	\$ 216,242.25

This cost excludes charges from any other utility (telecomm, gas, etc.). They must be contacted separately to arrange for their services.

The quoted costs are subject to review if; due to customer a delay, BC Hydro is unable to install the electrical work within six (6) months of the date payment is received. Costs may also be revised if your proposal changes in any way or if site conditions dictate a last minute redesign.

ENVIRONMENTAL RESPONSIBILITIES:

The design does not take into account site specific environmental sensitivities and requirements. Determining site specific environmental sensitivities and requirements, and implementing and building the designed electrical infrastructure in an environmentally safe and lawful manner, is solely the municipality's responsibility.

If you have any questions concerning this project please contact me.

Yours truly,

Raj Sandhu
Design Specialist
Fraser Valley Process Centre

Enclosure

Current to August 8, 2020

Public Service Works on Highways Act

R.S.O. 1990, c. P.49

Amended by: S.O. 1998, c. 15, Sched. E, s. 30; S.O. 2006, c. 19, Sched. C, s. 1 (1); S.O. 2020, c. 12, s. 86.

Amended by: S.O. 1998, c. 15, Sched. E, s. 30; S.O. 2006, c. 19, Sched. C, s. 1 (1); S.O. 2020, c. 12, s. 86.

Definitions

1. In this Act,

"appliances or works" REPEALED: S.O. 2020, c. 12, s. 86 (1), effective July 8, 2020 (Act, s. 87).

"cost of labour" means,

(a) the actual wages paid to all workers up to and including the supervisors for their time actually spent on the work and in travelling to and from the work, and the cost of food, lodging and transportation for such workers where necessary for the proper carrying out of the work,

(b) the cost to the utility company of contributions related to such wages in respect of workplace safety and insurance premiums, vacation pay, employment insurance, pension or insurance benefits and other similar benefits,

(c) the cost of using mechanical labour-saving equipment in the work,

(d) necessary transportation charges for equipment used in the work, and

(e) the cost of explosives; ("coût de la main- d'oeuvre")

"operating corporation" REPEALED: S.O. 2020, c. 12, s. 86 (4), effective July 8, 2020 (Act, s. 87).

"road authority" means the Ministry of Transportation, a municipal corporation, board, commission, or other body having control of the construction, improvement, alteration, maintenance and repair of a highway and responsible therefor. ("office de la voirie")

"utility company" means a municipal corporation or commission or a company or individual operating or using communications services or transmitting, distributing or supplying electricity or artificial or natural gas or oil for light, heat or power; ("entreprise de services publics")

"utility infrastructure" means poles, wires, cables including fibre-optic cables, conduits, towers, transformers, pipes, pipe lines or any other works, structures or appliances placed over, on or under a highway by utility company. ("infrastructure de services publics")

R.S.O. 1990, c. P.49, s. 1; S.O. 1998, c. 15, Sched. E, s. 30; S.O. 2020, c. 12, s. 86 (1)-(5).

Notice to operating corporation to take up works

2.--(1) Where in the course of constructing, reconstructing, changing, altering or improving a highway it becomes necessary to take up, remove or change the location of utility infrastructure placed over, on or under the highway by the utility company, the road authority may by notice in writing served personally or by registered mail require the utility company, without prejudice to their respective rights under section 3, so to do on or before the date specified in the notice.

Apportionment of costs of taking up

(2) The road authority and the utility company may agree upon the apportionment of the cost of labour employed in such taking up, removal or change, but, subject to section 3, in default of agreement such cost shall be apportioned equally between the road authority and the utility company, and all other costs of the work shall be borne by the utility company.

Minimum time interval

(3) The date specified in a notice under subsection (1) shall be as agreed upon by the road authority and the utility company, but in default of agreement shall be not less than sixty days after the date of the personal service or mailing of the notice.

Additional time

(4) A utility company may, upon such notice as a judge of the Superior Court of Justice directs, apply to the judge for an order altering to a later date the date specified in the notice given under subsection (1), and, if the judge finds that the physical or technical difficulties in complying with the notice require additional time, the judge may make such order as he or she considers appropriate.

Compensation

(5) Where a road authority incurs a loss or expense by reason of a utility company neglecting to take up, remove or change the location of utility infrastructure by the date specified in a notice given under subsection (1) or such date as altered by a judge under subsection (4), the utility company shall make due compensation to the road authority for such loss or expense, and a claim for compensation, if not agreed upon by the utility company and the road authority, shall be determined by the Local Planning Appeal Tribunal.

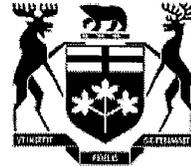
R.S.O. 1990, c. P.49, s. 2; S.O. 2006, c. 19, Sched. C, s. 1 (1); S.O. 2020, c. 12, s. 86 (6)-(10) (E).

Apportionment of cost by Ontario Municipal Board

3. Where it is made to appear to the Local Planning Appeal Tribunal, upon application made to it, that the circumstances and conditions under which the utility infrastructure mentioned in section 2 has been placed on or under a highway, or that other special conditions render it unfair or unjust that the cost of taking up, removing or changing the location of the utility infrastructure should be apportioned

and paid as provided in section 2, the Tribunal, upon the application of the road authority or utility company, may apportion the cost of the taking up, removing or changing the utility infrastructure in such manner as appears to it to be equitable, and the decision of the Tribunal is final and is not subject to appeal.

R.S.O. 1990, c. P.49, s. 3; S.O. 2020, c. 12, s. 86 (11).



Ontario Energy Board

Ontario

Model Franchise Agreement

THIS AGREEMENT effective this day of 20

BETWEEN:

hereinafter called the "Corporation"

- and -

hereinafter called the "Gas Company"

WHEREAS the Gas Company desires to distribute, store and transmit gas in the Municipality upon the terms and conditions of this Agreement;

AND WHEREAS by by-law passed by the Council of the Corporation (the "By-law"), the duly authorized officers have been authorized and directed to execute this Agreement on behalf of the Corporation;

THEREFORE the Corporation and the Gas Company agree as follows:

Part I - Definitions

1. In this Agreement:
 - a. "decommissioned" and "decommissions" when used in connection with parts of the gas system, mean any parts of the gas system taken out of active use and purged in accordance with the applicable CSA standards and in no way affects the use of the term 'abandoned' pipeline for the purposes of the *Assessment Act*;
 - b. "Engineer/Road Superintendent" means the most senior individual employed by the Corporation with responsibilities for highways within the Municipality or the person designated by such senior employee or such other person as may from time to time be designated by the Council of the Corporation;

- c. "gas" means natural gas, manufactured gas, synthetic natural gas, liquefied petroleum gas or propane-air gas, or a mixture of any of them, but does not include a liquefied petroleum gas that is distributed by means other than a pipeline;
- d. "gas system" means such mains, plants, pipes, conduits, services, valves, regulators, curb boxes, stations, drips or such other equipment as the Gas Company may require or deem desirable for the distribution, storage and transmission of gas in or through the Municipality;
- e. "highway" means all common and public highways and shall include any bridge, viaduct or structure forming part of a highway, and any public square, road allowance or walkway and shall include not only the travelled portion of such highway, but also ditches, driveways, sidewalks, and sodded areas forming part of the road allowance now or at any time during the term hereof under the jurisdiction of the Corporation;
- f. "Model Franchise Agreement" means the form of agreement which the Ontario Energy Board uses as a standard when considering applications under the *Municipal Franchises Act*. The Model Franchise Agreement may be changed from time to time by the Ontario Energy Board;
- g. "Municipality" means the territorial limits of the Corporation on the date when this Agreement takes effect, and any territory which may thereafter be brought within the jurisdiction of the Corporation;
- h. "Plan" means the plan described in Paragraph 5 of this Agreement required to be filed by the Gas Company with the Engineer/Road Superintendent prior to commencement of work on the gas system; and
- i. whenever the singular, masculine or feminine is used in this Agreement, it shall be considered as if the plural, feminine or masculine has been used where the context of the Agreement so requires.

Part II - Rights Granted

2. To provide gas service:

The consent of the Corporation is hereby given and granted to the Gas Company to distribute, store and transmit gas in and through the Municipality to the Corporation and to the inhabitants of the Municipality.

or

The consent of the Corporation is hereby given and granted to the Gas Company to distribute, store and transmit gas in and through the Corporation and to the inhabitants of those local or lower tier municipalities within the Municipality from which the Gas Company has a valid franchise agreement for that purpose.

* Footnote: Choose one only.

3. To Use Highways.

Subject to the terms and conditions of this Agreement the consent of the Corporation is hereby given and granted to the Gas Company to enter upon all highways now or at any time hereafter under the jurisdiction of the Corporation and to lay, construct, maintain, replace, remove, operate and repair a gas system for the distribution, storage and transmission of gas in and through the Municipality.

4. Duration of Agreement and Renewal Procedures.

- a. If the Corporation has not previously received gas distribution services, the rights hereby given and granted shall be for a term of 20 years from the date of final passing of the By-law.

or

- b. If the Corporation has previously received gas distribution services, the rights hereby given and granted shall be for a term of 20 years from the date of final passing of the By-law provided that, if during the 20-year term this Agreement, the Model Franchise Agreement is changed, then on the 7th anniversary and on the 14th anniversary of the date of the passing of the By-law, this Agreement shall be deemed to be amended to incorporate any changes in the Model Franchise Agreement in effect on such anniversary dates. Such deemed amendments shall not apply to alter the 20-year term.
- c. At any time within two years prior to the expiration of this Agreement, either party may give notice to the other that it desires to enter into negotiations for a renewed franchise upon such terms and conditions as may be agreed upon. Until such renewal has been settled, the terms and conditions of this Agreement shall continue, notwithstanding the expiration of this Agreement. This shall not preclude either party from applying to the Ontario Energy Board for a renewal of the Agreement pursuant to section 10 of the *Municipal Franchises Act*.

Part III - Conditions

5. Approval of Construction

- a. The Gas Company shall not undertake any excavation, opening or work which will disturb or interfere with the surface of the travelled portion of any highway unless a permit therefor has first been obtained from the Engineer/Road Superintendent and all work done by the Gas Company shall be to his satisfaction.
- b. Prior to the commencement of work on the gas system, or any extensions or changes to it (except service laterals which do not interfere with municipal works in the highway), the Gas Company shall file with the Engineer/Road Superintendent a Plan, satisfactory to the Engineer/Road Superintendent, drawn to scale and of sufficient detail considering the complexity of the specific locations involved, showing the highways in which it proposes to lay its gas system and the particular parts thereof it proposes to occupy.

- c. The Plan filed by the Gas Company shall include geodetic information for a particular location:
 - i. where circumstances are complex, in order to facilitate known projects, including projects which are reasonably anticipated by the Engineer/Road Superintendent, or
 - ii. when requested, where the Corporation has geodetic information for its own services and all others at the same location.
- d. The Engineer/Road Superintendent may require sections of the gas system to be laid at greater depth than required by the latest CSA standard for gas pipeline systems to facilitate known projects or to correct known highway deficiencies.
- e. Prior to the commencement of work on the gas system, the Engineer/Road Superintendent must approve the location of the work as shown on the Plan filed by the Gas Company, the timing of the work and any terms and conditions relating to the installation of the work.
- f. In addition to the requirements of this Agreement, if the Gas Company proposes to affix any part of the gas system to a bridge, viaduct or other structure, if the Engineer/Road Superintendent approves this proposal, he may require the Gas Company to comply with special conditions or to enter into a separate agreement as a condition of the approval of this part of the construction of the gas system.
- g. Where the gas system may affect a municipal drain, the Gas Company shall also file a copy of the Plan with the Corporation's Drainage Superintendent for purposes of the *Drainage Act*, or such other person designated by the Corporation as responsible for the drain.
- h. The Gas Company shall not deviate from the approved location for any part of the gas system unless the prior approval of the Engineer/Road Superintendent to do so is received.
- i. The Engineer/Road Superintendent's approval, where required throughout this Paragraph, shall not be unreasonably withheld.
- j. The approval of the Engineer/Road Superintendent is not a representation or warranty as to the state of repair of the highway or the suitability of the highway for the gas system.

6. As Built Drawings.

The Gas Company shall, within six months of completing the installation of any part of the gas system, provide two copies of "as built" drawings to the Engineer/Road Superintendent. These drawings must be sufficient to accurately establish the location, depth (measurement between the top of the gas system and the ground surface at the time of installation) and distance of the gas system. The "as built" drawings shall be of the same quality as the Plan and, if the approved pre-construction plan included elevations that were geodetically referenced, the "as built" drawings shall similarly include elevations that are geodetically referenced. Upon the request of the Engineer/Road

Superintendent, the Gas Company shall provide one copy of the drawings in an electronic format and one copy as a hard copy drawing.

7. Emergencies

In the event of an emergency involving the gas system, the Gas Company shall proceed with the work required to deal with the emergency, and in any instance where prior approval of the Engineer/Road Superintendent is normally required for the work, the Gas Company shall use its best efforts to immediately notify the Engineer/Road Superintendent of the location and nature of the emergency and the work being done and, if it deems appropriate, notify the police force, fire or other emergency services having jurisdiction. The Gas Company shall provide the Engineer/Road Superintendent with at least one 24 hour emergency contact for the Gas Company and shall ensure the contacts are current.

8. Restoration

The Gas Company shall well and sufficiently restore, to the reasonable satisfaction of the Engineer/Road Superintendent, all highways, municipal works or improvements which it may excavate or interfere with in the course of laying, constructing, repairing or removing its gas system, and shall make good any settling or subsidence thereafter caused by such excavation or interference. If the Gas Company fails at any time to do any work required by this Paragraph within a reasonable period of time, the Corporation may do or cause such work to be done and the Gas Company shall, on demand, pay the Corporation's reasonably incurred costs, as certified by the Engineer/Road Superintendent.

9. Indemnification

The Gas Company shall, at all times, indemnify and save harmless the Corporation from and against all claims, including costs related thereto, for all damages or injuries including death to any person or persons and for damage to any property, arising out of the Gas Company operating, constructing, and maintaining its gas system in the Municipality, or utilizing its gas system for the carriage of gas owned by others. Provided that the Gas Company shall not be required to indemnify or save harmless the Corporation from and against claims, including costs related thereto, which it may incur by reason of damages or injuries including death to any person or persons and for damage to any property, resulting from the negligence or wrongful act of the Corporation, its servants, agents or employees.

10. Insurance

- a. The Gas Company shall maintain Comprehensive General Liability Insurance in sufficient amount and description as shall protect the Gas Company and the Corporation from claims for which the Gas Company is obliged to indemnify the Corporation under Paragraph 9. The insurance policy shall identify the Corporation as an additional named insured, but only with respect to the operation of the named insured (the Gas Company). The insurance policy shall not lapse or be cancelled without sixty (60) days' prior written notice to the Corporation by the Gas Company.

- b. The issuance of an insurance policy as provided in this Paragraph shall not be construed as relieving the Gas Company of liability not covered by such insurance or in excess of the policy limits of such insurance.
- c. Upon request by the Corporation, the Gas Company shall confirm that premiums for such insurance have been paid and that such insurance is in full force and effect.

11. Alternative Easement

The Corporation agrees, in the event of the proposed sale or closing of any highway or any part of a highway where there is a gas line in existence, to give the Gas Company reasonable notice of such proposed sale or closing and, if is feasible, to provide the Gas Company with easements over that part of the highway proposed to be sold or closed sufficient to allow the Gas Company to preserve any part of the gas system in its then existing location. In the event that such easements cannot be provided, the Corporation and the Gas Company shall share the cost of relocating or altering the gas system to facilitate continuity of gas service, as provided for in Paragraph 12 of this Agreement.

12. Pipeline Relocation

- a. If in the course of constructing, reconstructing, changing, altering or improving any highway or any municipal works, the Corporation deems that it is necessary to take up, remove or change the location of any part of the gas system, the Gas Company shall, upon notice to do so, remove and/or relocate within a reasonable period of time such part of the gas system to a location approved by the Engineer/Road Superintendent.
- b. Where any part of the gas system relocated in accordance with this Paragraph is located on a bridge, viaduct or structure, the Gas Company shall alter or relocate that part of the gas system at its sole expense.
- c. Where any part of the gas system relocated in accordance with this Paragraph is located other than on a bridge, viaduct or structure, the costs of relocation shall be shared between the Corporation and the Gas Company on the basis of the total relocation costs, excluding the value of any upgrading of the gas system, and deducting any contribution paid to the Gas Company by others in respect to such relocation; and for these purposes, the total relocation costs shall be the aggregate of the following:
 - i. the amount paid to Gas Company employees up to and including field supervisors for the hours worked on the project plus the current cost of fringe benefits for these employees,
 - ii. the amount paid for rental equipment while in use on the project and an amount, charged at the unit rate, for Gas Company equipment while in use on the project,
 - iii. the amount paid by the Gas Company to contractors for work related to the project,

- iv. the cost to the Gas Company for materials used in connection with the project, and
 - v. a reasonable amount for project engineering and project administrative costs which shall be 22.5% of the aggregate of the amounts determined in items (i), (ii), (iii) and (iv) above.
- d. The total relocation costs as calculated above shall be paid 35% by the Corporation and 65% by the Gas Company, except where the part of the gas system required to be moved is located in an unassumed road or in an unopened road allowance and the Corporation has not approved its location, in which case the Gas Company shall pay 100% of the relocation costs.

Part IV - Procedural And Other Matters

13. Municipal By-laws of General Application

The Agreement is subject to the provisions of all regulating statutes and all municipal by-laws of general application, except by-laws which have the effect of amending this Agreement.

14. Giving Notice

Notices may be delivered to, sent by facsimile or mailed by prepaid registered post to the Gas Company at its head office or to the authorized officers of the Corporation at its municipal offices, as the case may be.

15. Disposition of Gas System

- a. If the Gas Company decommissions part of its gas system affixed to a bridge, viaduct or structure, the Gas Company shall, at its sole expense, remove the part of its gas system affixed to the bridge, viaduct or structure.
- b. If the Gas Company decommissions any other part of its gas system, it shall have the right, but is not required, to remove that part of its gas system. It may exercise its right to remove the decommissioned parts of its gas system by giving notice of its intention to do so by filing a Plan as required by Paragraph 5 of this Agreement for approval by the Engineer/Road Superintendent. If the Gas Company does not remove the part of the gas system it has decommissioned and the Corporation requires the removal of all or any part of the decommissioned gas system for the purpose of altering or improving a highway or in order to facilitate the construction of utility or other works in any highway, the Corporation may remove and dispose of so much of the decommissioned gas system as the Corporation may require for such purposes and neither party shall have recourse against the other for any loss, cost, expense or damage occasioned thereby. If the Gas Company has not removed the part of the gas system it has decommissioned and the Corporation requires the removal of all or any part of the decommissioned gas system for the purpose of altering or improving a highway or in order to facilitate the construction of utility or other works in a highway, the Gas Company may elect to relocate the decommissioned gas system and in that event

Paragraph 12 applies to the cost of relocation.

16. Use of Decommissioned Gas System

- a. The Gas Company shall provide promptly to the Corporation, to the extent such information is known:
 - i. the names and addresses of all third parties who use decommissioned parts of the gas system for purposes other than the transmission or distribution of gas; and
 - ii. the location of all proposed and existing decommissioned parts of the gas system used for purposes other than the transmission or distribution of gas.
- b. The Gas Company may allow a third party to use a decommissioned part of the gas system for purposes other than the transmission or distribution of gas and may charge a fee for that third party use, provided
 - i. the third party has entered into a municipal access agreement with the Corporation; and
 - ii. the Gas Company does not charge a fee for the third party's right of access to the highways.
- c. Decommissioned parts of the gas system used for purposes other than the transmission or distribution of gas are not subject to the provisions of this Agreement. For decommissioned parts of the gas system used for purposes other than the transmission and distribution of gas, issues such as relocation costs will be governed by the relevant municipal access agreement.

17. Franchise Handbook

The Parties acknowledge that operating decisions sometimes require a greater level of detail than that which is appropriately included in this Agreement. The Parties agree to look for guidance on such matters to the Franchise Handbook prepared by the Association of Municipalities of Ontario and the gas utility companies, as may be amended from time to time.

18. Other Conditions

The following paragraph shall be inserted as a special condition in the old Union Gas franchise area, which is understood to be the franchise area of Union Gas in southwestern Ontario prior to its merger with Centra Gas.

Notwithstanding the cost sharing arrangements described in Paragraph 12, if any part of the gas system altered or relocated in accordance with Paragraph 12 was constructed or installed prior to January 1, 1981, the Gas Company shall alter or relocate, at its sole expense, such part of the gas system at the point specified, to a location satisfactory to the Engineer/Road Superintendent.

19. Agreement Binding Parties

This Agreement shall extend to, benefit and bind the parties thereto, their successors and assigns, respectively.

IN WITNESS WHEREOF the parties have executed this Agreement effective from the date written above.

THE CORPORATION OF _____

By: _____

Duly Authorized Officer

[Insert name of Gas Company]

By: _____

Section 5.8

Placement of Natural Gas Pipelines in Roadways

1.0 INTRODUCTION

Service Nova Scotia and Municipal Relations commissioned a study entitled **A Study to Provide Nova Scotia Municipalities with Information/Issues/Standards (Best Practices)** in reference to placement of natural gas pipelines in municipal roadways. The study was undertaken in two distinct parts:

Part 1 information, collection and assembly of data on practices within other jurisdictions;

Part 2 formulation of a model policy and/or specifications on gas pipeline placement which can be used as a guide to the Municipal Units in Nova Scotia.

This document outlines background data and puts forth recommendations of a model bylaw on gas pipeline placement. The recommendations are based on the survey and discussions with personnel in the gas distribution business.

The information contained herein represents the best practices from municipalities across Canada with respect to the placement of low pressure gas distribution pipe within municipal street rights-of-way. Any Nova Scotia municipality contemplating developing such a bylaw will find this information useful. Some modification of the standards may be necessary to accommodate local circumstances.

2.0 BACKGROUND

2.1 Jurisdictional Responsibility

The transmission and/or distribution of natural gas in Nova Scotia is under the jurisdiction of the Nova Scotia Utility and Review Board. The following acts and regulations outlines the requirements relative to the transmission and distribution of natural gas.

- \$ Public Utilities Act
- \$ Pipeline Act
- \$ Pipeline Regulations (Nova Scotia)
- \$ Gas Distribution Act
- \$ Gas Distribution Regulations (Nova Scotia)

and other associated amendments to the acts and regulations. These documents are available on the web site at www.gov.ns.ca.



- (2) All surfaces shall be restored to at least the same condition as previous to the pipeline installation;
- (3) Topsoil reinstatement shall occur within 2 weeks of excavation and backfilling;
- (4) Where it is necessary for approval to install pipelines within the vehicular travelled way in asphaltic concrete areas, the following shall be undertaken:
 - \$ the asphalt to be removed shall be cut with a wheel cutter or saw; the cut should be 300 mm minimum from the edge of the excavation to minimize tension cracks;
 - \$ backfill shall be with approved granular base materials and compacted in lifts, all in accordance with the Standard Specification for Municipal Services or the specifications of the Municipality;
 - \$ reinstatement of the base courses and asphaltic concrete shall be in accordance with Section 02660 Reinstatement of the Standard Specification for Municipal Services. Asphalt reinstatement shall be of a depth equal to existing surrounding asphalt or a minimum thickness of 130 mm;
 - \$ walks, curbs and gutters shall be reinstated in accordance with Section 02630 and Section 02660 of the Standard Specification for Municipal Services;
 - \$ topsoil reinstatement including hydroseeding and/or sodding shall be in accordance with Section 02650 of the Standard Specification for Municipal Services; and
 - \$ the latest date for reinstatement without prior approval of the Municipal Unit shall be as follows:

Hydroseeding -	September 15
Asphalt -	November 1
Concrete -	November 15

3.11 Pipeline Relocation

- (1) If in the course of constructing, reconstructing, changing, altering or improving any highway or any municipal works, the Municipal Unit deems that it is necessary to take up, remove or change the location of any part of the gas system, the gas distributor shall, upon notice to do so, remove and/or relocate within a reasonable period of time such part of the gas system to a location approved by the Municipal Engineer at the sole expense of the Gas Distributor.
- (2) The Gas Distributor shall not be required to bear the expense of any removal or relocation



made at the request of the Municipality on behalf or for the benefit of any private developer or other third party.

- (3) At the request of the Engineer, the Gas Distributor shall structurally support any portion of its gas distribution system at its own cost where necessary as part of the process of implementing any municipal improvements.

3.12 Indemnification

- (1) The Gas Distributor shall, at all times, indemnify and save harmless the Municipal Unit from and against all claims, including costs related thereto, for all damages or injuries including death to any person or persons and for damage to any property, arising out of the Gas Distributor's operating, constructing, and maintaining its gas system in the Municipality, or utilizing its gas system for the carriage of gas owned by others. Provided that the Gas Distributor shall not be required to indemnify or save harmless the Municipal Unit from and against claims, including costs related thereto, which it may incur by reason of damages or injuries including death to any person or persons and for damage to any property, resulting from the negligence or wrongful act on the Municipal Unit, its servants, agents or employees.

3.13 Insurance

- (1) The Gas Distributor shall maintain Comprehensive General Liability insurance in sufficient amount and description as shall protect the Gas Distributor and the Municipal Unit from claims for which the Gas Distributor is obliged to indemnify the Municipal Unit under Clause 3.12. The insurance policy shall identify the Municipal Unit as an additional named insured, but only with respect to the operation of the named insured (the Gas Distributor). The insurance policy shall not lapse or be cancelled without sixty (60) days prior written notice to the Municipal Unit by the Gas Distributor.
- (2) The issuance of an insurance policy as provided shall not be construed as relieving the Gas Distributor of liability not covered by such insurance or in excess of the policy limits of such insurance.
- (3) Upon request by the Municipal Unit, the Gas Distributor shall confirm that premiums for such insurance have been paid and that such insurance is in full force and effect.
- (4) The Gas Distributor shall confirm that the insurance in place meets the requirements of the terms and conditions of its franchise grant pursuant to Section 13 of the Gas Distribution Act.



Telecom Decision CRTC 2016-51

PDF version

Ottawa, 10 February 2016

File number: 8690-C210-201409219

City of Hamilton – Terms and conditions of a Municipal Access Agreement with Bell Canada

*The Commission **approves with changes** the rates, terms, and conditions of a Municipal Access Agreement (MAA) between the City of Hamilton (the City) and Bell Canada.*

The MAA will govern Bell Canada's access to highways and other public places in the municipality, allowing Bell Canada to provide its services throughout the municipality, and therefore maximizing the choice of telecommunications service providers for residents and businesses.

Introduction

1. In 2012, a Municipal Access Agreement (MAA) between the City of Hamilton (the City) and Bell Canada expired.¹ Since then, the parties have been unsuccessful in coming to an agreement on a new MAA.
2. On 22 August 2014, the City filed an application with the Commission in which it requested interim and final relief regarding a proposed MAA with Bell Canada.²
3. Regarding interim relief, the City requested that the Commission prohibit Bell Canada from further constructing or maintaining its infrastructure in the municipality until either Bell Canada and the City agree to a new MAA, or the Commission approves the terms and conditions of the City's proposed MAA. The Commission denied the City's request for interim relief by letter dated 8 June 2015.
4. Regarding final relief, the City requested that the Commission approve the terms and conditions of the City's proposed MAA with Bell Canada. Among other objectives, the proposed MAA would establish performance requirements and set out new provisions governing non-performance. These provisions were proposed with a view to compel Bell Canada to adhere to what the City referred to as good, industry-

¹ An MAA sets out the terms and conditions of a carrier's access to highways and other public places under a municipality's jurisdiction that is required to provide telecommunications services, including broadcasting services, to the public.

² While the application was filed on 22 August 2014, it was only posted on the Commission's website on 13 January 2015 due to disputes over the confidential nature of certain information filed as part of the application. The Commission addressed which documents were not to be disclosed on the public record in a letter dated 19 December 2014.

recognized engineering practices as a condition of obtaining consent to conduct works in the City's public rights-of-way (ROWs).

5. Bell Canada submitted that the City's arguments ignore the extensive work and success of the Model MAA.³ Bell Canada requested that the Commission direct the parties to negotiate using the Model MAA consensus items⁴ as a baseline for negotiations, which would enable the parties to discuss whether there are unique circumstances that warrant departures from any specific clauses set out in the Model MAA.
6. The Commission received interventions relating to the merits of the City's application from Allstream Inc.; the Federation of Canadian Municipalities; and Quebecor Media Inc., on behalf of Videotron G.P. The public record of this proceeding, which closed on 24 July 2015, is available on the Commission's website at www.crtc.gc.ca or by using the file number provided above.

Issues

7. A significant number of issues were raised on the record of this proceeding. The Commission considers that the following matters must be addressed in detail:
 - the inclusion of the term "other public places" in the MAA's introductory recitals;
 - the definition of the term "Work" in the MAA; and,
 - the allocation of costs associated with municipality-initiated facility relocations in the MAA.
8. Matters in dispute not related to the issues identified above are addressed in the Appendix to this decision.

³ The Model MAA was developed by the CRTC Interconnection Steering Committee (CISC) Municipal Access Working Group (MAWG), a group composed of municipal, industry, and Commission representatives. The Commission approved the Model MAA in Telecom Decision 2013-618.

⁴ In the Model MAA, the clauses on which the CISC MAWG participants agreed are referred to as "consensus items." "Non-consensus items" refer to clauses on which there was no agreement. In Telecom Decision 2013-618, the Commission determined that in the absence of specific disputes over access to municipal ROWs, it may not be appropriate for it to provide specific wording for the non-consensus items.

The principles applied by the Commission to resolve disputed terms of access

9. As noted above, this proceeding was initiated by the City, which sought Commission approval of its proposed MAA. Bell Canada's position is that the Commission should direct the parties to negotiate using the Model MAA as a baseline for negotiations, and that the City should be required to justify every instance in which it proposes to deviate from the Model MAA.
10. The Model MAA was never intended to be binding. It was developed and is intended to be a resource to assist parties in reaching mutually acceptable agreements, and may also serve as a useful resource for the Commission when it is required to adjudicate disputes such as this one.
11. In making its determinations, the Commission has applied the guiding principles established in Decision 2001-23, in which the Commission addressed an MAA dispute involving Leduc Industries and the City of Vancouver (the Leduc decision). This includes the principle of cost neutrality, i.e. that costs directly related to a carrier's infrastructure should be paid by the carrier, not municipal taxpayers. The Commission has acknowledged, however, in both Telecom Decision 2008-91 (the Baie-Comeau decision) and Telecom Regulatory Policy 2009-150 (the Vancouver decision) that it is appropriate to deviate from this principle in certain instances, such as when the costs are incurred as a result of municipality-initiated relocation of facilities.

The inclusion of the term "other public places" in the agreement's introductory recitals

12. The City included the following recital in its proposed MAA:

AND WHEREAS the Company wishes to construct, install and maintain its Equipment in, on, under, over, either along or across ("Within") highways, streets, road allowances, lanes, bridges or viaducts of the Municipality (singularly a "Highway" and collectively, the "Highways").

13. Bell Canada submitted that the words "or other public places" should be included, so that the recital would read "[...] highways, streets, road allowances, lanes, bridges, viaducts or other public places of the Municipality [...]" to reflect the wording in subsection 43(2) of the *Telecommunications Act* (the Act).⁵
14. Bell Canada stated that the City's consent to construct, including in other public places, is obtained through the permitting process, and that the City's proposed MAA contains a section (Section 6) that gives the City Commissioner the discretion to

⁵ Subsection 43(2) of the Act states that subject to subsections (3) and (4) and section 44, a Canadian carrier or distribution undertaking may enter on and break up any highway or other public place for the purpose of constructing, maintaining or operating its transmission lines and may remain there for as long as is necessary for that purpose, but shall not unduly interfere with the public use and enjoyment of the highway or other public place.

refuse any permit for any reason, acting reasonably. Bell Canada also submitted that its proposed wording is similar to the wording contained in the Model MAA, which also includes the term “other public places.”

15. The City argued that the words “or other public places” should not be incorporated since unique circumstances exist for lands that are owned by the City but are outside of established ROWs captured by its proposed wording. The City cited cemeteries as an example. The City submitted that its proposed MAA contemplates and primarily deals with access to established municipal ROWs (e.g. highways, streets, and roads), not other public places. It further indicated that other public places, such as cemeteries and parklands, are dealt with and managed separately by the City’s Real Estate division.

Commission’s analysis and determinations

16. In the Vancouver decision, the Commission acknowledged that the term “other public places” is potentially broad in scope. Further, it was not clear whether the terms and conditions of access to highways would necessarily be appropriate with respect to all “other public places.” The Commission therefore determined that if the parties disagreed in the future as to whether a particular location qualifies as an “other public place,” an application could be made to the Commission for resolution of the dispute.
17. The Commission agrees with the City that in the present case, the terms and conditions applicable to public places, such as highways, streets, and roads, may not necessarily be appropriate with respect to access to other types of public places, such as cemeteries and parklands. Given this, and the potential breadth and scope of the term “other public places,” the MAA should not automatically apply to all other public places.
18. While the terms and conditions contained in the proposed MAA should automatically apply to access by Bell Canada to Highways, as defined in the agreement, the MAA should apply to other public places only when the City and Bell Canada agree to this application. In cases of access to other public places to which the parties agree that the MAA should not apply, the parties are to enter into a new agreement specific to these places.
19. As noted by Bell Canada, Section 6 of the proposed MAA already provides the City Commissioner with the discretion to refuse any permit for any reason. However, to decide whether the MAA should apply to a specific “other public place,” Bell Canada and the City should be given the opportunity to reach an agreement, instead of being subject to a unilateral decision, as is the case when the City Commissioner exercises its power under Section 6.
20. Disagreements on whether a particular location is an “other public place” requiring a new and specific agreement, or whether the terms and conditions in the MAA are appropriate for such places, as well as disagreements on the specific terms of access to be included in any new and specific agreement, can be addressed through agreed-upon arbitration or by way of recourse to the Commission.

21. The recital in question will therefore read as follows:

AND WHEREAS the Company wishes to construct, install and maintain its Equipment in, on, under, over, either along or across (“Within”) highways, streets, road allowances, lanes, bridges or viaducts of the Municipality (singularly a “Highway” and collectively, the “Highways”).

The definition of the term “Work”

22. The City proposed the following definition of the term “Work” as part of its proposed MAA:

“**Work**” means, but is not limited to, any installation, removal, construction, maintenance, repair, replacement, relocation, excavation, adjustment or other alteration of Equipment Within a Highway.

23. Bell Canada argued that the City’s proposed definition is overly broad and, if adopted, would result in imposing on the carrier a requirement to obtain the City’s consent for a number of activities that do not require consent under the Act. Bell Canada argued that subsection 43(3) of the Act requires that a carrier obtain consent from a relevant public authority to proceed with *construction* of its network where such construction takes place on, over, under or along a public place, but does not require that consent be obtained for other purposes.

24. Bell Canada argued for a definition that would be limited to work that requires prior consent from the municipality (i.e. construction), and suggested the following:

“**Work**” means construction for the installation, removal, maintenance, repair, replacement, relocation, excavation, adjustment or other alteration of Equipment Within a Highway.

25. However, Bell Canada also indicated that it would be willing to accept the definition of “Work” from the Model MAA if that definition were accompanied by a schedule similar to Schedule B of the Model MAA, thereby limiting the scope of activities that would be subject to a requirement to obtain a permit from the City.⁶

26. Pursuant to the Model MAA, “Work” is defined as follows:

“**Work**” means, but is not limited to, any installation, removal, construction, maintenance, repair, replacement, relocation, operation, adjustment or other alteration of the Equipment performed by the Company Within the ROWs, including the excavation, repair and restoration of the ROWs.

⁶ Schedule B indicates the types of permits/consent that a carrier requires from a municipality (i.e. Municipal Consent, Road Occupancy Permit, or Notification Only) prior to commencing different types of work activities.

27. The City recognized that some of the activities it seeks to capture within its definition go beyond activities related to active construction. However, it submitted that Bell Canada's proposed definition is too narrow in that it would not account for the costs and challenges that the City would face in cases where it is required to make adjustments or work around Bell Canada's older infrastructure in the process of moving forward with its own activities.
28. The City argued that its proposed definition is critical to its objective of ensuring that the cost impact of Bell Canada's activities in the City's ROWs is properly accounted for. The City submitted that Bell Canada's proposed definition is contrary to the principle reflected in the Ledcor decision that a municipality is entitled to recover costs it incurs as a result of the presence of a carrier's facilities.

Commission's analysis and determinations

29. The City's proposed definition of "Work" is very similar to the definition found in the Model MAA, which Bell Canada indicated it is willing to accept, provided there is a reference to the limited types of work that require the City's consent.
30. Sections 6 to 8 of the City's proposed MAA already address the issue of when the City's consent is required. Specifically, Section 8 is clear that consent is not required for some types of work, including routine maintenance, field testing, subscriber connections, or any work necessary to restore and/or maintain uninterrupted services in the event of an emergency. Accordingly, a reference to the limited types of work that require the City's consent is not explicitly needed since the City's proposed MAA already contains provisions addressing that issue.
31. In light of the above, the definition of "Work" to be included in the MAA between the City and Bell Canada will read as follows:⁷

"Work" means, but is not limited to, any installation, removal, construction, maintenance, repair, replacement, relocation, operation, adjustment or other alteration of the Equipment performed by the Company, or on its behalf, Within a Highway, including the excavation, repair and restoration of the Highways.

The allocation of costs associated with municipality-initiated facility relocations

32. On the issue of how costs associated with municipality-initiated relocation of Bell Canada's facilities should be allocated between Bell Canada and the City, the City proposed a seven-year sliding scale approach similar to the ten-year one approved by the Commission in the Vancouver decision (the Vancouver Model), albeit with a difference in the percentage of the costs the City would pay over time. Under this proposed approach, the percentage of the relocation costs to be paid by the

⁷ The term "ROWs" from the Model MAA's definition is being replaced with the term "Highways" to be consistent with the terminology used in the rest of the City's proposed MAA.

municipality is determined by the number of years since the assets were originally installed, diminishing to zero percent after year seven.

33. The City submitted that its proposed approach was predictable, certain, and based upon a pre-determined cycle of diminishing responsibility by the City for the cost of relocating Bell Canada's infrastructure. This approach, in turn, requires Bell Canada to properly plan its infrastructure works with the City's medium- and long-term planning windows in mind. Furthermore, a sliding scale approach was used in the last MAA between the City and Bell Canada. The City submitted that it has made numerous assumptions in its budgeting for a number of years based upon its calculated exposure under the sliding scale approach.
34. Bell Canada acknowledged that it has signed many past agreements that use a sliding scale approach to allocate responsibility for costs resulting from municipality-initiated relocation of the company's infrastructure. However, the company submitted that it no longer considered such an approach to be appropriate. It argued that the City's proposed sliding scale arbitrarily depreciates telecommunications infrastructure. While Bell Canada agreed to compensate municipalities for their costs associated with its work, it is also seeking to more precisely recover its own costs for relocating its facilities where such relocation is initiated by the City.
35. Bell Canada argued that section 27(b) of the City's proposed MAA already addresses the City's concerns about Bell Canada not properly planning its infrastructure works with the City several years into the future. It submitted that this clause relieves the City of any obligation for reimbursement if Bell Canada is notified at the time of a permit application that a proposed installation may need to be relocated within the next three years and Bell Canada proceeds with the installation nonetheless. Bell Canada submitted that given the existence of this clause, the City is already protected from compensating the company for relocating infrastructure installed in a location that potentially conflicts with the City's three-year capital plan.
36. Bell Canada therefore argued for the model approved in the Baie-Comeau decision regarding the allocation of costs incurred to relocate TELUS Communications Company's facilities in the City of Baie-Comeau where such relocation is initiated by that city (the Baie-Comeau Model). The Baie-Comeau Model calculates and allocates relocation costs based on the ages of the specific assets being relocated, in proportion to the remaining useful life of each asset.⁸ Bell Canada submitted that this model has the benefit of being objective, unlike the Vancouver Model.
37. The City argued that the Baie-Comeau Model is complex and expensive, and would compel the City to rely upon Bell Canada's life-cycle and costing claims, verify such claims itself, or seek the assistance of third-party experts.

⁸ The useful life of each specific asset captured by the Baie-Comeau decision can be found in Telecom Decision 2008-14, in which the Commission determined, among other things, the appropriate asset lives to be used in regulatory economic studies.

Commission's analysis and determinations

38. In making its determinations, the Commission has considered the principle of cost neutrality reflected in the Ledcor decision, i.e. that costs directly related to a carrier's infrastructure should be paid by the carrier, not municipal taxpayers. The Commission has acknowledged, however, in both the Baie-Comeau and Vancouver decisions, that it is appropriate, in certain circumstances, to deviate from this principle with regard to imposing liability for costs. In Decision 2001-23, the Commission indicated that the following factors would generally be relevant in allocating costs between the carrier and the municipality:
- who has requested the relocation (i.e. the municipality, the carrier, or a third party);
 - the reason for the requested relocation (e.g. safety, aesthetics, or to better serve customers); and,
 - the date on which the request is made compared to the date of original construction (e.g. whether the request is made a considerable length of time after the original construction, or very shortly thereafter).
39. While both models proposed by the parties reflect the principle of cost neutrality to the municipality, the time period for accomplishing each differs.
40. Under the sliding scale approach, there is a complete deviation from the cost neutrality principle in the first few years, when the City is responsible for 100% of the relocation costs. The reasoning is that the City should, within its planning process, reasonably know whether the infrastructure it is authorizing to be installed will have to be relocated within the near future. Considering that with each additional year, it becomes more difficult for the City to foresee whether relocation will be required, the sliding scale approach diminishes the level of the City's responsibility over time. After a set number of years, the City is no longer responsible for any of the relocation costs, meaning the principle of cost neutrality for the City is once again applied.
41. While the Baie-Comeau Model is also a deviation from the cost neutrality principle, the amount of time before cost neutrality is once again applied is strictly related to the useful life of the specific asset being relocated, not the number of years since the asset was originally installed. Under the Baie-Comeau Model, cost neutrality for the City is once again obtained only in cases where the asset to be moved has reached or exceeded its estimated life, which is different for each asset involved.
42. The City and Bell Canada already understand the sliding scale approach, since it was applied in the last MAA between the parties. Also, under this approach, the date of installation, which can be tracked by both parties, is the key factor used to calculate the percentage of relocation costs each party will pay, heavily recognizing the City's accountability in the initial years. This approach also recognizes that the City is unable to reasonably plan around relocations during the entire life of an asset.

43. Under the sliding scale approach, the City bears costs for only a limited, pre-set number of years even though the relocations are City-initiated. However, the Baie-Comeau Model enables a carrier to be compensated during the entire duration of an asset's useful life, in most cases well beyond any reasonable time frame for planning by the City.
44. The circumstances surrounding the Baie-Comeau decision were fact-specific. Among other things, the specific assets at the heart of the associated dispute had been identified by the parties prior to the Commission determining the methodology to be used. In the present case, considering that the MAA between the City and Bell Canada will be in place until at least 2020, the assets that may need to be relocated in the future are presently unknown.
45. In addition, the Baie-Comeau Model, as applied to an open-ended and forward-looking municipal access agreement, would not give proper recognition to the broader partnership between carriers and municipalities, which benefits both parties. Carriers benefit from having in place the required infrastructure to serve as many customers as possible. As for municipalities, and as the Commission indicated in the Leducor decision, "[the] economic base that such facilities support provides generalized benefits throughout the municipality, attracting industry, creating jobs, increasing tax revenue, etc."
46. In light of the above, the sliding scale approach is best suited to the circumstances surrounding this application.
47. The Commission disagrees, however, with the City's proposed seven-year sliding scale since under that model, the City bears 50% or less of the relocation costs starting at just year six, and 0% for year eight onwards. Under the Vancouver Model, the City would pay 35%, 20%, and 10% of the relocation costs for years eight, nine, and ten, respectively.
48. Since the relocations under consideration are initiated by the City, the City should bear appropriate costs for a commensurate period of time, which it fails to do under the proposed seven-year sliding scale.
49. Further, while the 10-year sliding scale used in the Vancouver decision was appropriate considering the specific facts of the associated dispute, it is not appropriate in the present case. Pursuant to the list of assets identified in Telecom Decision 2008-14, 16 years represents the shortest length of the useful life of Bell Canada's assets that are likely to be affected by relocation initiated by the City over the lifetime of the MAA.⁹
50. Accordingly, it would be appropriate to have a 16-year sliding scale to more accurately reflect the mutual benefits derived from the partnership between carriers

⁹ Assets that are likely to be affected by relocation include, but are not limited to, underground, aerial, and buried cables; underground, aerial, and buried fibre optic; as well as poles, lines, and conduits.

and municipalities, without placing undue limitations on either party to plan future investments. Under this sliding scale, the City is primarily responsible for relocation costs in the first five years, following which its responsibility linearly diminishes to zero by the end of the 16th year.

51. Consistent with the Vancouver Model, the City will pay 100% of the costs in the first three years, because it is reasonable for the City to know whether the infrastructure it is authorizing to be installed will have to be relocated within those three years. After the first three years, the percentages will decrease approximately linearly over the remaining thirteen years of the scale.
52. Accordingly, wording of Section 25 of the MAA between the City and Bell Canada will read as follows:

In the case of a Municipality-initiated requirement to relocate a Company facility, the following schedule is to be used to allocate costs directly attributable to such relocation. These costs include, but are not limited to, depreciation, betterment and salvage costs.

Year(s) After Installation of Equipment	Percentage of Relocation Costs Paid by Municipality
1	100%
2	100%
3	100%
4	90%
5	80%
6	70%
7	65%
8	60%
9	55%
10	45%
11	40%
12	35%
13	30%

Year(s) After Installation of Equipment	Percentage of Relocation Costs Paid by Municipality
14	20%
15	10%
16	5%
17 onwards	0%

Consistent with previous Commission determinations,¹⁰ where costs directly attributable to a Municipality-initiated requirement to relocate a Company facility are incurred as a direct result of work undertaken by or on behalf of the Municipality for beautification, aesthetics, or other similar purposes, such costs are to be entirely borne by the Municipality. These costs include, but are not limited to, the depreciation, betterment and salvage costs.

Specific wording to be used for other disputed articles or provisions in the MAA

53. Set out in the Appendix to this decision are the Commission's determinations on the wording for other disputed provisions that have not been addressed above.

Conclusion

54. The Commission **approves** the City's proposed MAA, as set out in Appendix C of the City's application, subject to the modifications set out in this decision.
55. Notwithstanding this approval, the City and Bell Canada are free to negotiate departures from the Commission-approved MAA, should both parties agree to do so. Any agreed-upon changes would not need to be approved by the Commission.

Policy Direction

56. The Policy Direction¹¹ states that the Commission, in exercising its powers and performing its duties under the Act, shall implement the policy objectives set out in section 7 of the Act, in accordance with paragraphs 1(a), (b), and (c) of the Policy Direction.

¹⁰ See Telecom Decision 2007-100 and Telecom Regulatory Policy 2009-150.

¹¹ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, P.C. 2006-1534, 14 December 2006

57. Subparagraphs 1(a)(ii)¹² and 1(b)(i)¹³ of the Policy Direction apply to the Commission's determinations in this decision.
58. In compliance with subparagraph 1(b)(i) of the Policy Direction, the Commission's findings in this decision advance the policy objectives set out in paragraphs 7(a), (b), (c), (e), (f), and (h)¹⁴ of the Act. Because the parties have reached an impasse and further negotiations cannot be expected to be productive, market forces alone cannot be relied on to achieve the policy objectives. Consistent with subparagraph 1(a)(ii), in pronouncing upon only those conditions of access that were in dispute between the parties, the Commission relied on regulatory measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives. In light of the foregoing, the Commission considers that its determinations in this decision are consistent with the Policy Direction.

Secretary General

¹² Subparagraph 1(a)(ii) states that the Commission, when relying on regulation, should use measures that are efficient and proportionate to their purpose and that interfere with the operation of competitive market forces to the minimum extent necessary.

¹³ Paragraph 1(b) states, among other things, that the Commission, when relying on regulation, should use measures that satisfy the following criteria, namely, those that (i) specify the telecommunications policy objective that it advanced by those measures and demonstrate compliance with the Policy Direction.

¹⁴ The cited policy objectives of the Act are 7(a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions; (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada; (c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications; (e) to promote the use of Canadian transmission facilities for telecommunications within Canada and between Canada and points outside Canada; (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective; and (h) to respond to the economic and social requirements of users of telecommunications services.

Related documents

- *CISC Model Municipal Access Working Group – Report on a Model Municipal Access Agreement*, Telecom Decision CRTC 2013-618, 21 November 2013
- *MTS Allstream Inc. – Application regarding a Municipal Access Agreement with the City of Vancouver*, Telecom Regulatory Policy CRTC 2009-150, 19 March 2009
- *Application by the City of Baie-Comeau regarding costs to relocate TELUS Communications Company's telecommunications facilities*, Telecom Decision CRTC 2008-91, 19 September 2008
- *Review of certain Phase II costing issues*, Telecom Decision CRTC 2008-14, 21 February 2008; as amended by Telecom Decision CRTC 2008-14-1, 11 April 2008
- *Shaw Cablesystems Limited's request for access to highways and other public places within the District of Maple Ridge on terms and conditions in accordance with Decision 2001-23*, Telecom Decision CRTC 2007-100, 25 October 2007
- *Ledcor/Vancouver – Construction, operation and maintenance of transmission lines in Vancouver*, Decision CRTC 2001-23, 25 January 2001

Appendix to Telecom Decision CRTC 2016-51

Section no. (City's proposed MAA)	Section wording as determined by the Commission	Commission rationale
1(e)	"Contractor" includes subcontractors, workers, suppliers and material men;	Excluded "agents" from the definition of "Contractor" to reflect the use of these separate terms in other provisions of the MAA.
1(k)	<i>Keep wording as proposed by the City in its proposed MAA</i>	While the inclusion of the words "includes, but not limited to ..." may appear to define "Normal Activities" broadly, the activities are still limited to "activities the Municipality undertakes on a regular basis."
2	This Agreement shall be deemed effective on the publication date of Telecom Decision CRTC 2016-51 and shall, unless earlier terminated in accordance with this Agreement, expire four (4) years after the first day of the month in which the Agreement is deemed effective. This Agreement shall automatically renew for up to two (2) consecutive renewal periods of five (5) years each unless either the Municipality or the Company gives written notice of its intention not to renew to the other party not less than six (6) months prior to the expiration of this Agreement or any renewal term thereof, following which all rights and privileges hereunder shall come to an end, save and except for the Company's continued use of the Highways and the Company's and Municipality's applicable obligations pursuant to Sections 15, 17, 20-27 and 30-41 of this Agreement.	In interrogatory replies, parties agreed to an initial 4-year term.
8	Despite Section 6 and Section 7, the Company may carry out routine	Removed "complies with Section 7" and replaced it

	<p>maintenance, field testing and subscriber connections without the consent of the Commissioner, but in no case shall it carry out any physical disruption or change to the Highway or its use, without the Commissioner's prior written consent, not to be unreasonably withheld. In the event of an Emergency, the Company shall be permitted to carry out such remedial work as is reasonably necessary to restore and/or maintain uninterrupted services, providing the Company provides notification to the Commissioner within two (2) Business Days of completing the Work.</p>	<p>with "provides notification to the Commissioner."</p> <p>To comply with Section 7 as originally drafted, Bell Canada would have to obtain written consent prior to commencing work. However, Section 8 specifically deals with routine and emergency maintenance for which Bell Canada is not required to obtain prior consent.</p> <p>The new wording removes that contradiction.</p>
9(b)	<p>the Company shall provide the Municipality with contact details and have available at all times, within a reasonable time frame, a Company representative responsible for each location of Work;</p>	<p>Given the extent of its operations, it would be unreasonable for Bell Canada to have company employees attending all locations where work is being performed by a contractor.</p>
9(d) and (e)	<p>On-going inspections, and/or follow-up monitoring, of the Company's installations and Work, for conformance with the terms and conditions of a Road Occupancy Permit, may be conducted by the Municipality, as the Municipality deems reasonably necessary, at a cost shared equally between the Municipality and the Company;</p>	<p>This wording replaces the City-proposed wording for Sections 9(d) and (e).</p> <p>Having the cost shared equally between the parties puts an additional onus on the City to be reasonable in conducting the inspections, while encouraging Bell Canada to perform its work in such a way that the City will not feel the need to have the work inspected.</p>
9(h)	<p>if the Company breaks the paved surface of a Highway, it shall forthwith</p>	<p>Reflects wording agreed upon by the parties during</p>

	temporarily repair and restore the surface of the Highway to substantially the same condition it was in before such Work was undertaken by the Company in accordance, without limitation, with the Municipality's Procedure for the Installation of Utilities on Road Allowances, as amended from time to time, and to the reasonable satisfaction of the Commissioner;	interrogatory replies.
9(k)	if the Municipality requires the Work to be stopped for any bona fide municipal purpose, cause relating to public health and safety, special events, any circumstances beyond its control or any reasonable reason having regard to the public interest in having access to communications services, including 9-1-1 access services, the Company shall cease all such Work forthwith upon receipt of verbal notice from the Municipality, which notice shall include the reason for the Work stoppage. Within two (2) business days of issuing a verbal stop-work order under this subsection, the Commissioner will provide to the Company written reasons for such order and advise the Company as to when the stop-work order may reasonably be lifted. Upon the Municipality lifting the stop-work order and immediately advising the Company of same in writing, the Company may immediately resume its Work under the existing approval;	<p>Adding "having regard to the public interest in having access to communications services, including 9-1-1 access services" will serve to limit the scope of the discretion afforded to the City in recognition of the importance of public interest in ensuring continued access to telecommunications services, while still providing the City with the flexibility to issue a stop-work order when public health and safety, special events, or any circumstances beyond the City's control are not the primary reason(s) for issuing the order.</p> <p>The last sentence imposes on the City an obligation to not only lift the stop-work order once the conditions have cleared, but to immediately advise Bell Canada that the stop-work order has been lifted.</p>
12	Upon request of the Municipality at the time of the municipal consent application, the Company shall provide to the Municipality, at the Company's expense	Removed reference to Bell Canada's 3-year capital forecast in light of evidence to the effect that the

	<p>and within two (2) months of completing the construction or installation of any of the Equipment, “as-constructed” record drawings in an electronic format compatible with the UCC’s [Utilities Coordinating Committee] utility plan registry.</p> <p>Upon request from the Company, and subject to any licensing restrictions relating to the release of information, any available licensing digital ortho-imagery and/or mapping shall be provided by the Municipality to the Company at the Municipality’s expense for the Company’s use as a base map on which to submit permits to the Municipality.</p> <p>The Company shall, at the request of the Commissioner to support the development and improve the accuracy of the utility plan register, provide to the Municipality, in a format satisfactory to the Municipality, a listing or record of the location of Equipment installed, altered, relocated, or removed by it or on its behalf in the Highways to the date of such request.</p> <p>All information supplied shall only be used for facilitating the Commissioner’s conduct of planning and issuance of Work permits. The information must be protected through reasonable measures and must not be shared beyond those who require it for the purposes described above, nor must it be used for any other purpose or combined with other information.</p>	<p>company does not maintain such a forecast.</p> <p>Added wording to specify which party would be responsible for specific expenses with a view to treating costs in a symmetrical manner.</p> <p>The last paragraph addresses confidentiality concerns raised on the record of this proceeding.</p>
13(b)	<p>The locates provided by the Company to the Municipality for pre-design shall contain sufficient design information and survey detail as reasonably required by the Commissioner, such as line and elevation of the Equipment within the alignments, but excluding information on depth. If the</p>	<p>Addresses the concern that information on Bell Canada’s installations is, in some cases, either incomplete or non-existent.</p> <p>The wording of this section is adjusted based on a</p>

	Company is unable to provide either the line or elevation information within an agreeable time frame, the Municipality may invoice the Company for any costs reasonably incurred by the Municipality in determining the line or elevation of the Equipment within the alignments.	similar MAA section approved by the Commission in Telecom Regulatory Policy 2009-150 to prevent Bell Canada from having to provide the City with a level of detail that is beyond industry practice.
16	Removed	<p>There are detailed provisions throughout the MAA dealing with cost allocation and recovery, including relocation costs and costs incurred by the City in issuing permits.</p> <p>Regarding the costs not accounted for in the remaining sections, such as costs associated with administering the agreement, those correspond to normal costs that any municipality should expect to incur to enable service providers to serve its residents and businesses.</p> <p>While the administration of the MAA, and therefore the presence of Bell Canada on the City's territory, may result in an initial cost to the City, such presence is necessary and economically beneficial to the City.</p>
18(b)	Lost parking meter revenue (net revenue loss);	As indicated in the Ledcor decision, a reasonable estimate of the causal impact of parking meters being taken out of service must represent the net loss of revenue, not the gross

		loss.
20	Upon receipt of no less than ninety (90) days' written notice from the Municipality or such other time as is reasonable having consideration for the complexity and nature of the Work required to complete the relocation and for the minimizing of the potential for service losses or interruptions that may affect the Company's customers, the Company shall relocate or commence to relocate its Equipment within a Highway. The Municipality will make a good faith effort to avoid damage to the Equipment affected by the relocation and to assist the Company in its efforts to ensure uninterrupted service to its customers.	Parties agreed to change the written-notice requirement to 90 days.
21	Adjustment of Equipment located in the Highway to accommodate a regrading, elevation adjustment or resurfacing activity by the Municipality is considered relocation, and the allocation of costs is to be determined in accordance with Section 25.	Such an adjustment should be addressed in the same way as a City-initiated relocation request as set out in Section 25 of the MAA, since the adjustment is the result of a City-initiated activity.
22	<i>Keep wording as proposed by the City in its proposed MAA</i>	This section deals with the actual relocation of Bell Canada facilities and is not repetitive of section 9(j), which addresses repairs linked to restoration work.
23	<i>Keep wording as proposed by the City in its proposed MAA</i>	The City should have the discretion to relocate equipment and recover the costs from Bell Canada, regardless of the type of situation, if Bell Canada has not responded appropriately according to the provisions

		of this agreement.
24	The Municipality will make a good faith effort to provide and approve alternative suggestions, wherever possible, for rerouting the Equipment within the Highway affected by the relocation to ensure uninterrupted service to the Company's customers. However, the Municipality cannot guarantee uninterrupted service to the Company or the Company's customers during relocation, nor is the Municipality responsible for the quality of service offered by the Company to its customers during relocation.	Section takes into consideration the fact that while the City is not responsible for ensuring that Bell Canada's services are available during relocations, all efforts should be taken to limit, as much as possible, the impact of relocation on Bell Canada's customers.
26	Prior to commencing any relocation Work, the Company shall supply to the Municipality a good faith estimate and a project plan that outlines the labour, material, Equipment, and scheduling, and that identifies the project manager for such relocation Work. The Municipality shall be entitled to review and approve the Company's proposed relocation Work and costs, and the Company shall adhere to its costs estimates for said relocation Work. The Company shall not submit any additional costs to the Municipality without the prior written consent of the Municipality. Such written consent must not be unreasonably refused by the Municipality, having regard to the actual costs incurred to perform the Work and the extent to which such additional costs were reasonably foreseeable at the time the estimate and project plan were provided to the Municipality.	This section provides the City with more cost certainty upfront, while still allowing Bell Canada to recoup costs that were not reasonably foreseeable at the time of the initial estimate provided to the City.
27(f)	in no event shall the Municipality be responsible in any way for costs incurred for relocating Equipment that is not installed in the location approved by the Municipality, it being understood that the Municipality shall not be entitled to rely on	This section will require the City to be reasonably flexible if Equipment is installed outside the location approved by the City but within a reasonable

	<p>deviations that are minimal and do not have a material impact on the Municipality, financial or otherwise, in order to avoid responsibility for costs associated with the relocation. Where records are non-existent or Highway conditions may have changed, the parties agree to act reasonably in allocating relocation compensation;</p>	<p>margin of error and without a material impact on the City.</p>
28 and 29	<p>Every time the Company fails to comply with the terms and conditions of this Agreement, the Municipality shall provide written notice to the Company of its non-compliance whereupon the Municipality may suspend the Road Occupancy Permit until a Resolution Plan in respect to curing the non-compliance is agreed to by the Company and the Municipality in writing. Starting on the second event of non-compliance per Road Occupancy Permit, the Company shall deposit security in the form of a Letter of Credit with the Municipality, naming the Municipality as beneficiary, within five (5) business days of the Resolution Plan being agreed to by the Company and the Municipality. The amount of security shall be determined by the Commissioner, having regard to an amount that is proportional to the work being undertaken, and in no case shall the security be less than \$10,000 unless agreed to by the parties. The Company shall deposit with the Municipality only one Letter of Credit per Road Occupancy Permit, regardless of the number of non-compliances associated with a given Road Occupancy Permit.</p> <p>If any non-compliance is not cured within ten (10) business days of the Resolution Plan being agreed to by the Company and the Municipality, the Municipality may draw on the Letter of Credit the amount required to cover the Municipality's reasonable costs to cure the non-</p>	<p>This wording replaces the proposed wording of Sections 28 and 29, and merges these sections into one section.</p> <p>This new section addresses the need for the establishment of proper incentives (which, in this section, include the potential permit suspension) to promote compliance. It also applies the principle of cost neutrality for the City by giving some assurance that should any non-compliance result in a financial burden on the City, it will have quick access to funds from Bell Canada to cover any related financial shortfall.</p> <p>Both the possibility of having the Road Occupancy Permit suspended until a Resolution Plan is agreed upon and having to deposit security in the form of a Letter of Credit in the amount of no less than \$10,000 will provide appropriate incentives to better ensure compliance with the terms and</p>

	<p>compliances. The security, or remaining of, if any, shall be released by the Municipality within five (5) business days after the Municipality's acceptance of the completion of the Company's final restoration Work to the Highway associated with the Road Occupancy Permit.</p>	<p>conditions of this Agreement.</p> <p>Any financial penalty for non-compliance, as originally proposed by the City, would amount to an unjustified source of revenue, and not simply a way to achieve cost neutrality for the City.</p>
38	<p>Claims reported to the Company by a third party or by the Municipality (a "Claimant") shall be promptly investigated by the Company. The Company will report the claim to its claims adjuster(s) and/or insurer(s). The Company will take all reasonable measures to ensure that the Company's claims adjuster(s) and/or insurer(s) initiate an investigation of the claim immediately upon notice, and advise the Claimant by letter of its position regarding resolution as soon as practicable. The Company or its claims representative or insurer shall include in its letter of resolution the reasons for its position. Failure to follow this procedure shall permit the Municipality to appoint an independent adjuster to investigate the claim at the expense of the Company.</p>	<p>This wording is based on Bell Canada's proposed text. The Commission agrees with Bell Canada that it cannot dictate to its insurers how to settle claims.</p>



August 25, 2020

Our File: 06-2430-20/18-10/1

Doc #: 3812227.v1

E-FILED

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Vancouver, BC V6C 2N3

Attention: Marija Tresoglavic, Acting Commission Secretary

**Re: City of Coquitlam ("City") Evidence for Phase Two
FortisBC Energy Inc. ("FEI") - Application for Use of Lands under Sections 32
and 33 of the *Utilities Commission Act* in the City of Coquitlam for the Lower
Mainland Intermediate Pressure System Upgrade ("LMIPSU") Project
Project No. 1598963**

Dear Ms. Tresoglavic:

I am writing to submit additional evidence in the BCUC proceeding to reconsider Order G-80-19 concerning FEI's LMIPSU Project in Coquitlam.

Introduction

I understand that the remaining issue under reconsideration by the BCUC in this proceeding is the following portion of Directive #2 of Order G-80-19:

"...upon request by the City in circumstances where it interferes with municipal infrastructure, the costs of removal of any portion of the decommissioned NPS 20 Pipeline shall be shared equally between FEI and the City"

City of Coquitlam

3000 Guildford Way

Coquitlam, BC Canada V3B 7N2

Reception Desk: 604-927-3000

     | coquitlam.ca

August 25, 2020

Page 2

I also understand that the BCUC has indicated that in reconsidering the above determination the BCUC will take into account evidence from both the original proceeding and this current reconsideration proceeding.¹

I previously filed evidence in the original proceeding on October 31, 2018, a copy of which is enclosed with this evidence submission for convenience.

I confirm that my core responsibilities as the Manager of Design and Construction in the City's Engineering and Public Works Department continue to be as described in my previous evidence. I have now held this position for 14 years. I also confirm that there have been no pertinent changes since October 2018 that have affected my prior evidence with respect to the removal of the decommissioned NPS 20 pipes, and I repeat and rely on that evidence at this stage in the BCUC proceedings.

Summary of the City's Position

The City's position remains that if the BCUC has jurisdiction to allow FEI to abandon its decommissioned NPS 20 pipes in Como Lake Avenue at least for the time being until the BCUC decides that the pipes will be removed to accommodate a City works project or an infrastructure project of a third party, it is not fair or reasonable to require the City to pay a portion of FEI's costs of removing its pipes.

Further, if the BCUC has such jurisdiction and allows FEI to abandon its decommissioned NPS 20 pipes in Como Lake Avenue subject to the BCUC directing FEI to remove portions of the pipe on a case-by-case basis as needed to accommodate infrastructure projects of others that the BCUC deems to be necessary, the City's position is that FEI

¹ Order G-202-20 Decision, page 3.

August 25, 2020

Page 3

should be required to pay any and all incremental costs of the City that result from FEI's decommissioned pipes remaining in Como Lake Avenue, including the additional costs the City will incur when the pipes have to be removed.

Removal of FEI's NPS 20 Pipe

The BCUC's decision implies that to avoid requests for FEI to remove portions of its NPS 20 pipes that might be considered unnecessary or unreasonable, for undefined reasons, there should be a financial disincentive to the City making such a request. No reasons were given as to why it would be appropriate to apply the 50% cost sharing order to NPS 20 pipe removals that are necessary.

In my evidence of October 31, 2018, I expressed that the NPS 20 pipes are occupying space that is needed now or will be needed in the future.

The space occupied by the decommissioned NPS 20 pipes will be needed because the projected and planned growth of the City will require new utilities to be installed by both the City and third party utilities (e.g., TELUS, Shaw and BC Hydro) in the already congested corridor under Como Lake Avenue.

There are two main reasons why the City will replace mains on City streets:

- (1) Pipe material deteriorates over time requiring the pipe to be replaced with a new pipe prior to failure. Like with FEI's LMIPSU Project, the new pipe has to be installed and in-service before the old pipe can be removed, requiring additional space in the street.
- (2) The growth of the City results in higher demand for water and sanitary sewer main capacity requiring the pipes to be upsized to serve the higher demand.

August 25, 2020

Page 4

We plan this work, both replacement of aging infrastructure and upsizing to accommodate growth, over many years and each year we update the 5-year capital plan that schedules the work for those 5 years.

The most urgent need for space currently occupied by the NPS 20 Pipeline is the 380m section of the pipeline between North Road and Clarke Road, which is discussed in my previous evidence. This space is needed by the City for the installation of its new sanitary sewer, which the City has deferred the installation of to avoid having to relocate FEI's NPS 20 Pipeline while it remains in service. The City's new sanitary sewer line will be in very close alignment to FEI's NPS 20 Pipeline, such that it will require the removal of much of the NPS 20 Pipeline in the 380m section.

As discussed in my previous evidence, the City believes that eventually FEI will have to remove the entire approximately 5.5km of NPS 20 pipes to make space for other utility projects that support the public interest (e.g., water mains, sewers, electrical duct banks, telecommunications duct banks, etc.).

In addition to the planned installation of the sanitary sewer from Clarke Road to North Road, the City is undertaking several projects that will or are expected to require removal of portions of FEI's NPS 20 pipes. For example, an intersection improvement project by the City at Dogwood Street and Como Lake Avenue will require the relocation of the BC Hydro transmission poles to the separated boulevard area where FEI's NPS 20 Pipeline is located. Several sections of the NPS 20 pipe will have to be removed to accommodate BC Hydro's new poles. This work will proceed once development occurs at the adjacent quadrants of the intersection, which is anticipated to be within the next two to three years.

In addition, BC Hydro has major transmission facilities along Como Lake Avenue in various alignments, and is currently adding underground infrastructure in the eastern section of Como Lake Avenue in Coquitlam. This facility consists of a 9-way concrete encased duct bank and associated manholes. This new BC Hydro facility will extend for approximately 1400m along Como Lake Avenue, and will occupy one of the few remaining utility corridors along this section of this roadway, which highlights the need to remove FEI's NPS 20 pipes to make way for other utility lines.

It is important for the BCUC to be aware that gravity mains (sanitary sewers and storm sewers that use difference in elevation to move water) must have continuous slope, within specific parameters, to operate properly and safely. In addition, gravity mains are generally installed at greater depths than other utilities, requiring trench shoring cages and other safety apparatus. This means that if there is a conflict between the required alignment of a gravity main and other infrastructure, for example, the other infrastructure will have to be relocated (or removed in the case of an abandoned utility such as the NPS 20 pipes) to accommodate the gravity main.

There is more flexibility installing potable- water mains because these mains are under pressure, allowing them to be moved up or down to avoid conflicts. However there is a requirement to have space between the various pipes and other infrastructure to ensure that each utility (whether City or third party) can be maintained without damaging other infrastructure, and as noted Como Lake Avenue is a very congested utility corridor.

The City has many examples of challenges posed by the presence of other utilities in the City's streets, and this is particularly the case for our gravity mains. An example of this is a large sanitary sewer main installed on Barnet Highway with complications crossing a

August 25, 2020

Page 6

TELUS duct. Another example is a sanitary sewer main installation on Grant Avenue which has been complicated by a nearby FEI pipeline, adding cost. The sanitary sewer installation on Como Lake Avenue discussed above, which has been delayed to next year, is another example.

Throughout this proceeding, and as set out in my previous evidence, the City has maintained that it would simply be more efficient to remove the entire 5.5km of NPS 20 pipe as soon as FEI's NPS 30 Pipeline is in service, as opposed to removing it piece-by-piece at different times in the foreseeable future as it interferes with the installation and improvement of critical City and third party infrastructure – some of which, as outlined above, will become apparent in the next few years. The piecemeal-over-time approach to removal of the NPS 20 pipes will decrease the efficiency of the removal and increase the total costs.

The benefit that FEI and the BCUC believe that FEI will receive under this arrangement (*i.e.*, FEI being able to leave its decommissioned NPS 20 pipes in City land until they interfere with City or third-party infrastructure) should not come at the City's expense. Rather, the City should be reimbursed by FEI for the City's incremental costs that result from allowing the decommissioned NPS 20 pipes to remain in Como Lake Avenue until their inevitable removal.

Challenges with BCUC Process to Approve Requests for NPS 20 Pipe Removal

The BCUC decisions do not address a process for the City or a third party to request and the BCUC to approve removal of decommissioned NPS 20 pipe. I understand that the BCUC's April 2020 decision effectively makes the BCUC the arbiter, on a case-by-case basis, of the reasonableness of City and third party projects that require FEI to remove its decommissioned NPS 20 pipes to proceed.

August 25, 2020

Page 7

From the City's perspective, this raises considerable concern that extends beyond the financial implications of the sharing of NPS 20 pipe removal costs ordered by the BCUC. At present, the City decides how competing uses of the City's streets by the City and third party infrastructure will be accommodated. This process can be complex; however, it is understood by stakeholders and up until now has been an efficient and effective process for the review and permitting of the various third party projects that happen in Coquitlam on a frequent and ongoing basis.

A requirement for a BCUC process to review and approve each request for FEI to remove portions of its decommissioned NPS 20 pipes creates uncertainty around the procedure, timing, and cost of work that the City needs to perform, as well as posing challenges to the City in attempting to properly budget for work, and also challenges to the City in attempting to schedule its work and that of third parties along Como Lake Avenue. The City is also concerned about the time required for a BCUC review and decision on such matters. Delays would put the City at risk of missing construction windows, and could also expose the City to delay claims from contractors where the work has already been awarded.

Adding BCUC approval as a prerequisite to installing and replacing City utilities along Como Lake Avenue would complicate the City's internal design process as the City would be unable to rely on its designs of proposed work as being "constructible" since those designs could be rejected by the BCUC. Adding a BCUC approval process could also delay the design process resulting in the City missing construction windows. Construction windows along the Como Lake Avenue corridor are carefully planned due to the high traffic volumes, transit routes, and locations of several schools as set out in my previous evidence. Further, where there are "constructible" alternatives and the preferred design is rejected by the BCUC, the remaining options would, by implication,

be more difficult and expensive to construct and may require the relocation of in-service utilities. The BCUC's order does not require FEI to pay the increased costs that the City and third parties will incur in exchange for the benefit FEI is afforded by the BCUC allowing FEI to leave its decommissioned NPS 20 pipes in the street at least temporarily.

Further, in an emergency situation (such as a failed water main), the City is required to act quickly and would not have time to prepare an application to the BCUC for approval to commence emergency work. The existing practice for emergency work in proximity to FEI gas mains is to contact FEI inspectors so that they can assist with the emergency work, but there would not be time to obtain the approval of the BCUC.

Conclusions

In the City's view, the challenges outlined above and the costs of dealing with those challenges would be avoided altogether were the BCUC to reach the logical conclusion that the NPS 20 pipes ought to be removed completely at the outset instead of the pipeline being cut into segments, filled with cement, and later removed through a fragmented, piecemeal approach that results in greater costs.

In the absence of such a BCUC decision, which is under appeal to the Court of Appeal, the City believes that it is fair and reasonable to require that FEI compensate the City for the incremental costs it will incur as a result of being required to accommodate FEI's decommissioned infrastructure in the City's street. These costs include, among other things, the cost of future BCUC proceedings related to requests for removal of the NPS 20 pipes.

August 25, 2020

Page 9

If the decommissioned NPS 20 pipes are to remain in City land for the benefit of FEI, the City should not be required to incur any additional costs as a result.

Yours very truly,

CITY OF COQUITLAM



Mark Zaborniak, P.Eng.
Manager, Design and Construction
Engineering and Public Works Department

Enc.

cc. Regulatory Affairs, FortisBC Energy Inc.



October 31, 2018

E-filed

British Columbia Utilities Commission
Sixth Floor, 900 Howe Street
Vancouver, BC V6C 2N3

Attention: Patrick Wruck, Commission Secretary

**Re: City of Coquitlam (“City”) Evidence for Phase Two
FortisBC Energy Inc. (“FEI”) - Application for Use of Lands under Sections 32 and 33
of the *Utilities Commission Act* in the City of Coquitlam for the Lower Mainland
Intermediate Pressure System Upgrade (“LMIPSU”) Project
Project No. 1598963**

Dear Mr. Wruck:

Further to the regulatory timetable established by the British Columbia Utilities Commission in Order G-190-18, I am writing to submit the City's evidence for Phase Two of this proceeding.

I am the Manager of Design and Construction in the City of Coquitlam's Engineering and Public Works Department and have held that position for 12 years. Previously I held the position of Traffic Operations Engineer at the City for six years. My responsibilities at the City, and in particular in relation to FEI's Project, include:

- Managing the staff who coordinate the review of applications from third-party utility companies.
- Managing the City's Contract Administrator and Senior Inspector who will be working with FEI and its contractors during construction of the LMIPSU Project in Coquitlam, as well as the Customer Service Supervisor and other staff who will be needed to support the LMIPSU Project.
- Review and approval of noise exemption permits, such as those anticipated from FEI's contractor.

- Reporting to senior staff and City Council on the status of major third-party utility projects, such as the LMIPSU Project.

This evidence is submitted in support of the City's position that 1) the entire 5.5km section of the NPS 20 Pipeline must be removed by FEI once the new NPS 30 Pipeline is in service; and 2) FEI must complete curb-to-curb repaving of Como Lake Avenue to repair the damage that will be caused by its Project.

The Project

As part of the LMIPSU Project, FEI is upgrading its infrastructure under Como Lake Avenue in the City. FEI's Project within the City will include construction of a new NPS 30 Pipeline and decommissioning of the existing 60-year-old NPS 20 Pipeline along an approximately 5.5 kilometre section of Como Lake Avenue from Mariner Way to the Burnaby border.

Summary of Coquitlam's Position

There are two issues remaining to be considered in Phase Two of this proceeding.

Issue 4: Removal of the decommissioned NPS 20 Pipeline

The City's position is that the preferred and most cost-effective approach is for FEI to remove the entire 5.5km of NPS 20 Pipeline underneath Como Lake Avenue as soon as possible (i.e., when the NPS 30 Pipeline is in service), rather than fill it with concrete and then remove it separately in the future.

The NPS 20 Pipeline is occupying space that is needed now or will be needed in the future. The most urgent need for space currently occupied by the NPS 20 Pipeline is the 380m section of the NPS 20 Pipeline between North Road and Clarke Road. This space is needed by the City for the installation of its new 250mm water main and 450mm sanitary sewer, which the City has deferred the installation of to avoid having to relocate the NPS 20 Pipeline while it remains in service. The space occupied by the remaining section of the decommissioned NPS 20 Pipeline will be needed in the near future because the projected and planned growth of the City will require new utilities to be installed in the already congested corridor under Como Lake Avenue.

Issue 5: Repair and repaving of damage to Como Lake Avenue caused by the Project

The City's position is that FEI must repair and repave the whole of the 5.5km section of Como Lake Avenue, curb-to-curb, to return it to an acceptable standard at the end of the Project. FEI's proposal to pave only the middle lanes of Como Lake Avenue will not abide by the terms of the 1957 Operating Agreement as all four lanes will be extensively damaged by the Project.

The Project will result in substantial damage to Como Lake Avenue. The centre two lanes will be fully involved in the Project. The curb lanes will also be damaged by numerous lateral cuts for relocation of lateral utilities, grinding off portions of the surface layer of asphalt for changes to pavement markings, excessive wear and tear from FEI's large excavators and other heavy construction equipment, and cuts to access the NPS 20 Pipeline.

Como Lake Avenue

Como Lake Avenue is a critical corridor for the region:

- Como Lake Avenue is one of Coquitlam's busiest highways. Approximately 27,000 vehicles travel along Como Lake Avenue per day. A map of the City of Coquitlam Data Management System showing 26,630 as the average daily traffic counted on Como Lake Avenue near Thermal Drive over one week in September 2017¹ is attached as Appendix A.
- Como Lake Avenue is designated an arterial road by the City's Official Community Plan² and it forms part of the regional Major Road Network.³
- Three public transit routes run along Como Lake Avenue (routes 151, 153, 156) and it is a Primary Emergency Response route.
- At a minimum Como Lake Avenue has four lanes, with two lanes in each direction. There are auxiliary left-turn lanes at many intersections. Eighteen of the intersections along the section impacted by the Project have traffic signals.
- There are eight schools next to or close to Como Lake Avenue:
 - 1) Dr. Charles Best Secondary School (next to)
 - 2) Hillcrest Middle School (next to)
 - 3) Parkland Elementary (within one block)

¹ Average Daily Traffic = VOL (24-hour volume count) x SF (applicable month/day combination seasonal factor) x AF (applicable axle-correction factor).

² City of Coquitlam, *Citywide Official Community Plan*, online: < <http://www.coquitlam.ca/planning-and-development/resources/Property-Developer-and-Builder-Resources/Citywide-Official-Community-Plan.aspx> >.

Arterial roads are the main arteries for vehicles travelling through a city and between urban areas.

³ The regional Major Road Network supports the safe and efficient movement of people and goods across the greater Vancouver area. It includes more than 600 kilometres of major arterial roads that carry commuter, transit, and truck traffic. The Major Road Network connects the provincial highway system with the local road network, and some corridors also serve cyclists and pedestrians. See generally TransLink, *Major Road Network & Bridges*, online: < <https://www.translink.ca/Getting-Around/Driving/Major-Road-Network-and-Bridges.aspx> >.

- 4) Queen of All Saints (next to)
 - 5) Porter Elementary School (within one block)
 - 6) Harbour View Elementary School (the only arterial access is via Como Lake Avenue)
 - 7) Banting Middle School (within one block)
 - 8) Miller Park Community School (within one block)
- There are 895 residential properties (including condo buildings) and 71 commercial properties immediately adjacent to Como Lake Avenue.
 - The City provides for weekly recycling and green waste collection and bi-weekly garbage collection to single family residential properties along Como Lake Avenue.

Traffic management in the area of Como Lake Avenue is impacted by large geographical and land-use features, including Mundy Park, Vancouver Golf Course, and a steep escarpment. These features limit detour options for travelers, adding to the importance of Como Lake Avenue to the community and to the region. Also as a result of these features, Como Lake Avenue is one of very few east/west routes in the area and is congested with multiple underground linear utilities along the corridor:

- two BC Hydro duct banks
- two water mains
- two drainage mains
- QNet communication ducts
- two street lighting conduits
- FEI's NPS 20 Pipeline
- a FEI distribution gas main

There are also over 800 lateral utilities that cross the Project route:

- 147 gas lines
- 186 water lines
- 167 drainage lines
- 66 sanitary sewer lines
- 57 underground electrical lines
- approximately 170 traffic loops

- 21 street light conduits

In addition, there are 180 poles for overhead utilities (BC Hydro distribution) between Mariner Way and North Road, with the majority of these poles also used for Shaw and Telus communications distribution lines.

Issue 4: Removal of the decommissioned NPS 20 Pipeline

The City's position is that the decommissioned NPS 20 Pipeline will remain FEI's property and liability. Under no circumstances will the City assume ownership of or responsibility for the decommissioned NPS 20 Pipeline or any harm to persons or property that might result if the decommissioned pipeline is left in place. FEI has confirmed that the decommissioned NPS 20 Pipeline will remain FEI's responsibility and that FEI will remove it if it interferes with municipal infrastructure.⁴

The City is not aware of a standardized approach for how decommissioning end-of-life natural gas pipelines in underground municipal areas should proceed; however, there are two basic options:

- (i) the pipeline owner can make the pipeline safe (e.g., by filling it to prevent its collapse which could cause a sinkhole or other damage), leave it in place and subsequently remove it when the space is needed (FEI's position), or
- (ii) the pipeline owner can immediately remove the pipeline, backfill and restore the surface (the City's position).⁵

The disruption that would be caused by either of these two basic options must be considered in the context of the specific site. In this present case, the context includes the importance of Como Lake Avenue to the community and the region as one of the only east/west routes in the area, the demonstrated need for the space in an already congested underground corridor, and the planned development for the area.

The Government of Canada's discussion paper titled *Pipeline Abandonment - A Discussion Paper on Technical and Environmental Issues*, attached as Appendix C, notes that a key factor influencing the choice between the two options is present and future land use. Future land use should be considered because a pipeline abandoned-in-place could become a physical obstruction to development.

⁴ See Tri-City News article dated August 1, 2018: < <https://www.tricitynews.com/news/update-coquitlam-battlesfortis-over-pipeline-plan-1.23386463> > attached as Appendix B.

⁵ See generally, Government of Canada, *Pipeline Abandonment - A Discussion Paper on Technical and Environmental Issues*, (November 1996) attached as Appendix C.

The National Guide to Sustainable Municipal Infrastructure published a paper that surveyed practices that exist across the country for coordinating infrastructure works. A copy of this paper is attached at Appendix D. The paper highlights the problems associated with the waste and inefficiency where a road is dug up and repaved, only to be dug up again a short time later, and emphasizes a coordinated approach. The net effect of improved coordination includes reduced project costs through efficiencies of scale and avoidance of repeat repair costs (e.g. repeated pavement repair).⁶

The City believes that sooner or later FEI will have to remove the entire approximately 5.5km of NPS 20 Pipeline to make space for other utility projects that support the public interest (e.g., water mains, sewers, electrical conduits for street lighting and traffic signals, telecommunications, etc.). Coquitlam is one of the fastest growing municipalities in greater Vancouver. The projected rapid growth and development in Coquitlam, in particular in the Burquitlam area, will only increase the need for underground space for additional utilities to serve this growth. The presentation attached at Appendix E provides a high-level summary of the planned growth in key areas in Coquitlam and illustrates the increased congestion, both above and below ground, particularly within an 800m radius of the Burquitlam SkyTrain Station, which includes the 380m section of Como Lake Avenue.⁷ The maps attached at Appendix F also show the extent of current and recent developments in proximity to Como Lake Avenue, some of which are already under construction. The map also illustrates how Mundy Park, the Vancouver Golf Course, and the escarpment contribute to limited east/west routes in the area and congestion in this corridor.

The City believes that FEI's current plan to leave the decommissioned NPS 20 Pipeline in place would require FEI to,

(i) in the short term:

- make the pipeline safe by filling it with concrete (as planned by FEI),
- excavate Como Lake Avenue in numerous places to access the pipeline and fill it with concrete,
- backfill such excavations and repair damage to the road, and

(i) in the future,

- excavate Como Lake Avenue again to remove the pipeline or sections of it,
- remove and dispose of pipeline filled with concrete, and

⁶ See generally *Coordinating Infrastructure Works*, page 2, attached at Appendix D.

⁷ See Slide 7 of Appendix E.

- backfill such excavations and repair damage to the road.

FEI has proposed that if the NPS 20 Pipeline is abandoned in place and future City works conflict with the abandoned pipeline, the City's contractor would be required to expose the NPS 20 Pipeline using precautions as this pipeline is believed to contain asbestos, and then wait for FEI to remove the conflicting parts of the pipeline prior to continuing with the work. This approach would greatly complicate the contractor's schedule and construction activity, and this would increase costs to the City. This would also cause increased costs for FEI as a result of repeated excavation and repaving in the same area.

The City believes that the preferred and most cost-effective approach is for FEI to remove the entire 5.5km of NPS 20 Pipeline as soon as possible (i.e., when the NPS 30 Pipeline is in service), rather than fill it with concrete and then remove it separately in the future. This approach is appropriate in the circumstances of Como Lake Avenue, namely the importance of the road to the community and region (lack of detour options) and the illustrated need for the space in the near future to support the City's development plan.

This is not a situation where a decommissioned pipeline can be filled with concrete and left, out of mind, for a century. This is a situation where the space is needed in the foreseeable future, and the road will already be subjected to extensive damage by the installation of the NPS 30 Pipeline.

The most urgent need for space currently occupied by the NPS 20 Pipeline is the 380m section between North Road and Clarke Road in the Burquitlam area. The space currently occupied by this 380m section is needed by the City for a new 250mm water main and 450mm sanitary sewer, which the City has deferred installing to avoid having to relocate the NPS 20 Pipeline while it remains in service and to make way for the new NPS 30 Pipeline. Once the new NPS 30 Pipeline is in service, the 380m section of the decommissioned NPS 20 Pipeline must be removed immediately to make space for the City's new water and sanitary sewer lines.

The crux of Issue 4 appears to be FEI's assumption that the City's water main and sewer upgrade project between North Road and Clarke Road is at a "very preliminary" stage as stated by FEI in section 5.1 of its Application. FEI's assumption in regard to the timing of the City's project is not correct. Detailed designs for the water main replacement and the proposed sanitary sewer are underway. The water line has been in the City's DCC program for a number of years, and the sanitary sewer is being added to the 2018 Development Cost Charges project list. Appendix G shows where the NPS 20 Pipeline conflicts with the planned alignment of the City's new water and sanitary sewer lines. These lines are needed to serve the current and planned major developments near this section of Como Lake Avenue, as shown at Appendix E and Appendix F.

Appendix G also shows the congestion of utilities under Como Lake Avenue between North Road and Clarke Road. There are BC Hydro duct banks, water mains, drainage mains, QNet communication ducts, street lighting conduits, the NPS 20 Pipeline and a FEI distribution gas main currently in the 380m section.

With respect to the 1957 Operating Agreement between the City and FEI, the City's position is that this agreement does not permit FEI to decommission and abandon its pipelines in underground areas in Coquitlam. The City's position is that a decommissioned pipeline is effectively garbage, and the 1957 Operating Agreement does not permit FEI to abandon its garbage in Coquitlam. The City believes that the 1957 Operating Agreement applies only to in-service functioning FEI pipelines and that permanently decommissioned pipelines do fall within the term "the said works" as used in the agreement.

The City further believes that this Issue 4 needs to be considered in the context of the legislative scheme surrounding gas utilities operating in municipalities, including the *Community Charter*, the *Gas Utility Act* and the *Utilities Commission Act*. The City's position is that in the absence of an operating agreement providing otherwise, the City can require FEI to remove its decommissioned NPS 20 Pipeline from the City's lands.

Issue 5: Repair and repaving of damage to Como Lake Avenue caused by the Project

It is common ground that the 1957 Operating Agreement requires FEI to reinstate the paving or surface on public property which it has disturbed in as good a state of repair as it was prior to its disturbance and in accordance with reasonable specifications laid down by, and subject to the supervision of, the Municipal Engineer. FEI acknowledges that pursuant to the 1957 Operating Agreement, FEI is responsible for the costs of repairing the damage its Project will do to Como Lake Avenue.

In addition, the City confirms its requirement for FEI to pay for the pavement restoration is fully consistent with the purpose of the City's long-standing policies and practices, including the *Fees and Charges Bylaw*, No, 4790, 2017, which require all third parties working on City streets, including third party utility companies, to pay the costs of repairing the damage caused by their works.

The scope of Issue 5 is not whether FEI will be responsible for reinstating Como Lake Avenue in as good a state of repair as it was prior to its disturbance as a result of the Project, but rather the expected extent of disturbance that will be caused by FEI's Project and the extent of repair and paving required.

The City submits the whole of the 5.5km section of Como Lake Avenue must be returned to an acceptable standard at the end of the Project. FEI's proposal to pave only the middle

lanes of Como Lake Avenue will not abide by the terms of the 1957 Operating Agreement as all four lanes will be extensively damaged by the Project.

FEI acknowledges that the two centre lanes of Como Lake Avenue will be fully involved with the installation of the new NPS 30 Pipeline as a trench will be excavated along the 5.5km length of the affected section, and will need to be repaired. FEI does not acknowledge that the curb lanes will also be extensively damaged by the Project.

The City believes that FEI's position does not have due regard to the following causes of damage to the Como Lake Avenue curb lanes:

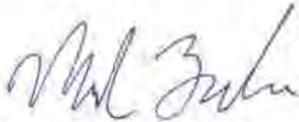
- numerous lateral cuts for relocation of many of the more than 800 lateral utilities and other services that cross the Project route (as described above);
- changes to pavement markings (e.g., lane markings) for traffic management during construction, which includes grinding off portions of the surface layer of asphalt to remove existing markings, applying interim markings across all lanes, and grinding off portions of the surface layer of asphalt to remove the interim markings;
- changes to the in-pavement traffic loops during construction, which includes relocation of the loops to accommodate temporary lane configurations, and then restoration of the loops back to their original locations. Both of these steps involve damage to the pavement.
- excessive wear and tear from FEI's large excavators and other heavy construction equipment operating in all lanes; and
- cuts to access the NPS 20 Pipeline to either remove it or fill it with concrete once it has been decommissioned.

Based on many decades of municipal underground utility construction, replacement and repair experience, the City believes that the Project will leave Como Lake Avenue, a major arterial road and part of the regional Major Road Network, in urgent need of full rehabilitation. The cuts and excavation along and across Como Lake Avenue will damage both the surface asphalt and the road base. The City fully expects that FEI's proposed approach to repairing the damage its Project will cause to all four lanes of Como Lake Avenue would leave the road degraded to such an extent that it will not be adequate to meet the demands on it as outlined in the Como Lake Avenue section, above, including approximately 27,000 cars, trucks and buses travelling along this road per day and its function as part of the regional Major Road Network.

FEI has already begun construction on its LMIPSU Project and the damage to roads in other municipalities has been substantial. Attached at Appendix H is a collection of photos taken on August 1, 2018 and September 13, 2018 respectively, which shows extensive damage to the lands adjacent to the main trench, including excessive wear and tear from FEI's large excavators and/or heavy construction equipment.

Yours very truly,

CITY OF COQUITLAM

A handwritten signature in black ink, appearing to read 'Mark Zaborniak', written in a cursive style.

Mark Zaborniak, P.Eng.

Encs.

cc. Regulatory Affairs, FortisBC Energy Inc.

Auto-Locate OFF

Disclaimer: The traffic counts contained herein are provided as an information service by the City of Coquitlam. These counts are taken at a specific day and time, and are only an approximate representation of traffic activity and not actual daily averages. The City of Coquitlam assumes no responsibility for the use of the traffic count data by any person.

List View All DIRs

Record	1	of 1	Goto Record	go
Location ID	COM-W-THE-01	MPO ID		
Type	SPOT	HPMS ID		
On NHS		On HPMS		
LRS ID		LRS Loc Pt.		
SF Group		Route Type		
AF Group		Route		
GF Group		Active	Yes	
Class Dist Grp		Category		
Seas C/Iss Grp				
WOM Group				
Fnc'l Class	Arterial	Milepost		
Located On	Como Lake Ave			
Loc On Alias				
WEST OF	Thermal Dr			
	PR	MP	PT	

STATION DATA

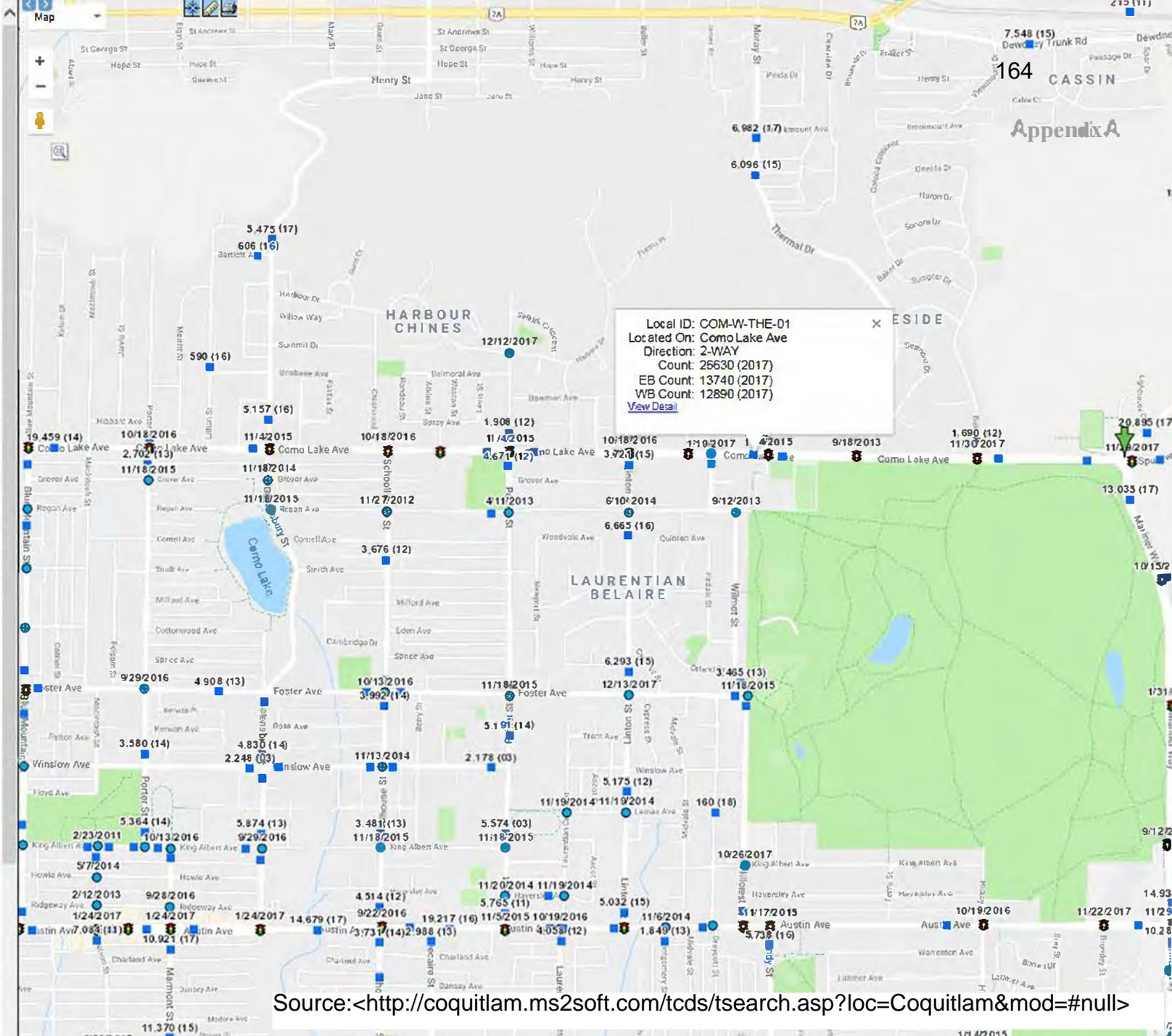
Directions: 2-WAY EB WB

Year	ADT	DHV-30	K %	D %	PA	BC	Src
2017	28,630						
2013	28,938						
2008	24,430						
1997	28,835						
1996	21,447						

Model Year	Model AADT	AM PHV	AM PPV	MD PHV	MD PPV	PM PHV	PM PPV	NT PHV	NT PPV

Date	Int	Total
Tue 9/18/2017	80	28,683
Mon 9/18/2017	80	28,984
Sun 9/17/2017	80	20,514
Sat 9/16/2017	80	24,090
Fri 9/15/2017	80	23,586
Thu 9/14/2017	80	28,288
Wed 9/13/2017	80	28,328
Fri 12/8/2013	80	29,273
Thu 12/5/2013	80	23,953
Wed 12/4/2013	80	28,647

1-10 of 19 To Date



Source: <http://coquitlam.ms2soft.com/tcds/tsearch.asp?loc=Coquitlam&mod=#null>

[Home](#) » [News](#)

UPDATE: Coquitlam battles Fortis over pipeline plan

City wants pipe gone; road will be tied up for months

[Gary McKenna](#) / Tri-City News

AUGUST 1, 2018 09:25 AM



A dispute between the city of Coquitlam and FortisBC over the replacement of a natural gas pipeline running under Como Lake Avenue is heading to the BC Utilities Commission. Photograph By GOOGLE MAPS

A dispute between the city of Coquitlam and FortisBC over the replacement of a natural gas pipeline running under Como Lake Avenue is heading to the BC Utilities Commission.

The municipality is asking the utility provider to remove the 5.5-km section of the line it will decommission as part of an upgrade next year that will severely reduce traffic flow on the busy arterial route for months.

But FortisBC has told engineering staff it intends to fill the old 20-inch pipe with concrete and leave it in place, which the company says is standard practice.

That's not good enough, according to city manager Peter Steblin, who told a council-in-committee meeting Monday that staff are concerned about the increased congestion of utilities and infrastructure under city roads.

"In our opinion, [FortisBC does] not show enough credence to other users," he said. "They are very focused on their needs and they are not as concerned as we believe they should be... with other utilities and other stakeholders present and in the future."

He later added: "We have been trying to negotiate with the company what we consider are reasonable requirements in terms of how they should deal with that pipeline and we have not been successful."

The city, which is to receive a \$300,000 community amenity contribution from the utility company, also wants FortisBC to repave Como Lake Avenue from curb to curb, a requirement the company has indicated it will not meet.

Discussions between FortisBC and the city over the project have been ongoing for more than four years. And because of the impasse, FortisBC recently took the issue to the BC Utilities Commission, where it is seeking approval to move ahead with construction without a permit from Coquitlam.

The company wants to upgrade its service with a 30-inch line that will replace the existing 20-inch pipe that has been in the ground for more than 50 years and is nearing the end of its lifespan. The work is part of a larger project, the Lower Mainland Intermediate Pressure System Upgrade, which has already started along 1st Avenue in Vancouver and will continue into Burnaby later this year. The work in Coquitlam is not expected to get underway until 2019.

FortisBC told The Tri-City News the replacement of the line is necessary in order to ensure the safe delivery of natural gas to 200,000 local residents, 31,000 in Coquitlam.

Doug Stout, the company's vice-president of market development and external relations, said removing the old line would

increase the length of time it will take for construction and add additional cost to the project.

He noted that lines installed in the 1950s have a coating that “has been known to contain low levels of asbestos” and removal would have to be done in accordance with workplace safety regulations. He said the most recent estimate for the pipe’s removal is between \$70 million and \$100 million.

“Leaving it in place reduces the impact to communities,” he said. “Removing it requires us to dig up twice as much road, adding months of inconvenience to the community. Doing so would also have significant costs.”

He said while the line is underground, FortisBC is still responsible for it and will remove section if it interferes with municipal infrastructure.

As for repaving Como Lake Avenue, Stout said it is customary for utility providers to replace the pavement disturbed during construction rather than the entire street. “The cost of additional repaving would need to be borne by FortisBC customers, which we do not feel is prudent,” he said.

Stout noted the project has received permits and approvals from the city of Vancouver and Burnaby without being required to remove the existing pipeline.

But Jozsef Dioszeghy, Coquitlam’s general manager of engineering and public works, said the Como Lake corridor has unique issues not seen in Vancouver and Burnaby. For one, the thoroughfare is much narrower than 1st Avenue, which has a large boulevard separating the east- and westbound lanes, creating more room for utilities underground.

Work in Coquitlam will also see greater traffic impacts, he said. Vancouver and Burnaby have multiple route alternatives while Como Lake Avenue, which is expected to be reduced to between one and two lanes for the duration of the eight-month project, is one of only a couple of east-west corridors in the southwest neighbourhoods of the municipality.

“They have more alternatives than we do,” Dioszeghy told The Tri-City News following Monday’s council meeting. “[Traffic] is going to spread all over the city and it is going to be chaotic... The problems the city of Vancouver is having will be magnified in Coquitlam.”

Mayor Richard Stewart said the city recognizes the need for the project and supports the infrastructure improvements but said the company needs to take the existing line out of the ground when it installs the new one. “To suggest the taxpayers of Coquitlam ought to subsidize their operations, I find offensive,” he said during Monday’s meeting.

“Take your garbage with you when you leave,” he added later.

The B.C. Utilities Commission will deal with the matter later this summer and is expected to receive feedback and written submissions from the public.

gmckenna@tricitynews.com



Government
of Canada

Gouvernement
du Canada

Canada

National Energy Board

Home → Participation & Lands

→ Pipeline Abandonment - A Discussion Paper on Technical and Environmental Issues

Pipeline Abandonment - A Discussion Paper on Technical and Environmental Issues

Prepared for the Pipeline Abandonment Steering Committee (comprised of representatives from the Canadian Association of Petroleum Producers, the Canadian Energy Pipeline Association, the Alberta Energy and Utilities Board, and the National Energy Board)

November 1996

Visit the Alberta Energy Utilities Board (EUB) Web site to view the companion document entitled "Pipeline Abandonment Legal Working Group Report". You can log in as a guest and search for the words "pipeline abandonment".

Disclaimer

This Discussion Paper was prepared under the auspices of the Pipeline Abandonment Steering Committee, a Committee comprised of representatives and employees of the Canadian Association of Petroleum Producers (CAPP), the Canadian Energy Pipeline Association (CEPA), the Alberta Energy and Utilities Board (EUB), and the National Energy Board (NEB). While it is believed that the information contained herein is reliable, CAPP, CEPA, the EUB, and the NEB do not guarantee its accuracy. This paper does not necessarily reflect the views or opinions of CAPP, CEPA, the EUB, or the NEB, or any of the

The Publications Office

National Energy Board

Suite 210, 517 Tenth Avenue SW

Calgary, Alberta

T2R 0A8

Email: publications@neb-one.gc.ca

Telephone: 403-299-3561

Telephone (toll free): 1-800-899-1265

Facsimile: 403-292-5503

Facsimile (toll free): 1-877-288-8803

TTY (teletype): 1-800-632-1663

member companies of CAPP and CEPA. In particular, the paper cannot be taken to represent the regulatory policy of the EUB or the NEB and may not be relied on for such purpose. The use of this report or any information contained will be at the user's sole risk, regardless of any fault or negligence of CAPP, CEPA, the EUB, or the NEB.

Copies of this Discussion Paper are available from any of the following (by hardcopy on request or

through Internet access):

Canadian Association of Petroleum Producers
Suite 2100, 350 Seventh Avenue S.W.
Calgary, Alberta
T2P 3N9
Telephone: 403-267-1100
Internet: <https://www.capp.ca/>

Canadian Energy Pipeline Association
Suite 1650, 801 Sixth Avenue S.W.
Calgary, Alberta
T2P 3W2
Telephone: 403-221-8777
Internet: <https://cepa.com/en/>

Alberta Energy and Utilities Board
640 Fifth Avenue S.W.
Calgary, Alberta
T2P 3G4
Telephone: 403-297-8311
Internet: <http://www.aer.ca/>

[Top of Page](#)

Table of Contents

[Executive Summary](#)

[Committee Representative Lists](#)

[Abbreviations](#)

[Glossary of Terms](#)

1. [Introduction](#)

1.1 [Background](#)

1.2 [Review Initiatives](#)

1.3 [Scope](#)

1.4 [Abandonment Options](#)

1.5 [Objective](#)

1.6 [Regulatory Requirements](#)

2. [Developing an Abandonment Plan](#)

3. [Technical and Environmental Issues](#)

3.1 [Issue Identification](#)

3.2 [Land Use Management](#)

3.3 [Ground Subsidence](#)

3.4 Soil and Groundwater Contamination

3.5 Pipe Cleanliness

3.6 Water Crossings

3.7 Erosion

3.8 Road, Railway, and Utility Crossings

3.9 Creation of Water Conduits

3.10 Associated Apparatus

3.11 Cost of Abandonment

4. Post-Abandonment Responsibilities

Appendices

A. Current Regulatory Requirements

B. Abandonment Checklist

C. Industry Questionnaire

D. Cleaning Guidelines

E. Bibliography

Top of Page

Executive Summary

The Canadian oil and gas industry and federal and provincial regulatory authorities recognize the need to develop guidelines that companies can follow in order to abandon oil and gas pipelines in an environmentally sound, safe, and economical manner. To meet this objective, the Canadian Association of Petroleum Producers and the Canadian Energy Pipeline Association (through their industry participants) have participated along with the National Energy Board and various departments of the Government of Alberta in the development of this discussion paper.

This paper reviews the technical and environmental issues associated with pipeline abandonment and is intended to provide a basis for further discussion on the issue. In order to complete the assessment of this issue, a review of the legal and financial aspects of pipeline abandonment need to be undertaken. More particularly, the core issues of long-term liability and funding need to be addressed both in the context of orphaned pipelines and those with an identifiable owner/operator.

This paper is intended to assist a company in the development of an abandonment plan through the recognition of the general issues which result from the abandonment of a pipeline and by providing the means to address those issues. Land use management, ground subsidence, soil and groundwater contamination, erosion, and the potential to create water conduits are among the topics addressed.

Some follow-up may be required in respect of the technical analysis presented on the issue of ground subsidence. It is suggested that tolerance criteria be developed and that the industry survey referred to in the paper be complemented with a field investigation program. Scale modelling could also be performed to confirm the theoretical ground subsidence calculations.

As illustrated by the diagram on the following page, the pipeline abandonment planning process is a multi-dimensional exercise that requires wide stakeholder input. The abandonment project schedule should also provide an opportunity for meaningful input into the planning process by the affected public, as defined by the scope of the project. It is especially important that landowners and land managers have a central role in this process.

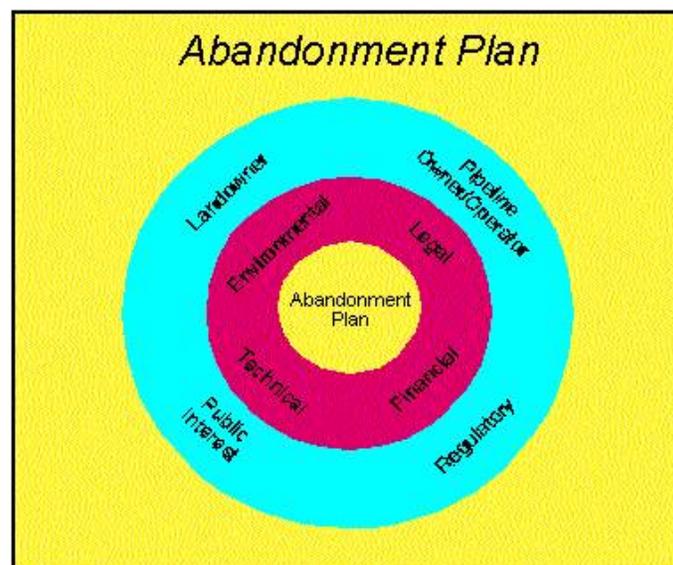
In practice, the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the analysis presented in this paper has limitations in that all site specifics could not possibly be addressed, particularly in relation to potential environmental impacts or impacts on land use.

The development and implementation of a pipeline abandonment plan that will both minimize impacts to the environment and land use and be cost-effective requires many activities similar in scope to the planning or installation of a new pipeline. For any large-scale abandonment project, it is unlikely that any one abandonment technique will be employed. Rather, a project will usually involve a combination of pipe removal and abandonment-in-place along the length of the pipeline. A key factor influencing the choice between the two options is present and future land use.

In summary, the key features of a proper abandonment plan are

- (i) that it be tailored to the specifics of the project,
- (ii) that an early and open opportunity be provided for public and landowner input, and
- (iii) that it comply with current regulatory requirements. It is also necessary that the plan be broad in scope and encompass post-abandonment responsibilities in the form of right-of-way monitoring and remediation of problems associated with the abandonment.

A major issue still to be addressed is the question of who would assume responsibility if the owner/operator becomes insolvent. In this regard, industry has established a fund in Alberta to cover the cost of reclamation and abandonment of orphaned oil and gas wells and certain associated pipeline facilities.



Committee Representative Lists

Steering Committee

Bob Hill (Chair)	Canadian Energy Pipeline Association
Jim Dilay	Alberta Energy and Utilities Board
Ken Sharp	Alberta Energy and Utilities Board
Ian Scott (Secretary)	Canadian Association of Petroleum Producers
John McCarthy	National Energy Board
Fred Webb	Pembina Corporation

Technical Subcommittee

Ron McKay (Chair)	Novagas Clearinghouse Ltd.
Tom Pesta	Alberta Energy and Utilities Board
Ian Scott	Canadian Association of Petroleum Producers
Arnold Bell	Federated Pipe Lines Ltd.
Marsh Yerichuk	Interprovincial Pipe Line Inc.
Robert Power	National Energy Board
Christine van Egmond	National Energy Board
Frank Hagedorn	NOVA Gas Transmission Ltd.
Glen Fyfe	Pembina Corporation
Rudy Wartlik	Westcoast Energy Inc.

Environmental Subcommittee

Karen Etherington (Chair)	NOVA Gas Transmission Ltd.
Keith Lyseng	Alberta Agriculture, Food and Rural Development
Wayne Tedder	Alberta Agriculture, Food and Rural Development
Ivan Weleschuk	Alberta Energy and Utilities Board
Dennis Bratton	Alberta Environmental Protection
Adolf Bruniski	Alberta Environmental Protection
Paul Vasseur	Alberta Agriculture, Food and Rural Development (Farmers Advocate)
Jim Anderson	National Energy Board
Fred Kuipers	Pembina Corporation

Abbreviations

[Top of Page](#)

AEP	Alberta Environmental Protection
C&R	Conservation and Reclamation
CAPP	Canadian Association of Petroleum Producers
CEPA	Canadian Energy Pipeline Association
EPEA	<i>Environmental Protection and Enhancement Act (Alberta)</i>
EUB	Alberta Energy and Utilities Board (formerly the Alberta Energy Resources Conservation Board)
H ₂ S	hydrogensulphide
km	kilometre
mm	millimetre
NEB	National Energy Board
O.D.	outside diameter
PCB	polychlorinated biphenyl
ROW	right-of-way

[Top of Page](#)

Glossary of Terms

Abandonment	Refers to the permanent removal from service of the pipeline. A section of pipeline can be abandoned in place or removed. In the former case, it is assumed that cathodic protection of the pipeline is discontinued and that no other measures are taken to maintain the structural integrity of the abandoned pipeline (other than the potential use of solid fill material at roadway and railway crossing sites or other locations sensitive to ground subsidence).
Associated Apparatus	All apparatus associated with a pipeline system, both above and below the ground surface, including pipeline risers, valve assemblies, signage, pig traps, culverts, tanks, and sumps.
Cathodic Protection	A technique to prevent the corrosion of a metal surface by making the surface the cathode of an electrochemical cell.
Corrosion	The deterioration of metal as a result of an electrochemical reaction with its environment.
Deactivation	Refers to the temporary removal from service of the pipeline. In the context of this paper, it is assumed that corrosion control measures are maintained.
Decontamination	The removal or neutralization of chemical substances or hazardous material from a facility or site to prevent, minimize, or mitigate any current or future adverse environmental effects.
Decommissioning	One of the steps of pipeline abandonment, generally involving the physical removal of all above-ground appurtenances.

Discontinued	See "deactivation".
Erosion	The process of wearing away the earth's surface through the action of wind and water.
Groundwater	All water under the surface of the ground.
Land Surface Reclamation	The stabilization, contouring, maintenance, conditioning, or reconstruction of the surface of the land to a state that permanently renders the land with a capability that existed just prior to the commencement of abandonment activities, and as close as circumstances permit to that which existed prior to pipeline installation.
Negative Salvage	The net cost of abandoning a pipeline through removal, calculated as the cost of removal less salvage revenue generated from the sale of the removed material for scrap or use by others.
Orphaned	Pipelines and associated facilities for which the licensee and successors are insolvent or non-existent.
Owner /Operator	The individual, partnership, corporation, public agency, or other entity that owns and/or operates the pipeline system.
Pipe Cleaning	The removal of all substances (solid, liquid, or gaseous) and build-ups within the pipeline to a pre-determined level.
Pipeline	All metallic onshore pipelines within the scope of the CSA Z662-94 "Oil and Gas Pipeline Systems" standard, including associated appurtenances such as valve assemblies, drip pots, cathodic protection beds, signage, and headers, but not including station facilities such as pump or compressor stations.
Pipeline System	The combination of pipelines, stations, and other facilities required for the measurement, processing, storage, and transportation of oil, gas, or other hydrocarbon fluid.

Reclamation	<p>Any one of the following:</p> <ul style="list-style-type: none"> • the removal of equipment or buildings or other structures or appurtenances; • the conducting of investigations to determine the presence of substances; • the decontamination of buildings or other structures or other appurtenances, or land or water; • the stabilization, contouring, maintenance conditioning, or reconstruction of the land surface; or • any other procedure, operation, or requirement specified in the regulations <p>(as defined in the Alberta <i>Environmental Protection and Enhancement Act</i>)</p>
Removal	The pipeline is completely removed from the right-of-way.
Roach	Excess soil placed over the ditch line to compensate for soil settlement.
Road or Railway Crossing	The crossing by a pipeline of a highway, road, street, or railway.
Sight Block	A mechanism to restrict the visual impact of a pipeline right-of-way.
Soil	The naturally occurring, unconsolidated mineral or organic material at least 10 centimetres thick that occurs at the earth's surface and is capable of supporting plants. It includes disturbance of the surface by human activities such as cultivation and logging but not displaced materials such as mine spoils.
Spoil	Soil materials other than topsoil excavated from the trench. In most cases, the excavated soil is suitable for return to the pipeline trench, and allows for re-contouring of the right-of-way.
Subsoil	Although a common term it cannot be defined accurately. It may be the B horizon of a soil with a distinct profile. It can also be defined as the zone below the plowed soil in which roots normally grow.
Surface Water	Water in a watercourse and water at a depth of not more than 15 metres beneath the surface of the ground.
Suspension	The cessation of normal operation of a pipeline pursuant to its licensed use. The pipeline need not be rendered permanently incapable of its licensed use, but must be left in a safe and stable state during this period of suspension, as prescribed by the applicable regulations and guidelines. See also "deactivation".

Topsoil	The organo-mineral surface "A", organic surface "O" horizon, or dark coloured surface soil materials, used synonymously with first lift. First lift materials are usually removed to the depth of the first easily identified colour change, or to specified depth where colour change is poor, and contain the soil Ah, Ap, O, or Ahe horizon. Other horizons may be included in the first lift if necessary.
Water	All water on or under the surface of the ground.
Water Conduit	A channel for conveying water. In the context of pipeline abandonment, refers to a pipeline that has become corroded and perforated and transports ground or surface water to a different location.
Watercourse	(i) The bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh, or other natural body of water; or (ii) a canal, ditch, reservoir, or other man-made surface feature, whether it contains or conveys water continuously or intermittently.

[Top of Page](#)

Section 1 - Introduction

1.1 Background

Approximately 540,000 km of operating oil and gas pipelines currently exist in Canada, about 50 percent of which are located in Alberta. Ultimately, all oil and gas pipelines will reach the end of their useful lives, and will be abandoned. The issue of pipeline abandonment should therefore be reviewed by all stakeholders.

The Alberta Energy and Utilities Board (EUB) estimates that about 17,000 km of pipeline were abandoned or discontinued in Alberta as of April 1994. This number includes an estimated 3 600 km of orphaned abandoned pipelines. The majority of abandoned pipelines in Alberta are gathering lines 168.3 mm or less in outside diameter.

Regulatory requirements for pipeline abandonment vary across jurisdictions in Canada, and in many cases do not completely address associated long-term issues.

1.2 Review Initiatives

In 1984, several parties at a National Energy Board (NEB) hearing into the tolls of a major natural gas transmission pipeline company showed an interest in addressing the issue of negative salvage as it related to pipeline abandonment. As a result, the NEB issued a background paper in September 1985 addressing the negative salvage impacts of pipeline abandonment. The issue was not pursued again until 1990, when industry, the Alberta Energy Resources Conservation Board (now the EUB), and Alberta Environmental Protection (AEP) discussed the issue of pipeline abandonment while considering amendments to the pipeline regulations issued pursuant to the *Pipeline Act* (Revised

Statutes of Alberta 1980). The issue was not resolved at that time, and was again raised in 1993 by the Alberta Pipeline Environmental Steering Committee, an industry, government, and public stakeholder group established to address pipeline related issues.

In October 1993, the Canadian Association of Petroleum Producers (CAPP) received the endorsement of the Alberta Petroleum Industry Government Environment Committee to establish a steering committee to oversee the issue of pipeline abandonment. Shortly thereafter, the EUB requested that CAPP and the Canadian Energy Pipeline Association (CEPA) organize a steering committee to resolve the concerns surrounding abandonment.

In April 1994, representatives from CAPP, CEPA, the EUB, and the NEB met to establish a pipeline abandonment steering committee. It was also decided at that time that separate subcommittees be struck to address the technical, environmental, legal, and financial aspects of pipeline abandonment. The technical and environmental subcommittees were the first to be formed and, together with the steering committee, were responsible for this discussion paper. The legal and financial subcommittees have not yet been struck.

1.3 Scope

This discussion paper is intended to apply to all buried metallic pipeline facilities falling within the scope of the CSA Z662-94 "Oil and Gas Pipeline Systems" standard, except for offshore pipelines. Many of the same issues and concepts (such as those relating to land use and pipe cleanliness) also apply to plastic and fibreglass pipelines. It addresses pipeline abandonment only (i.e. permanent removal from service), and does not consider pipeline deactivation (i.e. temporary removal from service). Likewise, this document does not address the abandonment of aboveground facilities associated with pipelines, such as stations or tank farms, or specific facilities such as underground vaults.

This paper addresses the technical and environmental aspects of pipeline abandonment. In order to complete the assessment, a review of the legal and financial aspects of pipeline abandonment needs to be undertaken. More particularly, the core issues of long-term liability and funding need to be addressed both in the context of orphaned pipelines and those with an identifiable owner/operator.

1.4 Abandonment Options

The two basic options that are considered in this paper are (i) abandonment-in-place and (ii) pipeline removal. In the former case, it is assumed for the purposes of this paper that cathodic protection of the pipeline is discontinued and that no other measures are taken to maintain the structural integrity of the abandoned pipeline (other than the potential use of solid fill material at roadway and railway crossing sites or other locations highly sensitive to ground subsidence).

As noted in [Section 2](#), for any large-scale abandonment project it is unlikely that only one of these options will be employed. Rather, a project will usually involve a combination of pipe removal and abandonment-in-place along the length of the pipeline. A key factor influencing the choice between the two options is present and future land use.

It is further noted that the abandonment techniques presented are confined to those possible using currently available technology. While developments in pipeline removal and abandonment technologies were evaluated, no major improvements to the methods currently in use were discovered. However, as pipeline abandonments become more prevalent, improved abandonment methods will likely be developed.

1.5 Objective

The objective of this discussion paper is to assist the user in the development of a pipeline abandonment plan, a framework for which is provided in [Section 2](#) of this paper. More particularly, the paper is meant to assist parties in making an informed decision between abandoning in place or through removal. [Section 3](#) outlines the general technical and environmental issues that should be considered when abandoning a pipeline, while [Section 4](#) elaborates on post-abandonment responsibilities. Site-specific issues should be addressed on a case-by-case basis.

The objective of creating an abandonment plan is to ensure that identified issues have been addressed and that the pipeline is abandoned in a way that provides a forum for meaningful stakeholder input and ensures that public safety and environmental stability are maintained.

1.6 Regulatory Requirements

The NEB is responsible for regulating interprovincial and international pipeline systems in Canada, while the individual provinces are responsible for regulating intraprovincial pipeline systems. Within each province, gathering, transmission, and distribution pipelines may be regulated by different agencies. For example, in Alberta the EUB regulates gathering and transmission lines as well as higher-pressure distribution lines (greater than 700 kPa), while lower-pressure distribution lines are regulated by Alberta Transportation and Utilities. AEP, through the *Environmental Protection and Enhancement Act* (EPEA), regulates conservation and reclamation activities for all three categories of pipelines.

In addition to the primary regulators, there may be other governmental agencies within each of the respective jurisdictions that may have an interest in the abandonment and reclamation of a pipeline. These other agencies may include local governments, especially in populated areas where pipeline abandonment may impact upon land uses.

In Alberta, the EUB sets the requirements for the abandonment of gathering and transmission lines. In addition to meeting the EUB's abandonment requirements, the pipeline right-of-way must be reclaimed to AEP standards. Reclamation certificates are issued by inspectors designated under EPEA. For removal projects that are classified as Class I projects,^[1] the operator is required to obtain an approval under EPEA from AEP to ensure that proper conservation and reclamation occurs. For smaller projects, AEP's *Environmental Protection Guidelines for Pipelines* are to be followed during construction.

[1] A Class I pipeline is defined by the Activities Designation Regulation (AR 110/93) under EPEA as any pipeline that has an index of 2690 or greater, determined by multiplying the diameter of the pipeline in millimetres by the length of the pipeline in kilometres (e.g. 168.3 mm x 16 km = 2693).

For federally regulated pipelines, approval to abandon a pipeline must be granted by the NEB and pipelines must be abandoned in accordance with the requirements of the NEB's *Onshore Pipeline Regulations*. These regulations are in the process of being revised, and future regulations will likely require that applications for pipeline abandonment be treated on a case-by-case basis.

A summary of the current regulatory requirements for pipeline abandonment across Canada has been included as [Appendix A](#).

[Top of Page](#)

Section 2 - Developing an Abandonment Plan

This paper addresses the common issues that pipeline abandonment plans should address regardless of regulatory jurisdiction. It is intended to assist a company in the development of an abandonment plan through the recognition of the general issues which result from the abandonment of a pipeline and by providing the means to address those issues.

In practice, the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the analysis presented in this paper has limitations in that all site specifics could not possibly be addressed, particularly in relation to potential environmental impacts or impacts on present and future land use.

The development and implementation of a pipeline abandonment plan that will minimize impacts to the environment and land use and be cost-effective requires many activities similar in scope to the planning or installation of a new pipeline. For any large-scale abandonment project, it is unlikely that any one abandonment technique will be employed. Once the principal technique has been chosen, therefore, the owner/operator should assess on a site-specific basis whether an alternate approach should be followed for selected segments of line.

The abandonment project schedule should provide an opportunity for meaningful input into the planning process by the affected public, as defined by the scope of the project. It is especially important that landowners and land managers have a central role in this process.

The development of an abandonment plan should be initiated by reviewing the general requirements of the regulatory jurisdiction(s) under which the pipeline is operated. Beyond the requirements of the principal regulatory agencies, other legislation may affect the particular abandonment project. For example, municipal requirements and federal legislation such as the federal *Navigable Waters Protection Act* or the *Fisheries Act* may affect the abandonment options.

It is also critical that easement agreements be reviewed, as their terms and conditions may bear on the abandonment decision-making process.

The development and implementation of an abandonment plan consists of at least the following seven steps:

1. review prevailing regulatory requirements applicable to the abandonment project;
2. compile all relevant information on the pipeline system, including easement agreements;
3. analyze by segment taking into account the factors addressed in [Section 3](#) of this paper, including present and future land use;

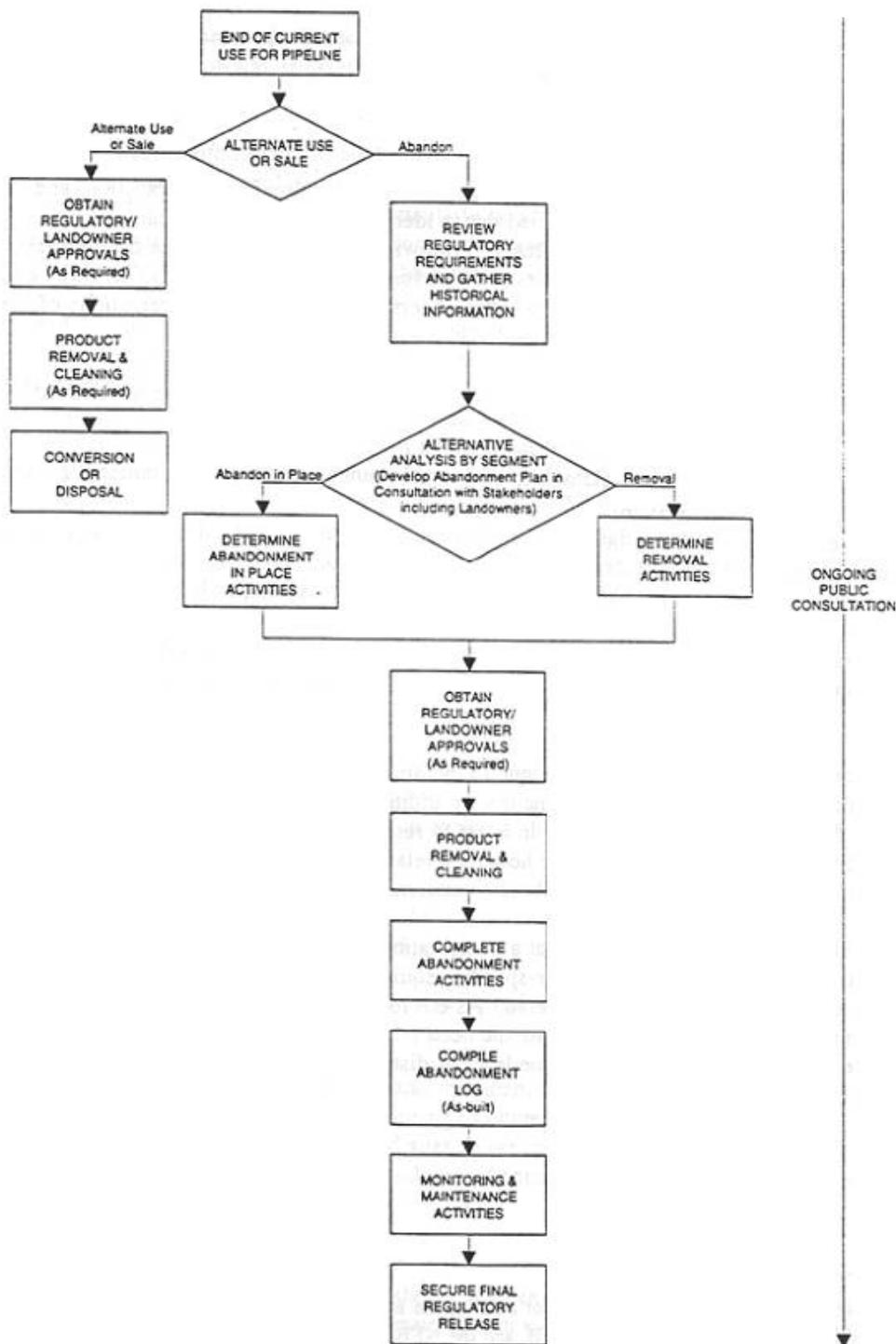
4. develop the abandonment plan in consultation with stakeholders (such as landowners, government authorities, and other directly affected parties), incorporating the information compiled in the above steps;
5. secure regulatory and landowner approvals as required for the pipeline abandonment and site reclamation;
6. implement the abandonment plan, the scope of which should include post-abandonment responsibilities (addressed in [Section 4](#)); and
7. secure final regulatory release.

A proponent undertaking an abandonment plan should follow these six steps, recognizing that site-specific conditions may require additional steps in the development of the plan.

Please refer to the next page for a flowchart of the abandonment planning process and to [Appendix B](#) for a detailed abandonment checklist.

Figure 2-1

Diagramme illustrant la cessation d'exploitation d'un pipeline



Top of Page

Section 3 - Technical and Environmental Issues

3.1 Issue Identification

Abandonment issues arise from the need to address public safety, environmental protection, and future land use. An initial scoping exercise was carried out to identify the various technical and environmental issues associated with abandonment. Following the development of a detailed issues list, field studies of existing abandoned facilities were performed to verify the issues. In some cases, detailed studies were commissioned in order to better understand the effects and interactions of certain issues.^[2]

[2] (Refer to the Bibliography in [Appendix E](#) for a list of the studies, copies of which are available for public viewing in the libraries of CAPP, CEPA, the EUB, and the NEB.)

The primary issues that were identified, and which are addressed in this section, are as follows:

- land use management;
- ground subsidence;
- soil and groundwater contamination;
- pipe cleanliness;
- water crossings;
- erosion;
- utility and pipeline crossings;
- creation of water conduits;
- associated apparatus; and
- cost of abandonment.

It was determined that most issues are not unique to the abandonment phase of the pipeline life-cycle, but could involve an altered scope, varied timeline, or additional stakeholders when compared to the issues of pipeline installation and operation. In order to responsibly abandon a pipeline, the operator must consider all of the issues and determine how they relate to the specific pipeline under consideration, in addition to addressing stakeholder concerns and incorporating collected input.

In any abandonment project, it is possible that a combination of both the abandonment-in-place and removal options would be used, based on site-specific requirements. Thus, it is important that all aspects of the abandonment issues be considered. As the following discussion illustrates, the abandonment-in-place option does not eliminate the need for land disturbance or field activity, while pipeline removal need not encompass the same level of disturbance or activity as that of pipeline construction.

3.2 Land Use Management

Land use is the most important factor to consider in determining whether a pipeline section should be abandoned in place or removed. Therefore, an understanding of the current and potential land uses along the pipeline right-of-way is essential to making informed decisions on available abandonment options.

Of particular concern with respect to land use management are areas sensitive to land disturbance, such as native prairie, parks and ecological reserves, unstable or highly erodible slopes, areas susceptible to severe wind erosion, and irrigated land, particularly flood irrigation systems.

Additionally, land improvement activities such as the installation of drainage tile or other drainage systems, landscaping, and permanent structure installations could be affected by a proponent's decision to abandon a line.

Future land use should be considered because a pipeline abandoned in place could become a physical obstruction to development, such as excavation for foundations, pilings, or ongoing management practices such as deep ploughing or the installation of sub-drains. It is critical that input be gathered from appropriate sources such as landowners, land managers, lessees, and municipal agencies to support the decision to abandon in place. In addition, sufficient documentation must be kept to allow for detailed location information for future developers or owners.

As noted in [Section 2](#), the decision to abandon in place or through removal should be made on the basis of a comprehensive site-specific assessment. In this context, the land management characteristics that may be better suited to pipeline abandonment-in-place include, but are not limited to:

- parks and natural areas;
- unstable or highly erodible surfaces;
- water crossings;
- flood irrigated fields;
- road and railway crossings;^[3]
- foreign pipeline crossings;
- extra depth burial of pipe (i.e. depth well in excess of one metre);
- native prairie and native parkland;
- forest cut blocks;
- designated waterfowl and wildlife habitat; and
- areas exhibiting poor and/or limited access.

[3] (as detailed in [Section 3.8](#), consideration should be given to filling pipeline sections abandoned in place underneath roadways and railways with a solid material such as concrete in light of potential ground subsidence impacts.)

The key environmental protection measures to be considered when a pipeline is to be abandoned in place are as follows:

- minimal disruption to ongoing or future land management activities;
- a complete and documented pipeline cleaning procedure;
- the clean-up of any spills or contaminated sites to prevailing regulatory requirements;
- a revegetation strategy to achieve pre-abandonment conditions, keeping erosion control and soil stability as a priority;
- topsoil conservation for all areas disturbed during the abandonment process;
- reclamation of all site access roads, including those which had been developed for the operational phase of the pipeline and any opened or developed for abandonment activity;
- documented as-built information for future reference;
- application of sight blocks where appropriate (e.g. recreational areas and wildlife habitat); and
- a monitoring program acceptable to all affected parties to ensure a process to complete remediation.

Proper environmental protection measures should be implemented, including appropriate soil handling procedures, timber management, contingency plans (e.g. for spills and wind or water erosion), protection of cultural features, weed control, and site reclamation. For example, in Alberta, a Conservation and Reclamation (C&R) report may be required by AEP for pipelines which were constructed before the C&R regulations came into effect.

Prior to the commencement of field activity, reclamation criteria should be agreed upon by the owner/operator, regulatory authority, and landowner. The reclamation program will normally be designed to ensure that the condition of the right-of-way land surface is made at least equivalent to that existing just prior to the commencement of abandonment activities, and as close as circumstances permit to the condition of the land that existed prior to pipeline installation, and may entail:

- removing, storing, and replacing topsoil;
- soil contamination analysis and-clean up, if required;
- contouring disturbed land to control drainage;
- seeding affected areas to prevent erosion and establish vegetation;
- removal of all structures to a minimum depth of one metre below final contour elevation;^[4]
- roaching and/or compacting excavated areas to compensate for future settlement; and
- site-specific environmental requirements (e.g. reforestation).

[4] (In areas where circumstances such as special farming practices or nearby urban development exist, consideration should be given to removing structures more than one metre below the final contour elevation.)

As noted in [Section 4](#), a right-of-way monitoring plan should be developed to ensure that reclamation efforts are successful and that no problems arise.

3.3 Ground Subsidence

3.3.1 General

The long term structural deterioration of a pipeline abandoned in place may lead to some measure of ground subsidence. This is a primary issue to consider for larger-diameter pipelines because of potential environmental and safety concerns. More particularly, ground subsidence could create the potential for water channelling and subsequent erosion, lead to topsoil loss, impact on land use and land aesthetics, and/or pose a safety hazard.

The acceptable subsidence limits and the potential factors affecting those limits are significant areas requiring attention in the development of any abandonment plan. Erosion may cause direct siltation to a watercourse, or cause slope failures and subsequent siltation. Where potential siltation is an issue, proponents must be prepared to deal with fisheries protection measures to remain in compliance with provincial and federal legislation.

The rate and amount of ground subsidence over time is difficult to predict as it depends on a complex combination of site-specific factors, such as the corrosion mechanics in the vicinity of the pipeline, the thickness and diameter of the pipeline, the quality of the pipeline's coating, burial depth, soil type, the failure mechanics of the pipeline material, and soil failure mechanics.

Given the absence of previously documented research, studies were commissioned on corrosion and soil mechanics in an attempt to establish the connection between pipeline corrosion, the structural deterioration of pipe, and the resultant ground subsidence that might be observed. Summaries of these studies and the conclusions that were reached follow.

3.3.2 Pipeline Corrosion

The corrosion consultant's report addressed the mechanism of corrosion leading to ultimate structural failure of a pipeline. The report stated that the rate of corrosion of an abandoned pipeline can vary significantly due to the many factors which must be present for corrosion to take place. Corrosion of buried pipelines occurs through an electrochemical reaction that involves the loss of metal in one location (called the anode) through the transfer of the metal ions to another location on the pipeline (called the cathode). The rate of metal transfer depends on a number of factors such as the quality of the pipeline coating, soil aeration (which supplies oxygen to the pipe to allow the corrosion process to occur), types and homogeneity of soils, soil moisture, and electrical factors which create the potential differences for a corrosion cell to be established.

The corrosion of a coated pipeline is normally restricted to those isolated areas where there are defects in the coating or where the coating has become disbonded from the pipe. Corrosion can be expected to be almost negligible in areas where the coating integrity is intact. Based on his experience, the consultant observed that coating holidays or disbondment occur on less than one percent of the length of most pipelines. Pipeline corrosion in most cases occurs as localized pits, or spiral corrosion areas, which eventually result in random perforations throughout the length of the pipeline. It is extremely rare for corrosion to cover large areas of pipeline, rendering a long segment of the pipeline susceptible to sudden and complete structural failure.

To illustrate typical corrosion rates, the consultant used an example of a 323.9 mm O.D. pipeline in soils commonly found throughout Alberta and estimated that penetrating pits would occur in the range of 13 to 123 years. Based upon the slow rate of pitting corrosion that would occur in most cases, complete structural failure is not likely to occur for decades or even centuries. Furthermore, given the non-uniform nature of the corrosion process, it can be concluded that it is highly unlikely that significant lengths of the pipeline would collapse at any one time.

3.3.3 Soil Mechanics

The soil mechanics report indicated that there has been no documented incidence of ground subsidence due to pipeline structural failure. In order to predict soil reaction to pipeline structural failure, the consultant modelled its review on shallow mining and tunnelling research and documented case histories. The focus of the study was to estimate possible surface subsidence that could be attributed to the complete failure of tunnels of equal diameter and depth as the pipelines being modelled. This represented a worst-case scenario, since as noted earlier a complete pipeline collapse of any significant length is considered highly improbable.

The report employed two different theoretical soil modelling techniques, the Rectangular Soil Block and the Active Soil Wedge, to reflect the most common types of soils that may be encountered. The ranges of subsidence calculated for varying sizes of pipelines provided an approximation of the impacts that a significant pipeline collapse would have on soils. The analysis indicated that ground

subsidence associated with the collapse of pipelines up to 323.9 mm in diameter at typical burial depths would be negligible. The analysis further indicated that while there would be some degree of subsidence associated with larger pipeline sizes, it may be of sufficiently small scale so as to be in a tolerable range.

3.3.4 Field Investigation Program

In order to validate the conclusions of the technical reports, the subcommittees undertook to document the ground subsidence of known abandoned pipelines.

As a first step, the subcommittees searched the EUB's records and identified pipelines 168.3 mm or larger in diameter that had been abandoned in place. Questionnaires were forwarded to the owners/operators of some of those lines, requesting information on pipeline diameter, coating type, year abandoned, whether cathodic protection had been removed, and ground subsidence observations (reference [Appendix C](#) for copy of questionnaire). The responses to the survey, as well as industry discussions, did not reveal any instances of observed subsidence.^[5]

[5] (As indicated in [Appendix C](#), all of the survey results gathered by the subcommittees are available for public viewing in the libraries of CAPP, CEPA, the EUB, and the NEB.)

3.3.5 Summary of Findings

The analyses indicated that the structural failure of an abandoned pipeline due to corrosion may take many decades, and that significant lengths of the pipeline would not collapse at any one time due to the localized nature of the pitting process. Furthermore, the analyses indicated that, even if the worst-case scenario of uniform and total structural collapse was realized, ground subsidence would be negligible for pipelines up to 323.9 mm in diameter.

The degree of subsidence associated with larger-diameter pipelines is highly dependent on pipeline diameter, depth of cover, and local soil conditions, but can be expected in many cases to be in a tolerable range. It should be noted that tolerance to soil subsidence is in itself a site-specific issue, as it depends on land use and the local environmental setting. Any pipeline owner/operator considering the abandonment-in-place of a larger-diameter pipeline should therefore conduct a site-specific analysis in order to evaluate both the degree and tolerability of any long-term subsidence that might be expected. Such analyses should take into account the potential for heavy vehicular loadings (e.g. farm equipment or logging trucks).

On the basis of the foregoing, it is suggested that ground subsidence associated with the structural failure of pipelines abandoned in place will not usually be a critical issue. This conclusion was corroborated by the industry survey referred to in [Section 3.3.4](#). In areas where no settlement is allowed, either by regulation or agreement (such as at highway crossing sites, as further explained in [Section 3.8](#)), the option would exist to fill the pipeline with an approved solid material such as concrete or sand.

In terms of follow-up on this issue, it is suggested that tolerance criteria be developed and that the industry survey referred to in this paper be complemented with a field observation program. Scale modelling could also be performed to confirm the theoretical ground subsidence calculations.

3.3.6 Subsidence as a Result of Pipeline Removal

The physical act of removing a pipeline is essentially the reverse operation of pipeline construction and involves topsoil removal, backhoe excavation of the subsoil to a depth at least even with the top of the pipe, pipe removal, backfilling and compaction of the trench, replacement of the topsoil, and revegetation measures.

During pipeline construction, a roach consisting of subsoil overlaid with topsoil is usually employed to compensate for the settlement that will occur as the ditch line settles. The same strategy can be employed at the abandonment stage to avoid the need for reclamation in future years due to settlement and erosion. In general, if extra topsoil or soil materials are required for this operation, it could be recovered from areas immediately adjacent to the pipeline right-of-way. For older pipelines built before mandatory soil conservation, this is where extra topsoil or soil materials may have been disposed. Further surveys or examinations of topsoil depths and soil volumes may be required to identify these potential borrow areas.

Without the concern of compaction damaging the pipeline, a company may undertake a more rigorous compaction of the soil being replaced in the ditch following pipe removal than after backfilling for new construction. Additional compaction may also result in less topsoil handling and, therefore, fewer impacts due to the decreased need to strip topsoil to accommodate the feathering out of subsoil material caused by the excavation.

3.4 Soil and Groundwater Contamination

The abandonment plan should address the potential for contamination associated with the abandonment activities, as well as the need to eliminate any contamination that may already exist, and include the appropriate pipe cleaning or pigging procedure. Any contamination noted prior to abandonment activity should be cleaned up to the applicable regulatory standards prior to full project disturbance, unless it is more economically efficient to include the cleanup in the scope of abandonment activity and it can be demonstrated that environmental damage will not be amplified.

In order to gain additional insight into the issue of contamination, a study was commissioned into the types and quantities of contaminants that might be released from pipelines abandoned in place.

The potential sources of contamination were identified as:

- the substances produced from the reservoir in the hydrocarbon stream and deposited on the walls of the pipeline;
- treatment chemicals which could enter the pipeline and be deposited;
- the line pipe and associated facilities;
- pipeline coatings and their degradation products;
- historical leaks and spills of product that were not cleaned to current standards; and
- possible PCB contamination, if PCBs were used in the pump or compressor lubricants at some point in the history of the pipeline.

The quantity of residual contaminants can be expected to decrease as the product moves from the wellhead through the gathering, processing, and distribution systems. Traditionally, oil pipelines contain a greater volume of wax and scale than do natural gas pipelines, but this is dependent on the

circumstances of the particular production field. The study concluded that the effectiveness of pipeline pigging and cleaning procedures prior to abandonment was the most critical determinant of the potential quantities of residual contaminants.

The subject of pipeline cleaning is addressed at length in [Section 3.5](#) and [Appendix D](#). An operator should become familiar with prevailing regulatory standards for soil and groundwater, as these standards may dictate the minimum acceptable level of pipe cleanliness. Sound environmental protection practices should be observed throughout the pipeline cleaning process, such as the use of properly engineered containment and storage for all collected material, proper labelling, disposal processes conforming to local regulations, and effective spill contingency plans. Detailed documentation should be recorded on the results of the cleaning process or the clean-up of a contaminated site.

Operators should also have an understanding of the composition of pipe coatings and their associated characteristics to assess any potential risk that may be derived from abandoning the pipeline in place. For example, pipeline coatings containing asbestos should be handled through special means by trained personnel. It has been suggested that if pipe coating compounds would be accepted at local landfills, then abandoning a pipeline with the same compounds in place may not be a concern, depending on site conditions and concentration levels. Presently, limited information exists regarding the long-term decomposition of pipeline coatings. However, it can be assumed that as the coating adhesive degrades, or is consumed by soil organisms, coatings will eventually disbond and contribute to the corrosion process.

Many of the same contamination prevention measures to be employed for abandonment-in-place also come into play in the context of pipeline removal. Of prime importance is the need to clean the pipeline to accepted standards prior to the commencement of the removal operation, and the employment of measures to prevent spills of the substances collected as a result of the cleaning process. Collection trays should be used during the pipe cutting operation to catch any residual fluids.

During pipe removal, proper soil handling measures must be implemented to ensure topsoil conservation.

In addition to the pipeline itself, the dismantlement of any connected facilities should be carried out such that the potential for contamination is controlled by proper containment and storage for disposal at an approved facility.

3.5 Pipe Cleanliness

3.5.1 Cleanliness Criteria

In light of potential contamination concerns, the cleanliness of the pipeline is an issue for both abandonment techniques. Although responsible cleaning procedures have been defined and are discussed in detail in [Section 3.5.2](#) and [Appendix D](#), the question of "how clean is clean" has not been resolved. In addition, the question remains as to whether pipe that will be removed should be subject to the same cleanliness criteria as pipe that will be left in place. It should be assumed that pipe that is to be removed should be cleaned to a level where any remaining residues will not cause harm in any future intended use of the pipe. Removed pipe that may eventually be put to some alternative use

(e.g. pilings) may require more study to determine the appropriate cleanliness requirements for the future use. For pipe that is targeted for disposal, existing disposal or landfilling guidelines will determine the required cleanliness of the pipe.

For pipe that will be abandoned in place, the issue of pipe cleanliness is related to corrosion and the creation of water conduits. Eventually the pipe will corrode until perforated and, aided by the destructive forces of the freeze-thawing of infiltrated water, the structural integrity of the pipe will suffer. Whether the rate of deterioration will be greater than the life of the contaminants left as internal residue of the pipe is unclear. Similarly, an issue remains over the rate and structural location of any corrosion, in that it may allow water to infiltrate the abandoned pipe and transport pipe residues to some other exit point.

3.5.2 Cleaning Procedures

The pigging procedure used during the final operating stages and during evacuation of the pipeline is critical in preparing the line for abandonment. The study on contaminants concluded that the small quantities of hydrocarbons left in the line after a concerted pig cleaning effort will not result in any significant environmental concerns.

The factors impacting the effectiveness of any pig cleaning procedure will vary with each pipeline. Cleaning programs must therefore be customized to the specific circumstances of the pipeline under consideration for abandonment. For guidance purposes, [Appendix D](#) sets out general cleaning considerations and describes typical cleaning methods for an oil pipeline in a medium duty service ^[6] or for a pipeline carrying relatively dry natural gas. Operators planning a pigging program for a specific line should consider these guidelines as a starting point only. The abandonment of pipelines carrying products other than the two noted above require customized pigging procedures to ensure proper cleaning. Care should be taken in all cases to properly contain and dispose of pigged effluent.

[6] Medium duty service refers to relatively wax and direct free operation with a scraping program undertaken occasionally to move along anything collected or adhering to the pipe wall.

A pipeline to be abandoned in place should be left such that no solids or waxy build-up are visible at any point along the pipeline as observed through standard pipe openings such as opened flange or sample connections and the contents have been cleaned out to the extent that no more than a thin oily film on the inside pipe wall surface can be detected by feel or sight. Sour liquid or natural gas pipelines should be checked to confirm that H₂S levels are below acceptable limits.

Pipe cleaning is also of critical importance in the context of pipeline removal, given the desire to minimize the risk of soil and groundwater contamination during the removal process and the hazards associated with pipe removal (e.g. health and flammability hazards of exposed vapours). Cleanliness considerations relating to the future intended use or disposal of the pipe should also be taken into account, bearing in mind that supplementary cleaning techniques may be employed once the pipe has been removed from the ground.

Cleaning effectiveness can be determined by taking pipe coupons and swabs of any film found on the inside of the pipe and analyzing them for contamination, using cutout means such as hot tapping or line cutouts.

After allowing some time for the collection of remaining liquids in low areas (minimum one week suggested), the pipeline should be excavated at random low areas. A minimum of one excavation site per scraper trap or 80 km interval is suggested. However, in undulating areas multiple excavation sites may be required. Excavation sites should be chosen to avoid environmentally sensitive areas and to minimize clearing associated with the opening of access roads. If the examination of the inside wall shows that the cleanliness criteria has been met, the cleaning task can be considered complete.

3.6 Water Crossings

The effect of pipelines on water crossings is an important issue at any stage of a pipeline project. This issue is a significant social consideration due to the visibility of crossing activities, the importance of fisheries resources, public use of waterways, the sensitivity of the resource, and the fact that waterways are an important cultural and historical feature of the land.

There are many factors to consider in deciding whether a section of pipeline crossing a water body or wetland (e.g. muskeg, swamp, or flood plains) should be abandoned in place or removed. More specifically, the risks associated with abandoning the pipeline in place, including the potential for contamination and pipe exposure, have to be weighed against the cost and environmental impact of removal.

These trade-offs should be assessed on a site-specific basis, taking into account the size and dynamics of the water body, the design of the pipeline crossing, soil characteristics, slope stability, and environmental sensitivities. While these issues must be evaluated, in most cases it can be expected that abandonment-in-place will be the preferred option.

If the pipeline crossing is to be abandoned in place, the pipe should be left in as clean a state as possible to minimize the potential for contamination of the waterbody should the eventual perforation and failure of the pipe allow any internal residues to escape. As described in [Section 3.9](#), the strategic placement of caps and plugs will also help mitigate this concern by interrupting the movement of potential contaminants through the abandoned pipe.

The risk of pipe exposure is two-fold. First, the pipeline could become exposed if the overlying soil is gradually eroded or washed away because of the dynamics of the water body (e.g. stream bank migration, scour, or flood conditions). Secondly, an empty pipeline crossing a water body or wet area could float toward the surface if buoyancy control mechanisms fail (e.g. if concrete saddle weights slide off). In either case, the owner/operator should assess the probability that the pipeline could become exposed and the impacts that exposure would entail. If the risk of flotation is a concern, it could be addressed by either perforating the line following an appropriately sensitive line cleaning program to allow it to fill with water or by filling the line with concrete or some other solid material. In the case of the former option, plugs and caps should be used to prevent water migration through the pipeline.

If applicable, the risks associated with abandoning a pipeline in place which runs parallel to an operating pipeline at a water crossing should also be assessed.

If the pipeline is to be removed in whole or in part, the issues would be similar in many ways to those associated with initial construction across the water body or wetland. More specifically, many of the same construction techniques and environmental protection measures would apply. Aspects to address include fisheries resource timing sensitivities, habitat protection, sediment control, vehicle and equipment crossing methods, backfill material specifications and source, erosion control measures (both short term and long term), and bank restoration. Damage to any existing bank stabilization structures or destabilization of previously stable banks should be considered.

It is crucial that the pipe be as clean as possible prior to excavation to minimize the potential for contamination of the waterbody should the pipe be damaged and a spill occur during the removal procedure. Blinding off the ends of the section being removed is recommended to prevent contamination by any remaining traces of material.

3.7 Erosion

Soil erosion is a concern during all phases of the pipeline life-cycle, particularly as it relates to slope stability. Leaving a pipeline in the ground may entail a certain amount of activity along the right-of-way to ensure responsible abandonment, such as excavations to confirm cleaning quality and the installation of caps or plugs. The potential impact of the ensuing right-of-way disturbance will vary greatly with the geographic location of the activity. For example, a forest area "duff" layer may not be as susceptible to erosion and slope instability as a region of native prairie topsoil.

If the pipe is to be removed, erosion and slope stability concerns will be similar to those for pipeline construction. For example, traffic, soil compaction, and the wind and water erosion of disturbed soil may be of concern. In addition, the pipeline may have become a structural support to many slopes over time, and its removal may affect the integrity of the slope.

When developing an abandonment plan, the pipeline owner/operator should review any erosion remediation that had occurred over the operating life of the pipeline. If erosion control measures have been regularly required at specific locations, the owner/operator should determine if it would be appropriate to implement longer term erosion control measures.

If the abandonment activities necessitate disturbing erosion-prone areas including slopes, protection measures designed to current standards should be implemented. In addition, the integrity and effectiveness of any existing ditch plugs, sub-drains, berms, or other installations should be reviewed.

It is usually more appropriate to abandon pipe at unstable slopes in place, due to the potential requirement for extensive remediation if the pipeline is removed. On sensitive slopes, the use of sight blocks or other measures should be considered to discourage use of the right-of-way. In areas where the right-of-way has been traditional access for recreational users or hunters, the operator should attempt to reach an agreement with the land manager for ongoing remediation, if necessary.

In areas where slope movement was being monitored during the pipeline's operating life, the monitoring program should be re-evaluated and continued, if warranted. Temporary access roads to slopes should be reclaimed as appropriate.

Protective measures to be considered when removing a pipeline from a slope would be similar to those used during pipeline construction. The integrity of the slope must be maintained during the removal activities, as well as after the line is removed. If the removal calls for spot excavations (bellholes) instead of an open ditch removal, the stability of the entire slope, as well as the region surrounding the bellholes, should be evaluated. Re-installation of diversion berms and ditch plugs to prevent water channelling may be required.

Development of the abandonment plan should include consultations with other pipeline owners/operators that may be affected by right-of-way disturbances on the slope. In addition, regulators and landowners should be consulted in order to determine an appropriate period for right-of-way monitoring after the pipeline is removed. A typical monitoring period would be two years. Revegetation programs should consider the inclusion of a species that is quick to establish in the revegetation mixture, as this may help to provide short term erosion control; however, the environmental effect of introducing a non-native species must be considered. Regulatory/landowner approval of the seeding mixture would likely be required. A weed control plan should be initiated during the pipe removal process to address potential concerns immediately following surface disturbance.

3.8 Road, Railway, and Utility Crossings

All crossings associated with a pipeline that is being abandoned must be addressed in an appropriate manner. Of particular importance are the agreements relating to the crossings of railways, primary and secondary highways, roads, other pipelines, power lines, and communication lines, and the constraints they may place on the abandonment process.

The parameters to be considered in selecting an abandonment technique for a crossing site include the line diameter, installation details (including burial depth), subsidence tolerance, impact of excavation, impacts on other cathodic protection systems (e.g. for crossings of other pipelines), and long term development plans. Special consideration should be given to the sensitivity of roadway and railway crossings to slight ground depressions that could result from any abandonment related subsidence. The potential may also exist for disruption to crossing traffic, both during and as a result of the pipeline abandonment. As a result, more stringent abandonment requirements may be imposed, such as filling the pipeline at the crossing site with concrete or other approved material. Similarly, cased crossings may require a solid fill even if the carrier pipe is removed.^[7]

[7] If the carrier pipe remains in situ, both it and the casing annulus may require a solid fill (need should be assessed on a site-specific basis.)

The proper notification and location of the pipeline or utility being crossed is essential to maintaining a safe working environment. Operators of utilities and other pipelines may have established plans or expectations that may affect the design and timing of the abandonment. Utility crossing or pipeline crossing locations may be of concern when a pipeline is removed, due to the loss of support for the remaining facility, or the interference of the abandonment operation or the abandoned pipeline with the operation of the crossed utility or pipeline. Thus, discussions with utility and other pipeline companies will add value to the resulting abandonment plan and initiate protection planning.

The main steps of the abandonment evaluation and implementation process for any particular

crossing site are as follows:

- review the existing crossing agreement and determine if there are any terms and conditions relating to abandonment-in-place or pipeline removal;
- establish communications with the utility or pipeline being crossed and negotiate terms and conditions (both technical and legal) to abandon the pipeline in place or remove the pipe;
- amend the existing crossing agreement to address the terms and conditions of the abandonment plan;
- notify all affected parties about abandonment activities and responsibilities;
- ensure that necessary approvals (e.g. from regulatory authorities, the utility being crossed, and the landowner) are obtained and kept on record;
- obtain proper location and identification of pipelines and utilities in the area using agencies such as Alberta First Call prior to commencing removal activities, and alert landowners to the activities taking place;
- file the necessary permanent records of the pipeline abandonment plan with interested parties (including pipeline regulatory authorities, provincial one-call systems, environmental groups, land titles, pipeline registers, and the affected crossing parties); and
- in the case of abandonment-in-place, ensure that the inspection requirements for the crossing are part of the post-abandonment monitoring plan.

3.9 Creation of Water Conduits

The potential to create water conduits as a result of the abandonment process is of concern as it could lead to unnatural drainage and material transport. This issue is primarily of concern when a pipeline is abandoned in place, since water will eventually infiltrate the pipe through perforations in the pipe wall caused by corrosion.

Unless water pathways through the pipeline are interrupted, this could lead to the unnatural drainage of areas such as muskegs, sloughs, or marshes, thus affecting the natural balance of the ecosystem. Likewise, a previously stable low area could be flooded by volumes of water exiting from a perforated pipeline. This issue can be related to the concern for contamination and the protection of wetland systems. If water infiltrates the pipeline, the potential exists for that water to carry any residual contaminants left in the abandoned pipeline to some point of exit. The point of exit could be a watercourse, thereby contaminating the watercourse if contaminant levels are sufficiently great in volume and concentration at the point of exit. The possibility of soil contamination may also exist, depending on the nature of the contaminant transported through the pipeline.

Plugs should be installed at appropriate spacings to ensure that changes in surface and ground water conditions will not result in water flow through the pipeline. When identifying locations for the plugs, consideration should be given to pipeline access during the placement of the plugs and the resulting effects of the ground disturbance. Where the pipeline crosses a wet area, a plug should be placed just downstream of the wet area, to prevent its drainage, and also at an appropriate location upstream of the wet area, to prevent the wet area contamination by water flowing along the pipeline. The plugs should be long enough so that corrosion downstream of the plug will not result in water entering the pipe.

On slopes, water could seep into the pipeline through perforations and exit at unacceptable locations such as agricultural areas or areas where excessive erosion would result. The water should be allowed to exit at frequent intervals and at preferred locations in order to minimize potential impacts from the flow of water and the disruption to natural drainage patterns. Typical locations for plugs are provided in the following table.

Terrain Feature	Plug Locations
waterbodies/watercourses	above top of bank
long inclines (>200m), river banks	at top and bottom of slope and at mid-slope for long inclines
flood plains	at boundaries
sensitive land uses (e.g. natural areas, parks)	at boundaries
near waterfalls, shallow aquifers, groundwater discharge and recharge zones, marshes, sloughs, peatlands, highwater table areas	at boundaries and should include an adequate buffer zone
cultural features (population centres)	at boundaries

The plugs should adhere to the pipe, be impermeable and non-shrinking, and able to resist deterioration. Examples of suitable materials are concrete grout or polyurethane foam. The use of impermeable earthen plugs may also be a viable option.

In the case of pipeline removal, water pathways through the uncompacted pipeline trench material must be prevented or interrupted. The principles governing the locations of trench breakers are the same as those governing the locations of plugs for pipelines abandoned in place.

3.10 Associated Apparatus

The development of any abandonment plan should also give consideration to the disconnection, removal and disposal of apparatus associated with the pipeline, including:

- aboveground valve sites and manifolds;
- underground valve sites and manifold piping, as well as protruding elements such as valve topworks;
- underground tanks;
- pipeline scraper traps;
- pipeline risers;
- line heaters;
- drip pots;
- pipeline access culverts (e.g. for tie-ins, valves, liners, etc.);
- cathodic test posts, fink stations, rectifier sites, and ground beds (to a depth of one metre);

- aboveground tanks and containment berms;
- access roads, gates, and fences;
- anchor blocks and steel piles; and
- miscellaneous apparatus such as radio antennae, buildings, fencing, wiring, electrical equipment, and slope monitoring equipment.

It is recommended that all surface and subsurface apparatus (including signage) along the route of a pipeline that is to be abandoned through removal also be removed as part of the abandonment process.

For pipeline sections that are to be abandoned in place, it is recommended that all surface apparatus as well as subsurface apparatus to a depth of at least one metre be removed, with the notable exception of signage identifying the location of the buried line pipe (i.e. line markers and aerial markers). This applies to apparatus located on operator owned land as well as apparatus located on pipeline-specific surface leases on public or private land.

Any apparatus that is left in place should be secured and properly marked and recorded, and should not pose a hazard to people, equipment, or wildlife and livestock.

3.11 Cost of Abandonment

The cost of abandoning a pipeline may be quite significant. There is a broad scope of costs to consider, from the traditional costs associated with abandonment to more intangible items such as a company's public image and the costs of environmental consequences. In order to make responsible decisions regarding abandonment, all of these costs must be considered.

The cost of abandoning a pipeline will depend on the resources required to complete the work, the value of any salvaged material, the extent of remediation and reclamation work required (as well as any associated security requirements ^[8]), and many other factors. Proponents should also consider the costs associated with monitoring a site and potential future remediation, as well as the consequences of the abandonment activities and any legal issues that may arise. Changes in the regulatory environment may also give rise to unanticipated abandonment costs to ensure "no responsibility by the owner/operator" after a prescribed monitoring period.

[8] For example, in Alberta, if an approval under EPEA is required for the abandonment of a Class 1 pipeline, security is to be provided to AEP before the approval is issued. The security amount is determined using an estimate of the cost of reclamation.

[Top of Page](#)

Section 4 - Post-Abandonment Responsibilities

Once a pipeline has been abandoned, the owner/operator may retain a number of responsibilities. More particularly, the owner/operator may be responsible for ensuring that the right-of-way and any facilities left in place remain free of problems associated with the abandonment. For that reason, a right-of-way monitoring program should be included in the post-abandonment plan and accounted for in the abandonment budget.

Monitoring plans will vary from case to case, depending on the location and size of the pipeline, the land use, and the features of the terrain traversed by the right-of-way (such as water crossings or slopes). When developing a monitoring plan, the effects of each abandonment issue described in [Section 3](#) should be thoroughly examined for each specific segment of the pipeline being abandoned. Specific monitoring requirements should be included for potentially sensitive areas.

Right-of-way maintenance should also be considered in the post-abandonment monitoring plan and factored as necessary into the abandonment budget. As noted in [Section 3.2](#), the reclamation program will normally be designed to ensure that the condition of the right-of-way is made at least equivalent to that existing just prior to the commencement of abandonment activities, and as close as circumstances permit to the condition of the land that existed prior to initial pipeline installation. The degree to which the right-of-way has to be maintained in that state depends largely on land use and environmental sensitivities. For pipe left in place, the owner/operator would normally remain responsible for the maintenance of signage.

Additionally, the owner/operator may be responsible for maintaining post-abandonment information about the pipeline. This information should be recorded in a post-abandonment log book, so that it is available when needed and can be turned over to an alternate responsible authority if required by future regulations. The post-abandonment log book should contain:

- any regulatory permits and conditions attached to permits (including reclamation certificates);
- full particulars on any pipeline facilities abandoned in place, including a physical description, location and depth of cover, plug locations, and details of any sections filled with a solid material;
- copies of all past crossing agreements;
- records of post-abandonment aerial surveillances;
- records of any slumping over the pipe, or water flow through the pipe, that was noted during post-abandonment monitoring;
- records of any changes in pipeline state from the original abandonment plan (e.g. if pipe sections abandoned in place are subsequently removed);
- records of any remedial work performed on the pipeline after abandonment; and
- records of any areas that become contaminated after the abandonment and reclamation work is complete.

The owner/operator will also be responsible for notifying landowners, municipal authorities, and other affected parties (such as one-call associations) of the abandonment of the pipeline. Any input provided by these groups should be recorded in the post-abandonment log book.

Finally, any pipeline abandoned in place should remain part of any provincial one-call program, so that third parties can be advised whether the lines they wish to have located are active or abandoned.

In closing, a major issue still to be addressed is the question of who would assume responsibility if the owner/operator becomes insolvent. In this regard, industry has established a fund in Alberta to cover the cost of reclamation and abandonment of orphaned oil and gas wells and certain associated pipeline facilities.

[Top of Page](#)

Appendix A - Current Regulatory Requirements

Refer to the following three tables for an outline of the current regulatory requirements for pipeline abandonment across Canada.

REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT^[1]

JURISDICTION	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
FEDERAL	National Energy Board	<u>National Energy Board Act</u>	All pipelines	Part V, Para. 74(d)	Leave of the Board
		<u>Onshore Pipeline Regulations</u>	All pipelines	Sec. 50	For abandoned facilities left in place, disconnect from operating facilities, fill with approved medium, seal ends, empty storage tanks then purge of hazardous vapours, and maintain cathodic protection. ^[2]
YUKON	National Energy Board	<u>Canada Oil and Gas Operations Act</u> (COGOA)	All pipelines	none specified	none specified
N.W.T.	National Energy Board	<u>Canada Oil and Gas Operations Act</u> (COGOA)	All pipelines	none specified	none specified

JURISDICTION	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
BRITISH COLUMBIA	<i>Employment and Investment (Energy and Minerals Division)</i>	<i>Pipeline Act</i>	All pipelines	Part II, Sec. 9	Approval of Minister. Removal of structures which may be likely to menace public safety or create a fire hazard

[1] This table lists current regulatory requirements for pipeline abandonment only and does not address the abandonment of stations or other above-ground facilities. Similarly, it does not address the requirements for pipeline deactivation or discontinuance.

[2] The NEB is in the process of amending its *Onshore Pipeline Regulations* and has proposed that these specific requirements be revoked, on the basis that abandonment applications will be treated on a case-by-case basis pending the outcome of the industry/government review into the matter.

REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT (continued)

JURISDICTION	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
ALBERTA	Alberta Energy and Utilities Board	<i>Pipeline Act</i>	All pipelines	Part IV, Sec. 33	Consent of the Board

JURISDICTION	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
		<i>Pipeline Regulations</i>	All pipelines	Secs. 66-69	For facilities abandoned in place, disconnect abandoned pipeline from operating facilities, clean and purge with approved medium, cap all open ends and advise the Board when work is complete. ^[3]
	Alberta Environmental Protection	<i>Environmental Protection and Enhancement Act</i> (Alta. Reg. 115/93)	All pipelines on private land & Green Area	Sec. 122	Reclamation Certificate from AEP
	Alberta Agriculture, Food & Rural Development	Environmental Protection and Enhancement Act (Alta. Reg. 115/93)	Class I & II lines on White Area public lands		Reclamation Certificate from AFRD (responsibility delegated under EPEA)
SASKATCHEWAN	Department of Energy and Mines	<i>Pipelines Act</i>	All pipelines	none specified	none specified

JURISDICTION	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
MANITOBA	Oil and Gas Conservation Board	The <i>Oil and Gas Act</i>	All pipelines	Part 14, Sec. 171	Application to an inspector. Responsible for any repairs required within six years from the day of issuance of the Certificate of Abandonment in respect of the oil and gas facility site.
ONTARIO	Ministry of Consumer and Commercial Relations ^[4]	<i>The Energy Act</i>	All pipelines	none specified	none specified
		<i>Gas Pipeline Systems Regulations</i>	Gas pipelines	none specified	none specified
		<i>Oil Pipeline Systems Regulations</i>	Oil pipelines	none specified	none specified

[3] Presently the EUB does not require the removal of an abandoned pipeline; however, in most cases it will expect a notification to the landowners, occupants, and those affected by sour gas setback distances of the abandonment. This is to ensure that affected parties are made aware of the abandonment and that their land will no longer be impacted by the pipeline.

[4] Starting in May 1997, Ontario's pipeline safety regulation program will be administered by the Technical Standards and Safety Authority, a private non-profit organization.

REGULATORY REQUIREMENTS FOR PIPELINE ABANDONMENT (continued)

JURISDICTION/	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
QUEBEC	Regie du Gaz Naturel	<i>Gas Distribution Act</i>	Gas pipelines	none specified	none specified
		<i>Regulations Respecting Gas and Public Safety</i>	Gas pipelines	none specified	none specified ^[5]
NOVA SCOTIA	Energy and Mineral Resources Conservation Board	<i>Pipeline Act</i>	All pipelines	Sec. 20	Consent of the NSEMRCB
NEW BRUNSWICK	Natural Resources and Energy	<i>Pipeline Act</i>	All pipelines	none specified	none specified ^[6]
		<i>Pipeline Regulations</i>	All pipelines	Sec. 85	Consent of Minister and approval of Board. For facilities abandoned in place, disconnect abandoned pipeline from operating facilities, purge with approved medium, cap open ends and advise Minister when work is complete. ^[7]

JURISDICTION/	AGENCY	LAW	SCOPE	ABANDONMENT/ REMOVAL CLAUSE	ACTION REQUIRED
PRINCE EDWARD ISLAND	Department of Energy and Forestry	No applicable legislation	N/A	N/A	N/A
NEWFOUNDLAND	Canada- Newfoundland Offshore Petroleum Board	<i>The Petrole um and Natural Gas Act</i>	Offshore pipelines [8]	none specified	none specified

[5] Sec. 3(2) of the *Regulations Respecting Gas and Public Safety* states that the construction, installation, repair, maintenance, replacement or removal of any gas distribution piping shall be in accordance with Code CAN1-B149.1-78 "Installation Code for Natural Gas Burning Appliances and Equipment".

[6]Sec. 28 of the Pipeline Act states that no pipeline shall be taken up or removed without consent of the Minister and subject to his conditions.

[7]Secs. 83-84 of the Pipeline Regulations list the application requirements and criteria for the take up and removal of a pipeline, namely that it must be physically isolated from operating facilities, purged with an approved medium, and that the Board must be advised when the work is complete.

[8]Newfoundland does not at present have any legislation applicable to onshore pipelines.

[Top of Page](#)

Appendix B - Abandonment Checklist

1.0 Alternate Use Analysis

- a. ___ Review alternate uses within company or corporate family
- b. ___ Determine if asset can be sold to another company for continued or alternate use
- c. ___ Decision that pipeline should be abandoned

2.0 Product Removal & Cleaning**2.1 Liquids Pipeline**

- a. ___ Pre-Abandonment pigging for cleaning
- b. ___ Temporary piping modifications
- c. ___ Temporary product measurement, storage & transportation
- d. ___ Product removal pigging, propellant
- e. ___ Post removal cleaning, solvents
- f. ___ Product toxicity analysis
- g. ___ Pipe testing for contaminants
- h. ___ Waste disposal

2.2 Gas Pipeline

- a. ___ Pre-abandonment pigging for cleaning/liquid removal
- b. ___ Liquids disposal
- c. ___ Temporary piping modifications
- d. ___ Pressure reduction by operating facilities
- e. ___ Pressure reduction by pulldown compression
- f. ___ Sour/toxic product analysis
- g. ___ Blowdown, Flaring
- h. ___ Post removal cleaning using pigging, solvents
- i. ___ Pipe testing for contaminants

3.0 Information Required for Planning/Approvals

3.1 Facility Description/History

- a. ___ Lineal Description of the Pipeline
 - ___ pipe specification
 - ___ coating
 - ___ appurtenances
 - ___ connections to other facilities
 - ___ road, highway, railroad crossings (obtain crossing agreements)
 - ___ pipeline/utility crossings (obtain crossing agreements)
 - ___ water crossings
 - ___ topography/terrain
 - ___ soil information
 - ___ weed/vegetation information
 - ___ environmentally sensitive areas
 - ___ land use/developed areas
 - ___ parallel pipelines, connections
 - ___ slope instabilities
 - ___ road accesses
- b. ___ Operating History
 - ___ all products
 - ___ potential contamination
 - ___ operating failures/spills/clean-up
 - ___ slope movement monitoring

3.2 Regulatory Jurisdictions/Approvals

- a. ___ Operating Authority: Liaison, Application and Approvals (Federal and/or Provincial)
- b. ___ Environmental Authority: Liaison, Application and Approvals (Federal and/or Provincial)
- c. ___ Public Lands Disposition (e.g. Land Administration Branch of AEP)
- d. ___ Other Authorities: DFO, Coast Guard, etc.
- e. ___ Municipal Authorities: Permits/Bylaws

3.3 Landowner/Public Contact Activities

- a. ___ Title Search
- b. ___ Landowner/Tenant Contact, Survey Clearance
- c. ___ Abandonment Rights in Pipeline Easement/Disposition Documents
- d. ___ Landowner/Tenant Contact/Negotiations
- e. ___ Public Lands Managers Contact/Negotiations
- f. ___ Release of Land Rights/Warranties/Setback Requirements
- g. ___ Public Participation/Stakeholder Contacts (for federally regulated facilities, early public notification as per NEB's guidelines)
- h. ___ Damage Negotiation/Payment

3.4 Environmental Assessment

- a. ___ Soil conservation, stability (possible C&R report)
- b. ___ Fish & Wildlife population, habitat
- c. ___ Groundwater
- d. ___ Erosion, stream sedimentation potential
- e. ___ Natural Areas, Native Prairie and Native Parkland
- f. ___ Archaeological study

4.0 Identify Abandonment Activities (Develop Abandonment Plan)

- a. ___ Identification of activities required to meet regulatory requirements
- b. ___ Identification of activities required to meet environmental conditions
- c. ___ Economic analysis and decision regarding activities where remove/salvage and abandon in place alternatives are available.

4.1 Appurtenances Removal/Modifications

- a. ___ Valve Assemblies, Line Heaters, Drip Pots
- b. ___ Cathodic Protection Facilities
- c. ___ Warning Signs, Aerial Markers, Fence Posts
- d. ___ Access Roads, Bridges, Culverts
- e. ___ Fences, Power lines, Antennas, Buildings
- f. ___ Aerial Crossings
- g. ___ Slope Monitoring Equipment
- h. ___ Sumps and Tanks
- i. ___ Any facility/equipment buried less than 1 m deep

4.2 Crossings

- a. ___ Review of appropriate measures to prevent settlement/collapse and/or disturbance
- b. ___ Liaison with Crossed Facility Operator
- c. ___ Road, Highway Crossings
- d. ___ Railway Crossings
- e. ___ Water Crossings (Minor, River, Lake, Swamp)
- f. ___ Foreign Pipeline Crossings
- g. ___ Utility Crossings
- h. ___ Drainage Crossings

4.3 Environmental Protection/Reclamation Activities

- a. ___ Remediation of Historical Spill Sites
- b. ___ Gravel Removal, Topsoil Replacement at sites
- c. ___ Topsoil conservation
- d. ___ Surface Stone Removal
- e. ___ Erosion control, Ditch Plugs, Slope/Soil Stabilization
- f. ___ Revegetation
- g. ___ Weed Control
- h. ___ Reforestation (if required)
- i. ___ Access Road Reclamation
- j. ___ Timing windows
- k. ___ Fish and Wildlife Habitat

4.4 Pipe Removal

- a. ___ Right-of-Way Boundary and Pipe Location Survey
- b. ___ Access Development

- c. ___ Grading
- d. ___ Trenching
- e. ___ Coating removal if required (precautions if asbestos containing)
- f. ___ Pipe cutting and removal
- g. ___ Pipe loading, transportation, storage
- h. ___ Backfill/Compaction
- i. ___ Clean-up

4.5 Salvage Analysis

- a. ___ Sale of pipe for structural or piling applications
- b. ___ Sale of pipe, valves, fittings for remelting scrap
- c. ___ Sale or reuse of valves, pipe fittings
- d. ___ Sale of fencing and other minor materials
- e. ___ Sale of Land and/or Land Rights

4.6 Pipe Abandoned In Place

- a. ___ Filling to eliminate settlement/collapse risks
- b. ___ Pipe cuts or pipeline plugs for groundwater stability
- c. ___ Soil conservation/stability measures at excavation sites
- d. ___ Measures to prevent floating pipe
- e. ___ Slopes, erosion control

5.0 Monitoring/Maintenance Activities

- a. ___ Aerial Patrol
- b. ___ Specific site visits
- c. ___ Weed Monitoring/Control
- d. ___ Liaison with landowners, tenants, public land managers
- e. ___ "First-Call" response and location of underground pipe
- f. ___ Crossings
- g. ___ Erosion Control Maintenance

[Top of Page](#)

Appendix C - Industry Questionnaire

ABANDONMENT INFORMATION

Refer to the following two pages for a copy of the abandonment questionnaire that was used for the industry survey conducted in autumn 1995.

Background Information

Owner/Operator: _____

Name of Pipeline: _____ Construction date: _____

Location (Legal Description) From: _____ To: _____

Length: _____ Outside Diameter: _____ Wall Thickness: _____ Grade: _____

Substance(s) transported : _____

Coating Type: External: _____ Internal: _____

Cathodic protection during operation: Impressed Current: _____ Anodes : _____

Depth of Pipe Burial: _____

Was the pipeline constructed through wet areas: Yes: _____ No: _____

Are you aware of any adverse soil conditions (i.e. salinic, acidic): Yes: _____ No: _____

If Yes, What Types:

Did the pipeline have any crossings (i.e. road, railway, water): Yes: _____ No: _____

If Yes, What Types:

Abandonment

Abandonment date: _____

Reason(s) for Abandonment: _____

Pipe Condition at Abandonment:

External Corrosion: None _____ Some _____ Significant _____

Internal Corrosion: None _____ Some _____ Significant _____

Abandonment Activity:

When answering the items below, please note whether the answer refers to the entire pipeline or to specific parts of the pipeline.

Cleaning Procedure: _____

Cleanliness Criteria: _____

Capping (Weld Caps): Yes: _____ No: _____

If Yes: Frequency: _____

Number of Pipe Segments: _____

Filling (i.e. N₂, Concrete, Grout, etc.): Yes: _____ No: _____

If Yes: Fill Type: _____

Road/Railway Crossings: Yes: _____ No: _____

If Yes: How was Pipe Abandoned: _____

Water Crossings: Yes: _____ No: _____

If Yes: How was Pipe Abandoned: _____

Slopes: Yes: _____ No: _____

If Yes: How was Pipe Abandoned: _____

Plugging: Yes: _____ No: _____

If Yes: How was Pipe Abandoned: _____

Cathodic Protection: Retained: _____ Not Retained: _____

Monitoring After Abandonment

Type of monitoring: _____

Frequency of Monitoring: _____

Summary of Monitoring Findings: _____

Has an abandonment study ever been done on the pipeline to determine the effectiveness of the abandonment? _____

Are alignment sheets and drawings available to help identify potential dig sites?

Yes: _____ No: _____

Since abandonment, are you aware of any:

a) Surface settlement over the pipe? Yes: _____ No: _____

If Yes, please provide details: _____

b) Water flow through the pipe? Yes: _____ No: _____

If Yes, please provide details: _____

c) Pipe exposure? Yes: _____ No: _____

If Yes, please provide details: _____

d) Environmental contamination? Yes: _____ No: _____

If Yes, please provide details: _____

e) Any other problems? Yes: _____ No: _____

If Yes, please provide details: _____

Have any additional abandonment measures been completed since the initial abandonment? Yes: _____ No: _____

If Yes, please provide details: _____

Other Comments: _____

Is your company planning any type of excavation on or near this abandoned pipeline this summer?
 Yes: _____ No: _____

If Yes, please provide details: _____

For further information contact :

Name: _____
 Title: _____
 Tel.: _____ Fax: _____

Top of Page

Appendix D - Cleaning Guidelines

D.1 General Considerations

The operating history of the pipeline to be abandoned should be reviewed to enable the planning of the specific cleaning procedures required for abandonment. Information such as oil/gas analysis, piping modifications, operating flow records, records of anomalies, and maintenance records may provide some insight into additional work needed to develop an effective pipeline cleaning plan.

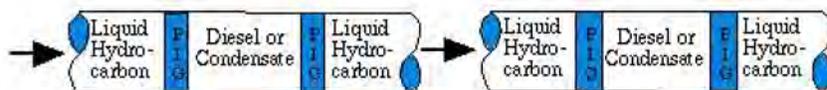
The owner/operator should ensure that there are adequate sending and receiving traps in place. This may require the use of temporary assemblies. If the pipeline in question is part of a larger system, the section to be abandoned should be physically disconnected upon completion of the cleaning process.

Safety precautions appropriate to the in-service product hazards (i.e. flammability and explosivity of hydrocarbons, toxicity of sour products) must be established throughout the activity.

For gas pipelines, any residual gas should be vented or flared once the pressure in the pipeline has been reduced to the extent possible using operating facilities or a pull down compressor. The residual gas should be monitored for signs of liquid.

For liquid pipelines, before line flow ceases, a sufficient number of scraper pigs should be run through the line to remove the bulk of any solids or waxy build-up. As illustrated by the figure below, a batch of solvent-type hydrocarbons such as diesel fuel or condensate inserted between two scraper pigs is recommended as an effective method of reducing solids or waxy build-up. This process should be repeated until solids can no longer be detected on the pigs as they are removed from the receiving trap.

Figure D-1
In-Service Initial Cleaning for Liquid Pipelines



Specialized chemical cleaning may be required if the routine cleaning method described is not successful, if the pipeline is known to have an unusually high contamination level, or if unusually high cleanliness standards are to be met. Special precautions must be exercised when the pipeline is opened up to control vapour hazards of flammability, explosiveness, and toxicity (e.g. hazardous compounds such as benzene).

D.2 Cleaning Methods for Natural Gas Pipelines

A stiff rubber scraping pig should be pushed through the pipeline (at a constant speed consistent with the pig manufacturer's recommendation) using nitrogen or some other inert gas to prevent explosive mixtures. Free liquids pushed ahead of the pig may be either pushed into the downstream pipeline section or collected in a containment tank designed and isolated according to prevailing local guidelines, for disposal in accordance with area legislation or local by-laws. This process should be repeated until free liquids are no longer evident by visual inspection. Low areas of the pipeline should be checked for the collection of liquids or other contaminants.

After these initial pigging runs, the pipeline should be checked for cleanliness. If contamination is evident, the pigging procedure should be repeated using a slug of solvent between two pigs. As with the free liquids, the solvent should be collected in a containment tank and disposed of in accordance with area legislation or local by-laws. Solvent fumes should be purged with nitrogen or a similar inert gas.

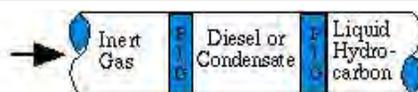
D.3 Cleaning Methods for Liquid Pipelines

Following completion of the initial in-service cleaning efforts, a final cleaning step should be done in conjunction with line evacuation. The following procedure is commonly used, although many variations exist which should be considered. Consultants specializing in the cleaning of contaminated facilities can advise and provide plans for both normal and unusual circumstances.

A slug of liquid hydrocarbons having solvent properties such as condensate or diesel fuel is pushed through the pipeline between two stiff rubber scraper pigs at a constant speed by an inert gas such as nitrogen. Other additives or treatment chemicals may be added if desired. As a rule of thumb, the volume should be calculated to maintain a minimum pipe wall contact time by the fluid ranging from five to ten minutes (or longer), depending on the effectiveness of the initial in-service cleaning process.

For lines having encrusted or high paraffin build-up, an additional volume of solvent preceding the first pig can be considered. All contact times should be increased for excessive lengths of line as the solvent may become saturated with hydrocarbons before completion of the run. The following diagram illustrates the pipeline sequence of movement. At the endpoint, the solvent and hydrocarbons are pushed into another section of pipeline or collected in a containment tank for disposal.

Figure D-2 - Final Cleaning and Evaluation for Liquid Pipelines



A repeat run of the pig train described above should be conducted if there are any indications of liquids or contaminants remaining on the pipe wall in excess of the established cleanliness criteria. The effectiveness of the cleaning process can be gauged by either obtaining samples of the solvent near the tail end of the passing batch, at approximate 25 km intervals, and analyzing the samples for hydrocarbon content, or by monitoring the quality and quantity of the solvent hydrocarbons expelled from the line and comparing it with that injected.

[Top of Page](#)

Appendix E - Bibliography

The documents that were used in the preparation of this discussion paper are listed below. Copies of the studies that were commissioned by the Pipeline Abandonment Steering Committee are available from the Canadian Association of Petroleum Producers, the Canadian Energy Pipeline Association, the Alberta Energy and Utilities Board, and the National Energy Board.

Studies Commissioned by the Pipeline Abandonment Steering Committee

1. Roberts Thorne, Wendy E., Basso, Anne C., Sukhvinder, K. Dhol, Identification and Assessment of Trace Contaminants Associated with Oil and Gas Pipelines Abandoned in Place, Topical Report, Biophilia Inc., 1996.
2. Webster, R.D., Pipeline Corrosion Evaluation, Topical Report, Corpro Canada, Inc., 1995.
3. Saunders, R., Preliminary Geotechnical Assessment of Pipeline Subsidence Phenomena, Topical Report, Geo-Engineering Ltd., 1995.
4. H.R. Heffler Consulting Ltd., and Tera Environmental Consultants (Alta.) Ltd., Environmental Issues Concerning Pipeline Abandonment, Topical Report, 1995.

Correspondence with Abandonment Committees

5. Letter dated 29 January 1995 from Montreal Pipe Line Limited with attached case history for 323.9 mm diameter pipeline abandoned in 1984.
6. Letter dated 2 November 1995 from Trans-Northern Pipelines Inc. outlining case history for a 219.1 mm diameter pipeline, referred to as the Ottawa Lateral, abandoned in segments between 1968 and 1987.

Other Papers

7. National Energy Board, Background Paper on Negative Salvage Value, September 1985.

8. Willatt, R.M., Abandonment of the Angle Bay-Llandarcy Cross Country Pipeline, Pipeline Industry Guild *et al* Pipeline Management 90 Symposium ' Proceedings, Paper No. 16, London, England, 13-14 June 1990.
9. Cooper, M.W., The Abandonment of Offshore Pipelines, Pipelines International, v 35, no 4, pp. 15-20, July-August 1990.
10. Starsmore, R.P., History of a Wet Gas Transportation Pipeline from Design through to Decommissioning, Pipelines International, v 35, no 4, pp. 11-14, July-August 1990.
11. O'Donoghue, A., Characteristics and Performance of Conventional Cleaning Pigs, Pipelines International, v 38, no 5, pp. 17-21, September-October 1993.
12. Anderson, S., Environmental and Safety Implications, IBC Technical Services Ltd. Decommissioning & Removal of Offshore Structures Conference Proceedings, London, England, 15-16 September 1993.
13. Keys, M. S., Evans, R., Gel Pig Technology Used In Pipeline Conversion, Pipeline Gas Journal, v 220, no 3, pp. 26-28,30,33, March 1993.
14. Linz, D.G., Woodyard, J.P., Geer, E. C., New Understandings in Prediction and Control of PCB (Polychlorinated Biphenyl) Migration in Gas Pipelines, Industrial Gas Technology Hazardous & Environmentally Sensitive Waste Management in the Gas Industry Conference Proceedings, Albuquerque, New Mexico, 20-22 January 1993.
15. Walsh, F.J., PCB Contaminated Gas Pipeline Risk Assessment, Topical Report, Roy F. Weston Inc., 1993.
16. Robinson, G., PCB (Polychlorinated Biphenyl) Site Investigation Adopts Efficient Sampling Strategy, Pipe Line Industry, v 75, no 2, pp. 51-55, February 1992.
17. Liebs, L. H., PCBs (Polychlorinated Biphenyl) in the Natural Gas Industry, Industrial Gas Technology Hazardous & Environmentally Sensitive Waste Management in the Gas Industry Conference Proceedings, Albuquerque, New Mexico, 20-22 January 1993.
18. Merilainen, K.J. (NOWSCO Well Service Inc), Pipeline Line Filling Abandonment Technologies, 16 August 1995.
19. van Everdingen, R. O., Potential Interactions Between Pipelines and Terrain in a Northern Environment, Technical Bulletin - Canada, Inland Waters Directorate, no. 114, 1979.
20. McNulty, J.G., Short, G.C., Russell, D.A., Predicting the Performance of Conventional Pigs, 4th Pipe Line Industry & Pipelines International Pipeline Pigging & Inspection Technology International Conference Proceedings, Paper No. 3, Houston, Texas, 17-20 February 1992.
21. Lewis, David L., Bishop, Mary K., Statistical Analysis of PCB Data from Natural Gas Pipelines, Radian Corporation Topical Report, 1991.
22. LaShier, R., The TSCA PCB Regulations and Their Effect on Pipeline Removal and Abandonment Programs, American Gas Association 1989 Operating Section Proceedings, Report No. CONF-8905185--, Technical Paper 89-DT-61, American Gas Association, Arlington, Virginia, 1989.

23. Norman, S., Fiscal Issues of Abandonment, IBC Technical Services Ltd. Decommissioning & Removal of Offshore Structures Conference Proceedings, London, England, 15-16 September 1993.
24. Metcalf, R., The Legal Requirements For Abandonment, IBC Technical Services Ltd. Decommissioning & Removal of Offshore Structures Conference Proceedings, London, England, 15-16 September 1993.
25. Fjelsa, O., Decommissioning and Removal in Norway, IBC Technical Services Ltd. Decommissioning & Removal of Offshore Structures Conference Proceedings, London, England, 15-16 September 1993.
26. Joy, M.F., Major Federal Legislative Initiatives Affecting the Industry, API Pipeline Conference Proceedings, Houston, Texas, 7-8 April 1992.
27. Sharp, W.R., Offshore Pipeline Abandonment, Gas Engineering and Management, vol 30, no 1, January 1990.
28. Huntington, A.A., A Practical Look at UK Pipeline Abandonment Legislation, Pipelines International & Aberdeen University - Pipelines & the Environment Conference Proceedings, Bournemouth, England, 8-10 March 1988.
29. Butler, W.C.F., UK Abandonment Policy: Development and Implementation, ASS Offshore Diving Contract *et al* Offshore Abandonment & Removal International Conference Proceedings (OAR '90), Aberdeen, Scotland, 27-29 March 1990.
30. U.K. Department of Trade and Industry, Abandonment of Offshore Installations and Pipelines under the Petroleum Act 1987: Guidance Notes for Industry (Consultative Document), 4 May 1995.

Date modified:

2018-07-13

COORDINATING INFRASTRUCTURE WORKS

A BEST PRACTICE BY THE NATIONAL GUIDE
TO SUSTAINABLE MUNICIPAL INFRASTRUCTURE

National Guide
to Sustainable
Municipal
Infrastructure



Guide national pour
des infrastructures
municipales
durables

Canada

MRC - CMRC



Coordinating Infrastructure Works

Issue No 1.0

Publication Date: July 2003

© Copyright National Guide to Sustainable Municipal Infrastructure 2003

The contents of this publication are presented in good faith and are intended as general guidance on matters of interest only. The publisher, the authors and the organizations to which the authors belong make no representations or warranties, either express or implied, as to the completeness or accuracy of the contents. All information is presented on the condition that the persons receiving it will make their own determinations as to the suitability of using the information for their own purposes and on the understanding that the information is not a substitute for specific technical or professional advice or services. In no event will the publisher, the authors or the organizations to which the authors belong, be responsible or liable for damages of any nature or kind whatsoever resulting from the use of, or reliance on, the contents of this publication.

TABLE OF CONTENTS

Foreword	v
Acknowledgements	vii
Executive Summary	ix
1. General	1
1.1 Introduction.....	1
1.2 Purpose and Scope	1
1.3 Review Methodology.....	2
1.4 How to Use This Document.....	2
1.5 Glossary	4
2. Rationale	7
2.1 Background.....	7
2.2 Benefits	7
2.2.1 Reduced Costs.....	7
2.2.2 Increased Sensitivity of Infrastructure Managers to Considerations in other Infrastructure Areas	7
2.2.3 Reduced Disruption and Social Costs	7
2.2.4 Improved Coordination of Long-Term Infrastructure Works with Development-Related Works.....	8
2.2.5 Improved Full Cost Accounting.....	8
2.2.6 Improved Public Perception.....	8
2.2.7 Increased Council and Public Awareness of Life Cycle Replacement Strategies	8
2.2.8 Better Funding Approval Procedures.....	8
2.3 Risks/Possible Consequences	9
2.3.1 Increased Administrative Costs.....	9
2.3.2 Replacement Timing	9
2.3.3 Imbalanced Funding.....	9
2.3.4 Opposition from External Utilities.....	9
2.3.5 Reduced Flexibility	9
2.3.6 Lost Opportunity Costs	9
3. Description of Appropriate Practice Areas	11
3.1 Coordination Practices	11
3.1.1 Multi-Year Plans	11
3.1.2 Formal Committees	12
3.1.3 Coordination of Development-Related Works.....	13
3.2 Corridor Upgrades	13
3.3 Restrictive Practices.....	14
3.3.1 Permit Requirements.....	14
3.3.2 No-Cut Rules.....	14
3.3.3 Pavement Restoration Procedures.....	14
3.3.4 Pavement Degradation Fees.....	15

3.4 Approval Processes and the Need for Better Communication	15
3.4.1 Dedicated Funding Sources	15
3.4.2 Block Funding.....	16
3.4.3 Presentations of Infrastructure Needs	16
3.5 Technical Considerations.....	17
3.5.1 Format Planning Tools.....	17
3.5.2 Social and Environmental Costs	18
3.5.3 Pre-Installations and Interim Services	18
3.5.4 Utilidor and Trenchless Technologies	19
4. Applications and Limitations	21
4.1 Applications.....	21
4.2 Limitations.....	21
5. Evaluation	23
References.....	25

FOREWORD

In spite of recent increases in public infrastructure investments, municipal infrastructure is decaying faster than it is being renewed. Factors such as low funding, population growth, tighter health and environmental requirements, poor quality control leading to inferior installation, inadequate inspection and maintenance, and lack of consistency and uniformity in design, construction, and operation practices have impacted on municipal infrastructure. At the same time, an increased burden on infrastructure due to significant growth in some sectors tends to quicken the ageing process while increasing the social and monetary cost of service disruptions due to maintenance, repairs, or replacement.

With the intention of facing these challenges and opportunities, the Federation of Canadian Municipalities (FCM) and the National Research Council (NRC) have joined forces to deliver the *National Guide to Sustainable Municipal Infrastructure: Innovations and Best Practices*. The Guide project, funded by the Infrastructure Canada program, NRC, and through in-kind contributions from public and private municipal infrastructure stakeholders, aims to provide a decision-making and investment planning tool as well as a compendium of technical best practices. It provides a road map to the best available knowledge and solutions for addressing infrastructure issues. It is also a focal point for the Canadian network of practitioners, researchers, and municipal governments focused on infrastructure operations and maintenance.

The *National Guide to Sustainable Municipal Infrastructure* offers the opportunity to consolidate the vast body of existing knowledge and shape it into best practices that can be used by decision makers and technical personnel in the public and private sectors. It provides instruments to help municipalities identify needs, evaluate solutions, and plan long-term, sustainable strategies for improved infrastructure performance at the best available cost with the least environmental impact. The five initial target areas of the Guide are potable water systems (production and distribution), storm and wastewater systems (collection, treatment, disposal), municipal roads and sidewalks, environmental protocols and decision making and investment planning.

Part A of the *National Guide to Sustainable Municipal Infrastructure* focuses on decision-making and investment planning issues related to municipal infrastructure. Part B is a compendium of technical best practices and is qualitatively distinct from Part A. Among the most significant of its distinctions is the group of practitioners for which it is intended. Part A, or the decision making and investment planning component of the Guide, is intended to support the practices and efforts of elected officials and senior administrative and management staff in municipalities throughout Canada.

As previously discussed, current funding levels are insufficient to meet infrastructure needs. Municipal infrastructure tends to be taken for granted, so much so that the fundamental role it plays relative to both our standard and quality of life is marginalized. Infrastructure competes with corporate priorities such as police, fire, social services, parks, recreation, and libraries, which often tend to receive higher priority for funding. The net effect of this situation is a chronic deficiency in capital budgets for infrastructure to the point that infrastructure, both current and new, is rapidly deteriorating. In an attempt to mitigate this situation, Part A of the Guide has identified specific best practices.

These best practices are intended to articulate the relevance and fundamental importance of municipal infrastructure by simplifying complex and technical material into “non-technical” decision-making concepts and principles. By doing so, it is anticipated that the need for adequate sustainable funding can be understood and ultimately realized. However, Part A best practices should not be construed as definitive “best” practices; rather, they should be interpreted as guidelines and concepts. Furthermore, Part A best practices are not normative and, as such, are not intended to usurp the discretion of those most knowledgeable about the local municipality. Quite the contrary, it is hoped that the best practices will inspire decision makers to optimize their municipal infrastructure management practices by providing high level, simple, easy to understand approaches and concepts for representing municipal infrastructure issues. In this way, the gulf between the non-technical community and the technical community of engineers and public works officials may be bridged.

It is expected that the Guide will expand and evolve over time. To focus on the most urgent knowledge needs of infrastructure planners and practitioners, the committees solicited and received recommendations, comments, and suggestions from various stakeholder groups, which shaped the enclosed document. Although the best practices are adapted, wherever possible, to reflect varying municipal needs, they remain guidelines based on the collective judgements of peer experts. Discretion must be exercised in applying these guidelines to account for specific local conditions (e.g., geographic location, municipality size, climatic condition).

For additional information or to provide comments and feedback, please visit the Guide Web site at www.infraguide.gc.ca or contact the Guide team at infraguide@nrc-cnrc.gc.ca.

ACKNOWLEDGEMENTS

The dedication of individuals who volunteered their time and expertise in the interest of the *National Guide to Sustainable Municipal Infrastructure* is acknowledged and much appreciated.

This best practice was developed by stakeholders from Canadian municipalities and specialists from across Canada, based on information from a scan of municipal practices and an extensive literature review. The following members of the National Guide's Decision Making and Investment Planning Technical Committee provided guidance and direction in the development of this best practice. They were assisted by the Guide Directorate staff and by New East Consulting Services Ltd.

Umendra Mital, Chair	City of Surrey, British Columbia
Clarke Bellinger	CH2MHILL, Ottawa, Ontario
Ed Kovacs	City of Cambridge, Ontario
Luc Lahaie	City of Laval, Quebec
Betty Matthews-Malone	City of Hamilton, Ontario
Osama Moselhi	Concordia University, Montréal, Quebec
Jean-Pierre Pierre	City of Clarence-Rockland, Ontario
Konrad Siu	City of Edmonton, Alberta
George Trainor	City Councillor, Charlottetown, Prince Edward Island
Jeff B. Potkins	Technical Advisor, NRC

In addition, the Decision Making and Investment Planning Technical Committee would like to thank the following individuals for their participation in working groups and peer review:

Umendra Mital	City of Surrey, British Columbia
Betty Matthews-Malone	City of Hamilton, Ontario
George Trainor	City Councillor, Charlottetown, Prince Edward Island
Abe Mouaket	City of Toronto, Ontario
Kulvinder Dhillon	Province of Nova Scotia, Halifax, Nova Scotia
Piero Salvo	WSA Trenchless Consultants Inc., Ottawa, Ontario

This and other best practices could not have been developed without the leadership and guidance of the Project Steering Committee and the Technical Steering Committee of the *National Guide to Sustainable Municipal Infrastructure*, whose memberships are as follows:

Project Steering Committee:

Mike Badham, Chair	City Councillor, Regina, Saskatchewan
Stuart Briese	Portage la Prairie, Manitoba
Bill Crowther	City of Toronto, Ontario
Jim D'Orazio	Greater Toronto Sewer and Watermain Contractors Association, Ontario
Derm Flynn	Mayor, Appleton, Newfoundland
David General	Cambridge Bay, Nunavut
Ralph Haas	University of Waterloo, Ontario
Barb Harris	Whitehorse, Yukon
Robert Hilton	Office of Infrastructure, Ottawa, Ontario
Joan Lougheed	City Councillor, Burlington, Ontario Stakeholder Liaison Representative
René Morency	Régie des installations olympiques Montréal, Quebec
Saeed Mirza	McGill University, Montréal, Quebec
Lee Nauss	City Councillor, Lunenburg, Nova Scotia
Ric Robertshaw	Region of Halton, Ontario
Dave Rudberg	City of Vancouver, British Columbia
Van Simonson	City of Saskatoon, Saskatchewan
Basile Stewart	Mayor, Summerside, Prince Edward Island
Serge Thériault	Department of Environment and Local Government, Fredericton, New Brunswick
Alec Waters	Alberta Transportation, Edmonton, Alberta
Wally Wells	Dillon Consulting Ltd., Toronto, Ontario

Technical Steering Committee:

Don Brynildsen	City of Vancouver, British Columbia
Al Cepas	City of Edmonton, Alberta
Andrew Cowan	City of Winnipeg, Manitoba
Tim Dennis	City of Toronto, Ontario
Kulvinder Dhillon	Province of Nova Scotia, Halifax, Nova Scotia
Wayne Green	City of Toronto, Ontario
John Hodgson	City of Edmonton, Alberta
Bob Lorimer	Lorimer & Associates, Whitehorse, Yukon
Betty Matthews-Malone	City of Hamilton, Ontario
Umendra Mital	City of Surrey, British Columbia
Anne-Marie Parent	City Councillor, City of Montréal, Quebec
Piero Salvo	WSA Trenchless Consultants Inc., Ottawa, Ontario
Mike Sheflin	Former CAO, Regional Municipality of Ottawa-Carleton, Ontario
Konrad Siu	City of Edmonton, Alberta
Carl Yates	Halifax Regional Water Commission, Nova Scotia

EXECUTIVE SUMMARY

This document outlines best practices for the coordination of infrastructure works, to minimize disruption and maximize value. All public works managers have, at one time or another, been exposed to significant public complaints about the lack of effective coordination among the various infrastructure components. How well this issue gets handled, significantly affects the overall effectiveness of infrastructure providers and, therefore it is important for the various infrastructure renewal programs to be coordinated to the maximum extent possible.

A wide variety of practices exist across the country. The review identifies best practices, which will work in different situations. This, in turn, will enable individual municipalities to choose the practices appropriate for their organization. The review included:

- preliminary interviews with a wide variety of municipalities across the country;
- the selection of 20 municipalities for detailed follow-up interviews;
- the development of a series of detailed questions;
- detailed follow-up interviews with the 20 final municipalities;
- a literature review of pertinent aspects of other formal studies;
- a review of a variety of consultant reports and models; and
- the use of the personal experiences of the team members who were involved in creating this best practice.

The benefits anticipated from improving service delivery models in this area include:

- reduced costs;
- increased sensitivity of infrastructure managers to considerations in other infrastructure components;
- reduced disruption and social costs;
- improved coordination of long-term infrastructure works with development related works;

- improved full cost accounting;
- improved public perception of infrastructure providers;
- increased council and public awareness for the need of life cycle replacement strategies; and
- improved funding approval procedures.

A number of risks and possible consequences are associated with how the practices itemized are dealt with, including:

- increased administrative costs;
- premature replacement;
- skewed priorities;
- opposition from external utilities;
- reduced flexibility; and
- lost opportunity costs.

The various best practices identified as a result of this review can be placed in five generic areas with a number of subcategories.

1. **Coordination Practices** – The effective coordination of the various utilities involved is critical. The following specific practices are highlighted:
 - multi-year plans;
 - formal committees (both internal and external committees); and
 - coordination of development-related works.
2. **Corridor upgrades** – Corridor upgrades have significant benefits with respect to maximizing coordination and minimizing repeat disruption. Care needs to be taken to ensure the economic life lost to early replacement does not exceed the economic benefits resulting from improved coordination. In situations where a “smaller percentage life” is still remaining in an underground utility, additional economic analysis should be undertaken to evaluate and justify complete corridor renewal and rehabilitation. Refinement on the corridor approach includes the installation of utilidors, and the upgrading of many blocks on a particular street or an entire neighbourhood at the same time.

3. Restrictive practices – Municipalities use a variety of restrictive practices to promote enhanced coordination. They include:

- permit requirements;
- no-cut rules;
- pavement restoration procedures; and
- pavement degradation fees.

The above restrictive practices all form incentives to minimize disruption to a particular road surface and to enhance the coordination of various infrastructure programs.

4. Approval processes/communicating needs – A variety of planning processes and how the needs get communicated are outlined as part of this review. They include the role of:

- dedicated funding sources;
- block funding;
- formal planning tools; and
- presentations, public notices, and other information dissemination.

All these areas serve specific roles in the infrastructure approval process and affect how well individual programs are coordinated.

5. Technical considerations – In addition to policy and procedure-related best practices, there are some technical considerations. They include how to account for social and environmental costs, pre-installation of services, use of computer software for coordination of capital works programming of various infrastructure components, and trenchless technologies.

How this best practice should be applied and its limitations are also outlined as part of this review. Due to the wide variation in the number of practices employed, in most cases, the review lists the various practices without specifying which are preferable. However, on occasion it is clear that some practices are preferable to others. Where this occurs, commentary is provided. Examples include:

- multi-year plans;
- formal coordination committees;

- corridor reviews;
- pavement degradation fees;
- dedicated funding approvals for infrastructure needs;
- block funding approvals; and
- highlighting life cycle costing in presentations.

Since the success of the various practices outlined is subjective, evaluations of the performance of individual municipalities are difficult. However, criteria to measure the success of particular organizations include:

- the length of the plans distributed to the various infrastructure providers;
- the frequency of contact with external agencies;
- the existence of a formal multi-agency committee to review these issues;
- the existence of no-cut rules and pavement degradation fees;
- the size of the annual infrastructure deficit and the frequency of reporting to council and the public on these issues; and
- the existence of block funding approvals.

It should always be remembered that the primary indication for success is the overall effectiveness of infrastructure providers in the eyes of the local council and the community.

1. GENERAL

1.1 INTRODUCTION

This best practice document is part of the *National Guide to Sustainable Municipal Infrastructure*. Its goal is to assist municipalities with the management of all components of the municipal infrastructure and provide a road map for the Canadian network of practitioners, researchers, and municipal officials to solve today's municipal infrastructure challenges. This best practice document is concerned with the coordination of infrastructure works to minimize disruption and maximize value. It has been produced under the guidance of the Decision Making and Investment Planning Committee but targets more of a technical audience compared with other best practices produced by this Committee.

All public works managers have, at one time or another, been exposed to significant public complaints about the lack of effective coordination among the various infrastructure components. The problems associated with effective coordination are significant as various components of the infrastructure are installed at different times, with different expected life cycles, differing degrees of maintenance, and management by different staff groups. Some components are managed by entirely different organizations, which have different mandates and funding sources. This presents a significant technical and communication challenge in minimizing the disruption caused to the community and maximizing the value of infrastructure investments. There is little that is more disturbing to the public than to see a significant public works project in progress, with the associated disruption and social cost to the community, and to observe the reinstatement of the pavement surface only to have the entire street dug up again for an entirely different purpose a short time later. While technical explanations for this phenomenon can be offered, the perception of waste and inefficiency in the service delivery of infrastructure works is an inevitable outcome. It is therefore important for the various infrastructure renewal programs to be coordinated to the maximum extent possible.

1.2 PURPOSE AND SCOPE

The overall purpose of this best practice is to conduct a review of the various practices that cities across Canada use, to improve coordination among the various infrastructure programs, and identify the best practices used. It should be noted that there is a wide variety of needs across the country and a wide variety of cultures within both the cities at large and within their council make-up. It is not a purpose of this review to attempt to change the culture of individual cities. Rather, its goal is to identify a variety of best practices, which work in different situations that, in turn, will enable individual municipalities to choose which practices are appropriate for their organization. On occasion, some practices offer enhanced opportunities for effective co-operation, and these are noted, yet it

must be acknowledged that implementation may not be possible in all organizations.

1.3 REVIEW METHODOLOGY

The Decision Making and Investment Planning Committee of the National Guide used the services of a consultant who had extensive background in the management of municipal government, general engineering practices, and related practical experience. The assembled consultant team also had significant background in infrastructure-related topics. It was generally felt that although many cities had previously participated in extensive technical surveys, the required input for this survey would be difficult to achieve following traditional survey methodologies. Consequently, municipalities across the country with varying population, size, and climatic considerations were contacted directly by telephone. Brief descriptions of the practices followed in each of these municipalities were produced, and 20 municipalities were selected for follow-up interviews. A series of detailed questions were developed that were distributed in advance of the interviews. In addition, a request was made that, for each infrastructure area involved, technical experts be present at the follow-up interviews. The detailed interviews were conducted with representatives from the various technical and decision-making and investment planning committees in attendance, along with the consultants carrying out the detailed reviews. This provided consistency and allowed synergies to develop in a committee format. The background information on each municipality, produced from the preliminary interviews, served as a valuable starting point for the detailed interviews. Anywhere from one to six representatives of the municipality assisted in answering the detailed questions (depending on the size, complexity, and expertise involved). It was felt that this review methodology obtained the required information in a co-operative, cost-effective manner. In addition, rapport was established between the Guide team and the various municipalities involved, which will aid in future best practice scans.

A literature review was conducted to incorporate pertinent aspects of other formal studies. A specific review was made of a variety of consultant reports and models in current use in the municipalities involved. The best practice scan also used the personal experiences of the team members who had significant expertise in the management of these types of processes. This review methodology was successful in obtaining the information required in a very co-operative manner and should be considered for other best practices.

1.4 HOW TO USE THIS DOCUMENT

This best practice reveals that there are a variety of techniques being used throughout the country. The outcome is a mix of considerations including physical, financial, organizational, and behavioural. Many of the practices identified involve values, which are difficult to measure with fixed criteria. As

there is wide variation in the stakeholders involved, there is a danger of trying to make one model fit all communities. A number of factors influence this issue:

- **political:** how a community is represented (ward basis or at large elections), the council term (very short compared to the time frame of infrastructure-related issues) and the values/preferences a particular council has with respect to capital verses operating, user pay, fees and charges, etc.;
- **socio-economic:** the community size and its relative budgets and affordability, the community age, and where it is in the infrastructure life cycle;
- **financial considerations:** competition for tax funds, the effects of downloading and general cutbacks in the government sector, the existence of dedicated funding and who owns the various infrastructure areas, and the general practice of locating external utilities (above or below ground);
- **asset-related issues;**
- **organization:** how an organization is staffed and structured; and
- **culture.**

All these factors result in the use of a wide variety of detailed techniques; however, there are also significant consistencies between municipalities when this issue is considered in an overview manner. The strategies employed by the various municipalities contacted fall into the following five broad categories.

1. **Coordination practices** include utility committees, the development of multi-year plans and the formal circulation of plans and programs among various infrastructure components.
2. **Corridor upgrades** involve the replacement of a variety of infrastructure components at the same time.
3. **Restrictive practices** include no-cut rules and pavement degradation fees.
4. **Approval processes/communicating needs** includes the role of dedicated funding, block funding approvals and the timing of approvals, and how the issues are presented.
5. **Technical considerations** refer to the pre-installation of lateral and service connections, trenchless construction techniques, etc.

In each category, a wide variety of practices have been followed. It is the general conclusion of this review that no one approach will fit all organizations, and

variety is appropriate. Rather than make specific recommendations, it is preferable to list a variety of practices that seem to work in different situations and provide commentary on the relative merits of each. This allows a wide variety of municipalities and individual areas to select from the various best practices listed that best fit the culture of their community and council.

1.5 GLOSSARY

Asset management — The combination of management, financial, economic, engineering and other practices applied to physical assets with the objective of providing the required level of service in the most cost-effective manner.

Best practices — State of the art methodologies and technologies for municipal infrastructure planning, design, construction, management, assessment, maintenance and rehabilitation that consider local economic, environmental, and social factors.

Block funding — Approval of budgets on a program level for roads, drainage, water/sanitary, etc. as opposed to at an individual project level. This allows for significant flexibility with respect to changing priorities among individual projects.

Corridor upgrading — The upgrading of all elements of infrastructure on a specific street or in a geographic area at the same time.

Dedicated funding — Funding raised for a specific utility and restricted by a policy framework for use on one infrastructure component.

External utilities — Commonly refers to utilities not owned and operated by the municipality. They typically include hydro, telephone, cable, and fibre optics but may include infrastructure, which is traditionally municipal in nature (if it is owned by an external company or another level of government).

Full cost accounting — A process, which relates all the associated costs and effects of a particular program to its funding source.

Infrastructure renewal programs — A systematic program, which rehabilitates or reconstructs an infrastructure system near the end of its physical life.

Life cycle replacement strategy — An infrastructure renewal strategy, which recognizes that each component has a limited life span and takes that life span into account when determining an annual program.

Long-range infrastructure planning processes — Refers to a planning horizon of five to ten years.

Municipal infrastructure — Roads, water, sanitary sewer, and stormwater systems which form a network and serve whole communities, where the system as a whole is intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and refurbishment of its components. The network may include normally recognized ordinary assets as components.

Municipality — A legally incorporated or duly authorized association of inhabitants of limited area for local governmental or other public purposes.

No-cut rule — A moratorium on all excavation activity within the pavement surface for a specific period of time after a pavement overlay.

Pavement degradation fee — A fee charged to an agency cutting the pavement, which is in addition to the repair cost. This accounts for the reduced service life of the pavement infrastructure as a result of the excavation process.

Short-term infrastructure planning processes — Generally refers to a planning horizon of less than five years.

Utilidor — A linear utility chamber constructed to accommodate a variety of utilities. (Those utilities could include hydro, telephone, cable, steam heat, etc.).

2. RATIONALE

2.1 BACKGROUND

Although specific procedures and followed practices varied significantly among municipalities, there was instant recognition that the topic of this best practice was very pertinent to all the communities surveyed. All the staff involved quickly recognized that the need for effective coordination was one of the most important building blocks to an effective infrastructure replacement strategy. The five key elements listed in this best practice were prevalent in most of the communities surveyed. While the precise methodology of addressing this issue did differ significantly among the communities, the various practices used can be grouped into:

- coordination practices;
- corridor upgrades;
- restrictive practices;
- approval processes/communicating needs; and
- technical considerations.

2.2 BENEFITS

A wide variety of benefits result from improving service delivery models.

2.2.1 REDUCED COSTS

The net effect of improved coordination includes reduced project costs through efficiencies of scale and avoidance of repeat repair costs, primarily in the pavement repair area. Since funding allocations are often made on overall affordability criteria, more efficient use of funding enables more projects to be implemented, thereby reducing the infrastructure deficit.

2.2.2 INCREASED SENSITIVITY OF INFRASTRUCTURE MANAGERS TO CONSIDERATIONS IN OTHER INFRASTRUCTURE AREAS

The inevitable result of many of the improved coordination techniques is improved education, and sensitivity of infrastructure providers and project managers in one utility area of the needs and considerations in other areas. This, in turn, leads to improved decision making, even before any specific coordination efforts are undertaken.

2.2.3 REDUCED DISRUPTION AND SOCIAL COSTS

Infrastructure works result in the inevitable physical disruption, which leads to social costs, which are incurred but are not accounted for in the project budget.

This would include lost time and business opportunities, additional fuel consumption, etc., resulting from the effects of traffic disruption, noise, air pollution, and other environmental/social impacts. Improved coordination has the potential to reduce these impacts dramatically.

2.2.4 IMPROVED COORDINATION OF LONG-TERM INFRASTRUCTURE WORKS WITH DEVELOPMENT-RELATED WORKS

This capitalizes on the possible efficiencies and the benefit of having new development works fund some long-term infrastructure priorities.

2.2.5 IMPROVED FULL COST ACCOUNTING

Traditionally, the roads area has had the greatest difficulty in maintaining appropriate funding levels, as its traditional funding source is the highly sensitive tax base. Historically, this area also has greater infrastructure deficits associated with it. Some practices identified in this review highlight areas where more full cost accounting may be possible. As an example, the effects of the underground utilities on the life of the road infrastructure are often not captured in traditional cost sharing practices even though those utilities can be on a user pay basis and have a more secure funding source. Some practices would transfer some long-term funding requirements from the more sensitive roads area to the utilities, which often have dedicated funding sources. This shift is fair and appropriate, and would result in increased balance in funding infrastructure priorities and improved overall service to the community.

2.2.6 IMPROVED PUBLIC PERCEPTION

Poor coordination reduces the public image of infrastructure providers. As public perception is invariably reflected in a local council's attitudes and actions, any improvements in co-coordinating efforts have long-term benefits to all public works service providers.

2.2.7 INCREASED COUNCIL AND PUBLIC AWARENESS OF LIFE CYCLE REPLACEMENT STRATEGIES

A number of the education and communicating needs/procedures highlighted are required on an annual basis for budget purposes. However, they also have the tangential effect of increasing awareness of infrastructure needs, which has long-term benefits.

2.2.8 BETTER FUNDING APPROVAL PROCEDURES

A number of the practices highlighted involve approval processes, which can significantly increase the flexibility and coordination procedures surrounding these issues. Better funding approval procedures that allow planning for individual projects to occur earlier and more cost effectively result in significant benefits. They also have the potential to reduce administrative costs associated with the approval process and to increase the opportunities for coordination mid-year, which have direct financial benefits.

2.3 RISKS/POSSIBLE CONSEQUENCES

There are risks associated with a number of the practices itemized.

2.3.1 INCREASED ADMINISTRATIVE COSTS

There is a cost in terms of staff time and direct funding associated with a number of the committees/processes highlighted. Increased staff workload and costs associated with establishing some of the committees listed may result. In larger urban areas, where a number of different committees can be set up on various aspects related to this issue, this risk is greater.

2.3.2 REPLACEMENT TIMING

The corridor upgrade philosophy highlighted may result in replacing some individual infrastructure works before the end of their life. This may offset some benefits gained through increased coordination, reduced disruption, and reduced pavement repair costs. Therefore, proper analysis is critical in deciding on the degree to which these practices should be followed.

2.3.3 IMBALANCED FUNDING

Many communities do not have sufficient funding to balance infrastructure renewal works among various program areas and, therefore, effective coordination in certain program areas is difficult. In extreme cases, the vast majority of program funding can be totally consumed in coordinating works related to either development or one of the other program areas, leaving few resources to fund the remainder of the utility needs. This can result in insufficient flexibility to coordinate with other utilities while addressing the individual utility's needs.

2.3.4 OPPOSITION FROM EXTERNAL UTILITIES

Since a number of outside utilities have different cost centres and different mandates than that of municipalities, resistance may be incurred by adopting some of the techniques highlighted. Depending on the degree of opposition, this can become a major issue, and can by itself consume significant time and resources. Consequently, care must be taken to ensure that relationships do not deteriorate due to the practices outlined.

2.3.5 REDUCED FLEXIBILITY

Adoption of some of the restrictive practices highlighted (e.g., no-cut rules) can reduce the flexibility but increase the criticism of an operation. Care should be taken to ensure that the created expectations can be met.

2.3.6 LOST OPPORTUNITY COSTS

Not following a number of the practices highlighted has the potential of increasing the costs of individual projects and reducing resources available to fund fixed needs.

3. DESCRIPTION OF APPROPRIATE PRACTICE AREAS

As indicated earlier, the various practices identified as a result of this review can be placed into five generic categories with a number of subcategories. They are discussed in more detail in the following subsections.

3.1 COORDINATION PRACTICES

A wide variety of coordination practices were evident among the various municipalities interviewed. Despite the variety, the intent of each municipality's practice was similar: to provide more effective coordination among the various utilities (both internal and external). The following specific practices were in use.

3.1.1 MULTI-YEAR PLANS

The development of multi-year plans, which have specific projects identified, is key to effective coordination of different programs. The practices seem to vary significantly in this area with some cities having plans that are projected out for 10 years, and others which only concentrate on the coming year. The development of multi-year plans is an important consideration for this best practice. The prevailing best practice seems to concentrate on a three to five year horizon. One-year horizons coordinate the upcoming construction season, but do not offer enough lead time for effective long-term coordination and the pursuit of joint opportunities. Many municipalities indicated that outside utility companies in their areas were unable to produce plans for more than a one or two year horizon for a variety of reasons (e.g., unpredictable customer demand). It is noted that municipalities seem to have the ability to project further than most of the outside utility companies although municipal services are planned to meet the customer demand as well. This difference in approach is a significant roadblock to coordinating effective long-range programs.

Once the multi-year plans are developed, many municipalities have a formal circulation system wherein each area's plans/programs are circulated to the other areas. Through that process, it is ensured that pending underground works are completed before the street works.

In addition to providing a good base for coordinating programs, the distribution of longer-term capital plans can reduce the tendency for political direction to modify priorities for the upcoming year. This is especially important for communities governed by wards.

Once the following year's program has been selected, some municipalities mail specific letters for each project to all the other utilities to ensure that attention is brought to the specific project. This seems to be more prevalent in smaller areas

where there are fewer projects. A benefit of this type of process is that specific attention is brought to the street in question. This practice concentrates on the short term (upcoming construction season) but is useful in ensuring that all affected program areas conduct a final check on coordination issues before construction begins.

Some communities (e.g., Kelowna, British Columbia) have an extensive communications plan process for significant projects. This degree of formalized communication with the public is the exception rather than the standard. Others publish notices in the local papers or distribute letters to adjacent directly affected properties.

3.1.2 FORMAL COMMITTEES

A very common method of coordination is the establishment of formal committees with representation from a variety of service areas. This method seeks to ensure there are open lines of communication between the various service providers. There seems to be two distinctly different types of committees used to coordinate these types of works.

- Internal committees include representatives from each of the internal areas affected, which are usually sewers, water, drainage, and roads.
- External committees are sometimes called joint utility coordination committees and generally concentrate on the relationship of the external utility companies to the city programs. These external committees involve the various agencies responsible for the infrastructure, which the municipality does not own. They are usually coordinated and chaired by the municipality, but participation and commitment from the external utility companies seem to be greater if they are involved in chairing and coordinating the committee. Specifically, some municipalities use a rotating chair concept (e.g., Sudbury). In Winnipeg, all participants fund the coordinating efforts and the budget of the committee. These techniques maximize the involvement of the outside utility companies, which is an important factor in effective coordination.

Occasionally, the internal and external committees are combined and, in some cities, a number of other specific purpose committees are set up. (For example, Edmonton uses neighbourhood improvement committees.)

The frequency of meetings of these committees seems to vary dramatically with some meeting just once a year, while others meet monthly or more often.

Individual practices, with respect to committees, vary significantly depending on circumstances. There is no preferred set-up as the individual needs, staff resource levels, and other factors vary significantly. However, strategies involving outside utility companies directly in the management of the overall

issue increase their participation and improve coordination efforts. It is noted that earlier coordination achieves better integration.

3.1.3 COORDINATION OF DEVELOPMENT-RELATED WORKS

Other municipalities coordinate development-related works with ongoing program areas through development-related committees. Some municipalities take cash in lieu of the required works from the developer to coordinate the development-related works with their capital programs. Occasionally, an annual budget amount is set aside to undertake capital works in conjunction with development works in high growth municipalities (e.g., Surrey).

3.2 CORRIDOR UPGRADES

It is relatively common, in a number of areas, to look for opportunities for redevelopment of an entire corridor. The trigger for review of the corridor, however, seems to vary significantly depending on the specifics of the municipality involved. Some municipalities start with the street program and once the street is identified, specific reviews are conducted for the other internal programs, such as water, sewer, and drainage, with priority given to upgrading as many elements as possible. Other municipalities start with a program, such as the water program. In those cases, the overall corridor upgrading starts with the specific underground program, and the opportunity is taken to repave the entire roadway when the underground utility is complete.

While corridor upgrades are relatively common in many cities, the practice itself varies significantly depending on a number of factors, such as balanced funding availability, and the age and condition of infrastructure components. The range of practice varies all the way from very few corridor upgrades to it being the upgrading approach of choice (e.g., Yellowknife, Hamilton). Many believe that complete corridor upgrades are the best practice for their community as it maximizes the coordination benefits and minimizes repeat disruption to the community. However, concerns with this practice have also been articulated (e.g., Saskatoon). Those concerns centre on the economic life lost due to premature replacement of some infrastructure components. In many cases, the economic benefits of corridor replacements are not sufficient to offset the lost life. When considering this issue, cities should conduct an economic analysis of the trade-off between economic life lost due to premature replacement and the cost avoided by repeat pavement repairs and social disruption to the area. The effects of a complete renewal on revitalizing the area and encouraging other investment in the area should also be considered. In situations where a "smaller percentage life" is still remaining in an underground utility, additional economic analysis should be carried out to evaluate and justify complete corridor renewal and rehabilitation.

Partial corridor upgrades can also occur with some but not all program areas being upgraded at the same time. In those cases, it is common to complete a

check on all other utilities and rectify any deficiencies before the corridor upgrade. Another approach, which provides enhanced economies of scale, is to seek approval for upgrading for many blocks of a particular street or an entire neighbourhood at the same time. This provides construction efficiencies and concentrates the disruption to the community to a very specific time frame.

3.3 RESTRICTIVE PRACTICES

Individual municipalities use a variety of restrictive practices to promote coordination and, more important, minimize the disruption to a newly completed project for a number of years.

3.3.1 PERMIT REQUIREMENTS

Most of the municipalities interviewed use a system requiring all excavators to obtain a permit from the municipality before excavation. The permit fee itself is generally nominal; however, the practice does enable the municipality to exercise a degree of control over the excavation of streets. This enables municipalities to implement additional restrictive policies if they wish.

3.3.2 NO-CUT RULES

About half the municipalities surveyed had a no-cut rule of some sort in their municipality. A no-cut rule or moratorium on excavations specifies that no excavations are allowed for a certain number of years after pavement overlays unless emergency circumstances prevail. If a no-cut rule exists, the most common time frame is three years, although in some cases it is longer (e.g., five years). The prevalence of a no-cut rule varied significantly depending on the culture in the municipality, the degree of development (high development areas used fewer no-cut rules) and the sensitivity of the elected officials and the community to repeat disruptions. There were different levels of approvals required with some organizations, requiring approval of Council for an exception to the rule and others producing a wide variety of circumstances, which would allow exceptions to the policy. It is noted that even when a no-cut rule exists, its success in restricting repeat excavations is variable. A recent study prepared for Ottawa highlighted that even very proactive cities found a significant percentage of their moratorium streets had been re-excavated within two years of resurfacing. Unless this is understood when instituting a no-cut rule, false expectations can be raised which, in turn, can lead to additional negative perceptions of public works coordinators.

3.3.3 PAVEMENT RESTORATION PROCEDURES

With respect to the actual road repair procedures, various mechanisms are used, ranging from the utility company repairing the excavation to municipal specifications, to the city coordinating the final pavement restoration at the utility company's expense, to a flat charge pavement repair system which transfers the responsibility for the final repair to the city in exchange for a per square metre charge to the utility company. The individual system adopted varies significantly

among municipalities. While it is difficult to indicate a preferred approach, there is a tendency for individual municipalities to pay more attention to the quality of the final repair than outside excavation agencies, as the municipality will ultimately inherit any deficiencies in the repair process. This leads to the conclusion that the best practice is the one with very active involvement by the municipality.

3.3.4 PAVEMENT DEGRADATION FEES

Pavement degradation fees have been studied in detail by some municipalities. An inherent by-product of utility cuts is the reduced service life of pavements. No matter how well a utility cut is repaired, the nature of the excavation process and the disturbance of the sub base have a significant effect on lessening the overall life of the pavement infrastructure. In general, road infrastructure is in poorer condition than the underground utilities and is usually the more difficult area for raising funds due to the lack of a dedicated funding source. This fee for excavations was discussed in significant detail with the majority of municipalities interviewed. While few municipalities across the country are using the concept (Ottawa, Surrey), there was significant interest and support for it. It assists in moving toward full cost accounting and appropriately charges the agencies responsible for long-term costs. It also has the side benefit of encouraging coordination among the various infrastructure areas to avoid repeat fees.

A number of the municipalities that have implemented such a fee have related the fee to the age of the last overlay. Others have adopted a flat rate for ease of administration. Technically, a relationship to the age of the last overlay is a more accurate method of reflecting the true effects of utility cuts on pavement life, but a flat rate is much easier to administer, and does not require a large database. It is suggested that adopting the concept of a pavement degradation fee in addition to proper road repair procedures is a worthwhile practice for most municipalities to pursue. The choice of a flat or variable rate can be left to the discretion of the individual municipality.

3.4 APPROVAL PROCESSES AND THE NEED FOR BETTER COMMUNICATION

As part of this best practice, a review was carried out of existing planning procedures and how the needs get communicated to the elected officials and the public, along with the adequacy of existing budget levels, in each of the areas for which municipalities were responsible.

3.4.1 DEDICATED FUNDING SOURCES

Existing budgets were generally not sufficient to replace the infrastructure components in question on a life cycle basis, but there was significant variation among urban areas in this regard. The roads and drainage areas usually had greater difficulty in obtaining adequate funding than the sewer and water areas. This was primarily due to the existence of dedicated funding for the sewer and

water areas through utility rates. Generally, roads and drainage were funded from the general tax base and had to compete directly against many other program areas. The relatively higher level of funding for the roads program is evident where a dedicated funding source is available to subsidize the program (e.g., a share of fuel tax in Edmonton and in the member municipalities of the Greater Vancouver Regional District). It appeared that the public and the funding agency are much more willing to provide adequate funding levels if there is a direct link between the users of the system and how the funding is raised. It follows logically that establishing dedicated funding for the various infrastructure service areas should be an overall priority for all infrastructure providers.

3.4.2 BLOCK FUNDING

The timing of the approvals of different funding programs did not seem to be a significant deterrent to enhance coordination as the key coordinating efforts occurred at separate times from the approval process. It was generally acknowledged that early approvals (preferably in the fall for the following year) are very important for effective coordination processes to occur. In addition, the way individual programs and projects were approved has a significant effect on the ability to coordinate throughout the year. Specifically, a number of cities have approval processes, which concentrate on block funding approvals with individual projects submitted only for information purposes or not submitted at all. These types of arrangements are very flexible and allow the municipality to change individual projects if information comes up late in the planning process. This increases the ability of the relevant agencies to coordinate individual program areas with other works. Other cities need to specify exactly which projects will be constructed that year and need council approval in that regard. This practice prevents coordination with other outside influences. It is suggested that the best practice, in this regard, is to seek program level approvals and to supply project detail for information. It is recognized that the ability of individual municipalities to achieve this is influenced significantly by the culture within the community and its council, and this practice may only be achieved over time.

3.4.3 PRESENTATIONS OF INFRASTRUCTURE NEEDS

Most organizations make periodic presentations to their council on their long-term infrastructure plans, and a wide variety of detail is used. It is suggested, as a minimum, that each municipality include in its presentations the replacement value of each infrastructure component, the expected life of that component, a calculated life cycle replacement target, a description of proactive initiatives to meet the target, and the benefits of meeting the target. This budget should then be compared to the actual expenditures in each program area. The difference highlights the needs. Some organizations formalize this to the extent that they call that difference the infrastructure deficit, and it is reported annually. The political support organization's experience varies dramatically with some communities expressing strong support for infrastructure-related issues and others receiving the information with seldom any action taken. The goal should

not be to obtain specific funding levels, but to inform the council and the community of infrastructure issues, to make them aware that continued deferral of this issue is a form of deficit, and that long-term support be generated for infrastructure-related issues. Presentations which address positive outcomes for individual councils and the community as a whole (e.g., reduced emergency repairs with their associated disruptions) are better received than those dwelling on negative outcomes. Regardless of the specific responses, it is apparent that knowledge and awareness of infrastructure-related issues have increased dramatically since the infrastructure movement started in Canada in the early 1980s, and there has been a substantial number of initiatives (the Guide being only one).

3.5 TECHNICAL CONSIDERATIONS

3.5.1 FORMAL PLANNING TOOLS

Many municipalities used formal planning tools. It is very common to use computerized pavement management systems to aid in the prioritization of individual projects. In the sewer and water areas, available models seem to concentrate more on capacity issues than condition issues. A number of cities are participating in pilot projects involving an integrated infrastructure management-upgrading program (e.g., Hamilton). This process concentrates on integrating all aspects of infrastructure into one program. However, while a number of municipalities have started to use this technology, it is premature to provide commentary as to how well it works. In addition to formal planning tools, a number of cities (e.g., Saskatoon, Hamilton) have restructured their public works and engineering departments to include a formal asset management branch. This ensures that attention is being placed in an ongoing manner on infrastructure-related issues and is a very effective way of ensuring a continued long-term focus on these issues.

Municipalities use various means to test the condition of infrastructure. They range from the use of field observation and maintenance records to condition rating equipment. Condition rating data are compiled manually or with computer software. Using the condition rating data, municipalities develop capital programs in conjunction with capacity upgrading needs, which are identified through field monitoring and capacity modelling software. When the infrastructure capacity is upgraded, municipalities consider the projected future demand growth in the range of 10 to 30 years.

Several observations are made in the usage of various tools.

- Most municipalities use capacity modelling software for roads, water, sewer, and drainage systems. Some software is integrated with a municipal geographical information system (GIS), which presents better opportunity for coordination of individual capacity upgrading programs.

- Pavement condition rating and rehabilitation strategy/program development software is more widely used by municipalities than similar software for water, sewer, and drainage systems.
- Some municipalities use closed-circuit television (CCTV) inspection and leak detection to determine underground infrastructure rehabilitation needs or in reaction to frequent maintenance requirements. Some municipalities use a computer-based maintenance management system to track the maintenance cost of specific components in the infrastructure. These systems are sometimes integrated with a GIS.
- Many municipalities have specific material replacement programs, such as paving unpaved roads and replacing cast iron or asbestos cement pipes.

In summary, it has been observed that even partial integration of infrastructure capital works programming aspects facilitates coordination among the various program components. However, there is a need for more comprehensive infrastructure capital works programming software to integrate the various areas.

3.5.2 SOCIAL AND ENVIRONMENTAL COSTS

Most organizations were aware of the social and environmental costs of their projects, but very few attempted to quantify them in any formal sense. Most environmental considerations were dealt with as a result of formal mandated senior level government environmental review and assessment processes. The social issues were generally acknowledged but not dealt with in any formal sense. One example of attempting specifically to quantify social costs is through the concept of a lane rental charge included in the project budget (e.g., Hamilton). This formally quantified traffic disruption to some degree in that municipality. As part of the literature research, Alberta's Transportation Environmental Construction Operations Plan was reviewed. It outlines a very detailed framework for considering environmental issues and ensures that they receive a very high profile as part of project planning. Although this type of detailed environmental planning framework was not prevalent, many acknowledged the need for such an approach.

3.5.3 PRE-INSTALLATIONS AND INTERIM SERVICES

The pre-installation of lateral service connections is a refinement of the corridor upgrade approach. Some pavement cuts resulting from land development can be avoided if lateral and building service connections are pre-installed in anticipation of future development. The cost of such pre-installations can usually be recovered from future developers. To install an appropriate number of connections at appropriate locations, future development layouts must be predicted.

In some cases, where accurate future development layouts are difficult to predict, a larger than standard building service connection may be installed to

accommodate higher demand than that expected from a single building service connection (e.g., for multiple buildings).

Municipalities with very high growth rates also occasionally install interim size utilities first and then upgrade the utilities when future demand warrants it. Sometimes, interim size utilities are installed under interim roads to be widened in the future. In such cases, the location of ultimate utilities should be predetermined to avoid or minimize pavement cuts during upgrading.

3.5.4 UTILIDOR AND TRENCHLESS TECHNOLOGIES

A refinement to the corridor upgrade approach is the installation of a utilidor to house a variety of utilities, such as fibre optics, telephone, cable, and hot water for central heating. While utilidors are relatively common in Europe and in buildings throughout North America, their application to urban infrastructure is new. This type of installation, which is relatively uncommon in Canadian urban infrastructure at present, is usually justified only in downtown cores, where utility space is at a premium or under extreme weather conditions. The benefits of utilidors include:

- one-time construction of the corridor;
- long term access to utilities;
- ease of maintenance; and
- minimal disruption to surfaces, such as roads.

Prince George, British Columbia is moving forward on the installation of a utilidor in its downtown over the next few years, and the city's experience will be useful to monitor.

Many municipalities use various trenchless construction techniques to rehabilitate or install underground utilities. Overall benefit can be achieved by avoiding pavement cuts and the resulting disruptions.

4. APPLICATIONS AND LIMITATIONS

4.1 APPLICATIONS

In their efforts to improve coordination of the various infrastructure works, local governments employ a wide range of practices. The exact practices employed vary due to a number of factors, which are often community or politically based. It is felt that, except in some specific circumstances, it is not appropriate to specify which practice should be used in all situations. This report generally provides a listing of the various practices, which have been employed, to enable individual communities looking to improve their practices to choose from the options. On occasion, it is clear from a technical perspective, that some practices are preferable from the context of maintaining infrastructure. Where this occurs, commentary is provided. Examples include:

- multi-year plans;
- formal coordination committees;
- corridor reviews;
- pavement degradation fees;
- dedicated funding approvals for infrastructure needs;
- block funding approvals; and
- highlighting life cycle costing in presentations.

The actual implementation of those practices will be affected to a significant degree by the community culture and the specific council's attitude. It may not be possible to achieve certain practices in some areas.

4.2 LIMITATIONS

Practices are often driven by a number of factors, specific to the municipality or area in question. For example, Yellowknife practices a high degree of corridor replacement, which is largely driven by history and the climate of the far north. Other urban centres have not yet hit the replacement phase, which is common in older cities. For example, Gander, Newfoundland was largely developed at one time after the war, but Surrey, British Columbia, with its very high growth rates in the last two decades, has the vast majority of its infrastructure in good condition due to its relatively young age. Specific potential limitations on the success of some of the practices outlined include the short planning horizon of some infrastructure providers (e.g., external utility companies), which are not within the control of individual municipalities. The trends in government toward downsizing and cutting administrative costs also may significantly limit the

ability of individual organizations to undertake many of the practices listed. The attitude of some councils regarding delegation, approval processes, and equity across the city also pose significant limitations on implementing a number of practices.

Many other limitations not discussed here, relate to community acceptance of restrictive practices and disruption.

5. EVALUATION

Success in implementing the practices outlined in this best practice is subjective. Due to the differing cultural attitudes within communities, priority should be placed on achieving incremental improvements in the various tools used. Evaluations can be made to measure a particular community against its past practice and the practices employed by other municipalities, as outlined in this best practice. However, it needs to be recognized that there is a wide range of practices in use, and the need for certain practices varies significantly with respect to the size of the community. The larger the community, the more complex the various procedures generally need to be.

Notwithstanding that many of these practices vary significantly among communities, it is possible to review the various practices outlined and periodically evaluate the success of a particular organization in implementing them. Appropriate criteria might include:

- the length of the plans distributed to the various infrastructure providers;
- the frequency of contact with external agencies;
- the existence of a formal multi-agency committee to review these issues;
- the existence of no-cut rules and pavement degradation fees;
- the size of the annual infrastructure deficit and the frequency of reporting to council and the public on these issues; and
- the existence of block funding approvals.

It should always be remembered that the primary consideration for success in this area is the overall effectiveness of the infrastructure providers in both the eyes of the local council and the community. This is affected by many intangible factors, but is the ultimate measure of success.

REFERENCES

- Ainley Group, 2000. "Management of Regional Rights-Of-Way for Utility, Construction and Maintenance Activities," From Director Infrastructure Maintenance, Environment and Transportation Department, Region of Ottawa-Carleton.
- Alberta Transportation, 2001. "Environmental Construction Operations Plan (ECO Plan) Framework," July.
- Calgary, City of, 2000. "Roads – Maintenance – Utility Excavation <http://www.gov.calgary.ab.ca/roads/about_calgary_roads/roads_mainte.../utility_excavation.htm>, accessed January 15, 2003.
- CRTC (Canadian Radio-television and Telecommunications Commission), 2001. "Decision CRTC 2001-23," <<http://www.crtc.gc.ca/archive/ENG.Decisions/2001/DT2001-23.htm>> accessed January 15, 2003.
- CRTC (Canadian Radio-television and Telecommunications Commission), *Telecommunications Act*, Statutes of Canada, Chapter 38, <<http://www.crtc.gc.ca/eng/LEGAL/TELECOM.HTM>> accessed January 15, 2003.
- El Hussein, H. Mohamed, 2003. "Guidelines for the Restoration of Utility Cuts," National Research Council Canada and US Army Corps of Engineers.
- Ghassan, Tarakji, 1995. "The Effect of Utility Cuts on the Service Life of Pavements in San Francisco," Volume I: Study Procedure and Findings. Study conducted for the Department of Public Works City and County of San Francisco, San Francisco, CA.
- Gustafson, Jan-Mark and Lynn Higgins, 2002. "An Interim Framework for Asset Management," Prepared for the City of Saskatoon. Panel Discussion for Asset Management Systems – Implementation Strategies and Lessons Learned at the 2002 Annual Conference of the Transportation Association of Canada, Winnipeg, MN.
- Kelowna, City of, 1999. "Consultation Guidelines for Transportation Initiatives," March.
- Lee, Stephen Q.S. and Katherine A. Lauter, 1999. "Impact of Utility Trenching and Appurtenances on Pavement Performance in Ottawa-Carleton," Environment and Transportation Department, Regional Municipality of Ottawa-Carleton.

- Marcus, William B., nd. "Economic Report: Estimated Costs of Accelerated Repaving Required as a Result of Utility Excavation in San Francisco Streets."
- Nichols, Vallerga & Associates, 2000. "City of Seattle Impact of Utility Cuts on Performance of Seattle Streets."
- San Francisco, City and County of, 2000-02. "5 Year Proposed Utility Excavation and Paving Plan," <<http://www.sfdpw.org/sfdpw/download/fiveyear.htm>> accessed January 15, 2003.
- San Francisco, City and County of, 2000-02. "Regulations for Excavating and Restoring Streets in San Francisco," <<http://www.sfdpw.org/sfdpw/download/download.htm>> accessed January 15, 2003.
- San Francisco, City and County of, Department of Public Works and The Blue Ribbon Panel on Pavement Damage, 1998. "The Impact of Excavation on San Francisco Streets."
- Schaeffer & Associates Ltd. and L & N Koehle Consulting Services, 2002. "Municipal Fees for Utilities in the Right-of-Way."
- Steblin, Peter (Solid Foundations Consulting Ltd.), 2002. "Flat Charge Pavement Repair System," City of Surrey and Township of Langley.
- Steiger, Frank, 1997. "The Second Law of Thermodynamics, Evolution, and Probability," <<http://www.talkorigins.org/faqs/thermo/probability.html>> accessed January 15, 2003.
- Technical Committee on Canada's Urban Infrastructure, 1984. "Canada's Urban Infrastructure – Physical Condition and Funding Adequacy," Prepared for the Federation of Canadian Municipalities Task Force on Municipal Infrastructure.
- Winnipeg, City of, Public Works, nd. "Permit Service" <<http://www.city.winnipeg.mb.ca/publicworks>> accessed January 15, 2003.

City of Coquitlam

Transit Oriented Development

Coquitlam

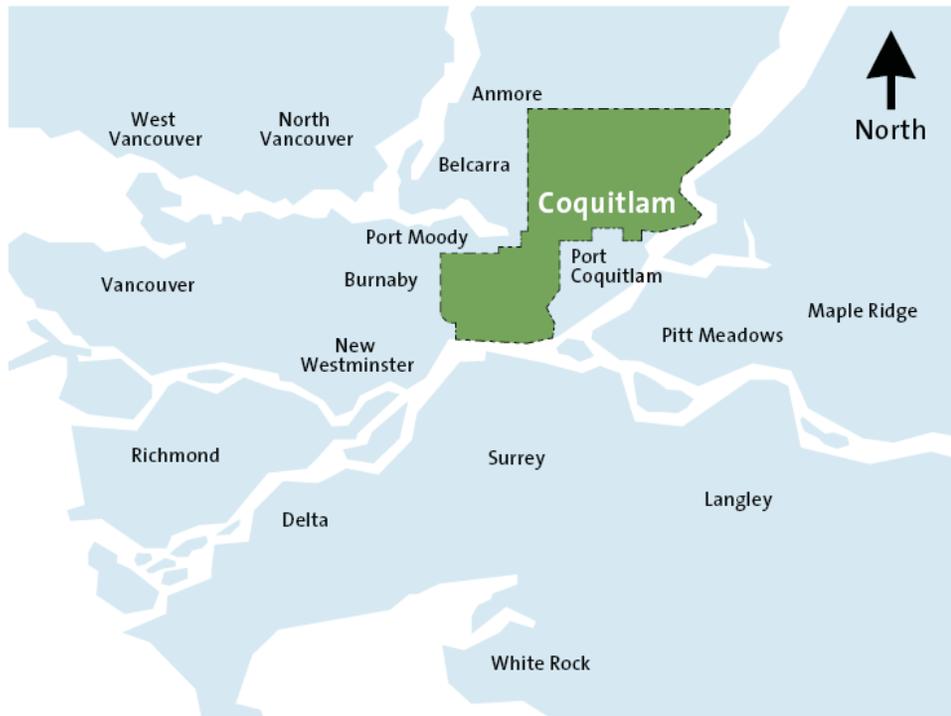


Overview

- Coquitlam Context
- Transit-oriented Development Strategy
- Burquitlam-Lougheed Neighbourhood Plan
- City Centre Area Plan update
- Funding for Growth
- Parking Management
- Pinetree Way enhancement project
- North Road/Clarke Road enhancement project



Coquitlam at a Glance

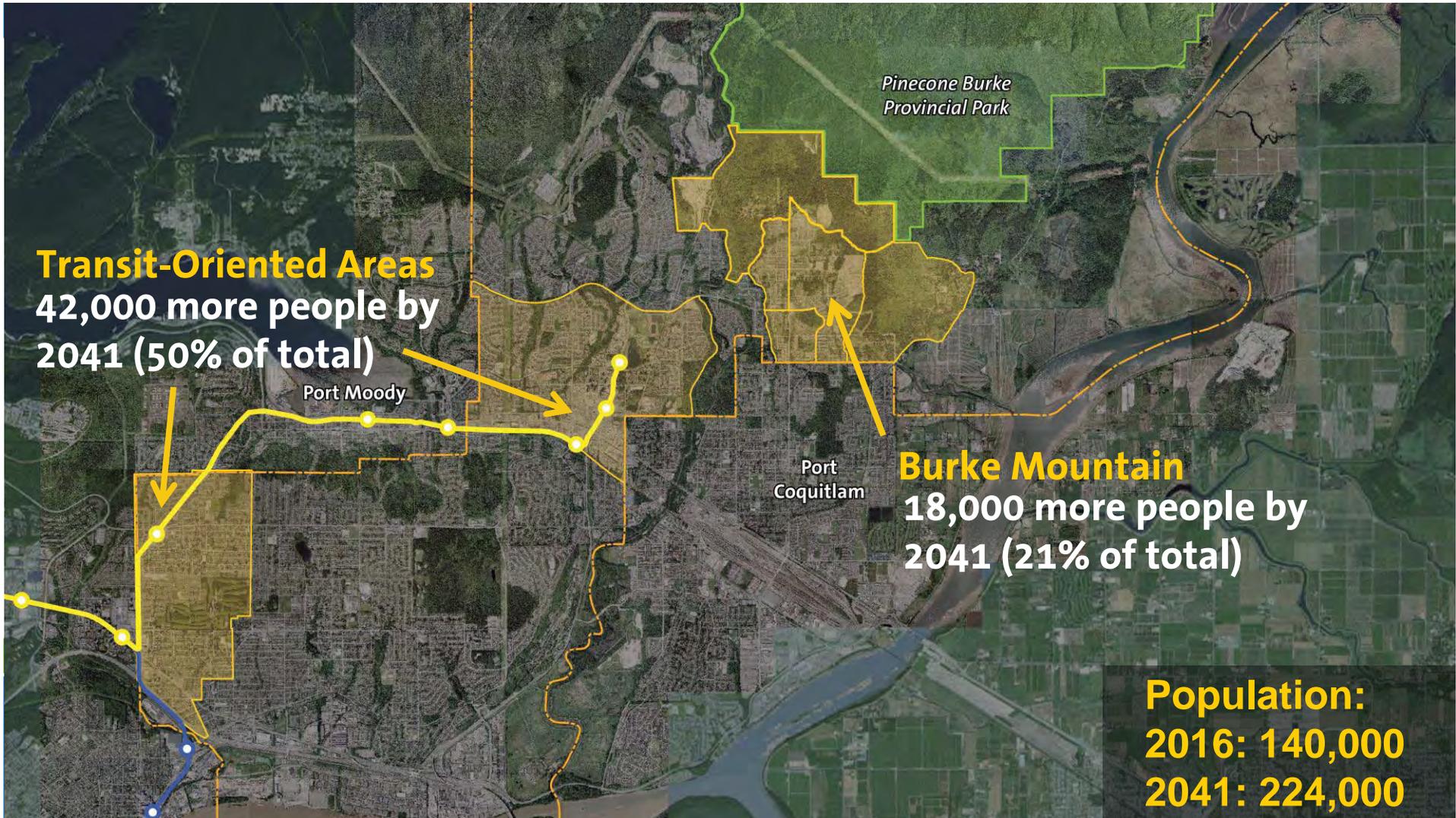


- **Population** – 152,000 (2018)
- **Growth Rate** – 2.5% per year (2011-2016), one of the fastest in BC
- **Diverse Community** – 40% of population born outside of Canada
- **Demography** – younger than the Region as a whole

High Growth Community

- Coquitlam is the fastest growing municipality in greater Vancouver (per capita)
- Growth focused in two areas – along SkyTrain corridor and on Burke Mountain
- Coquitlam is not just growing rapidly, the community is also changing and evolving as we grow





Shaping Growth

The SkyTrain will influence growth for next 100 years

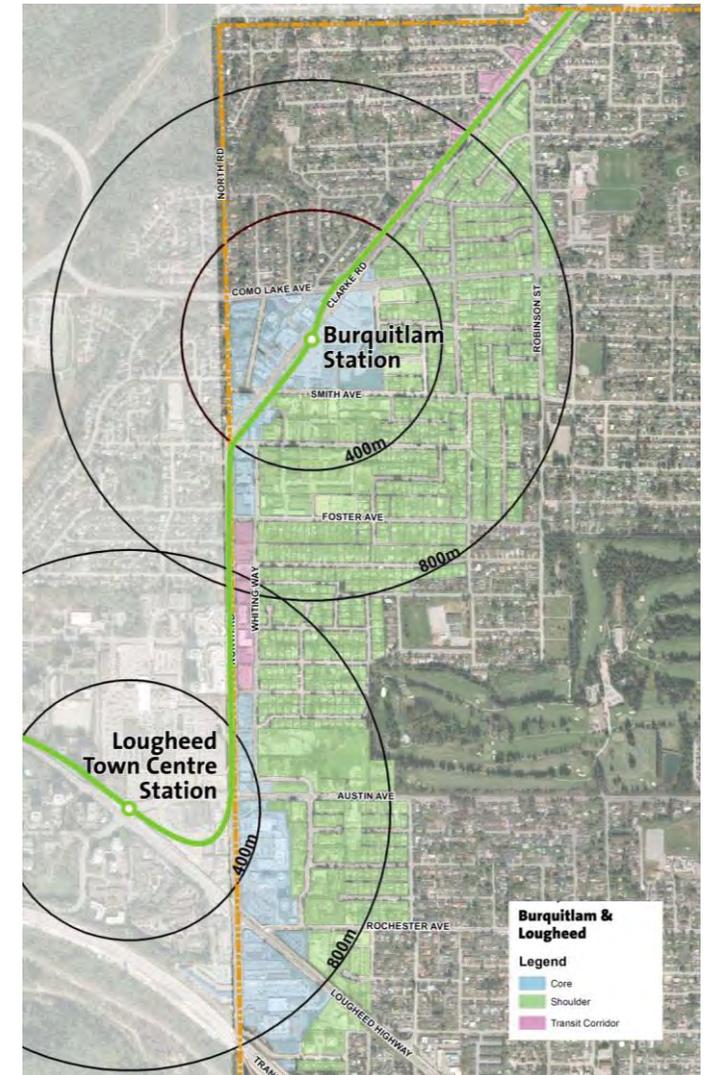
Leverage this investment, to create:

- density around stations
- mixed-use development
- pedestrian-friendly streets
- new amenities



Transit-Oriented Development Strategy (TDS)

- High-level, focused process completed in 2012
- Interim policy to guide development until comprehensive plan updates
- Focus growth near stations, while building Great Places
- Designated “Core” and “Shoulder” areas

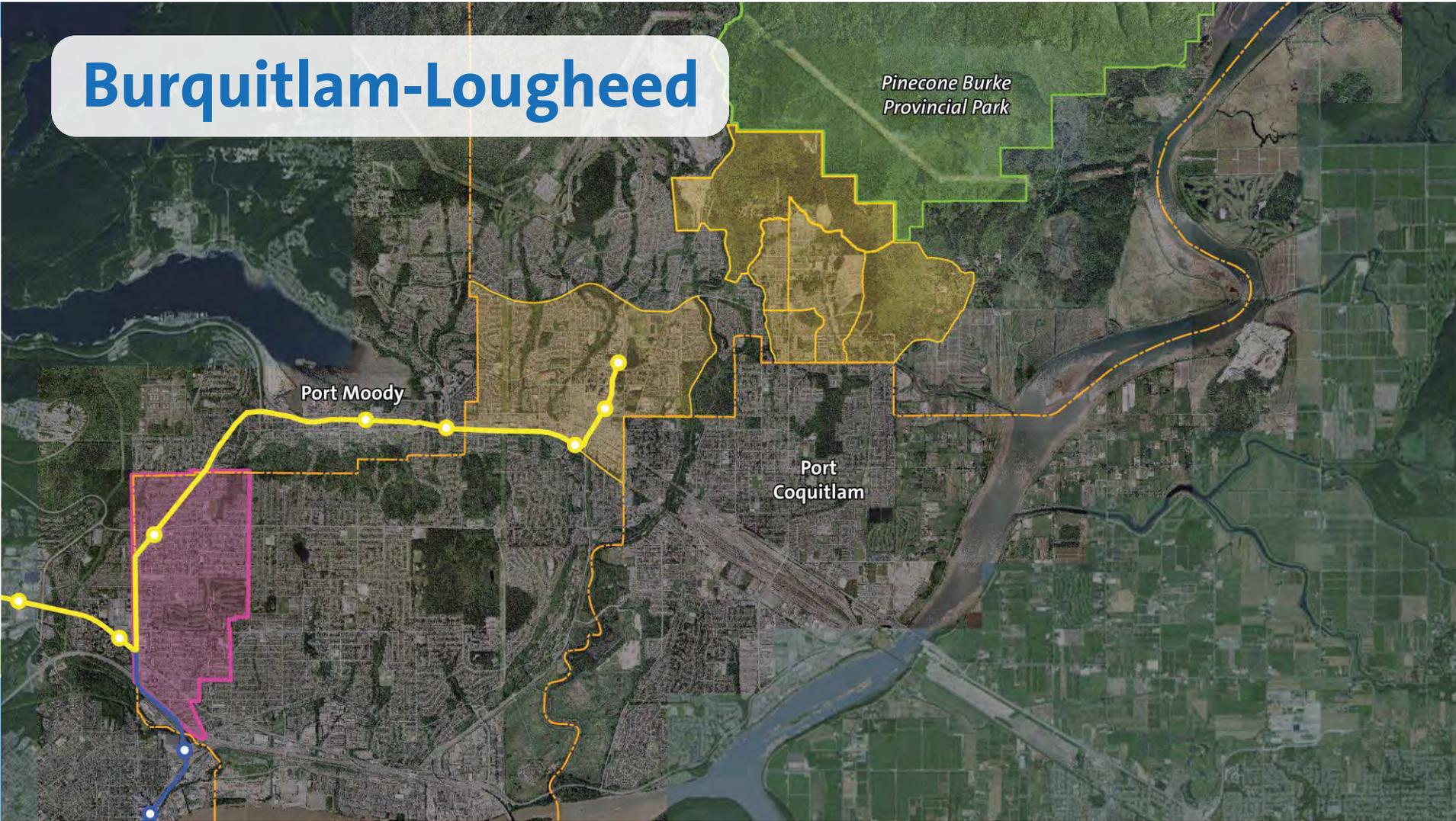


TDS Key Objectives

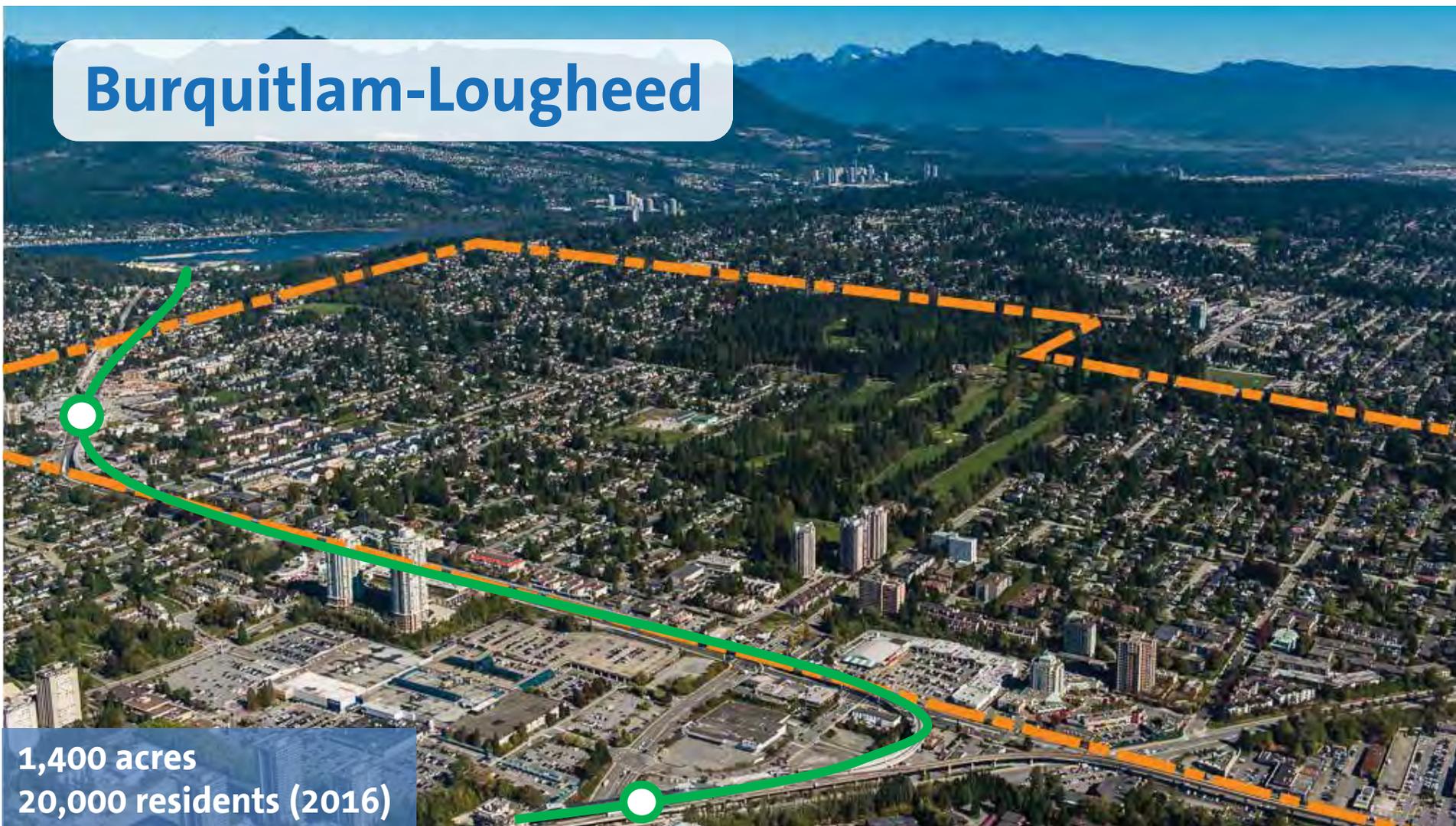
- Create compact, complete neighbourhoods
- Create great places
- Develop transit-supportive density
- Promote sustainable transportation choices
- Implement high quality urban design
- Manage parking



Burquitlam-Lougheed



Burquitlam-Lougheed



1,400 acres
20,000 residents (2016)

Planning Process

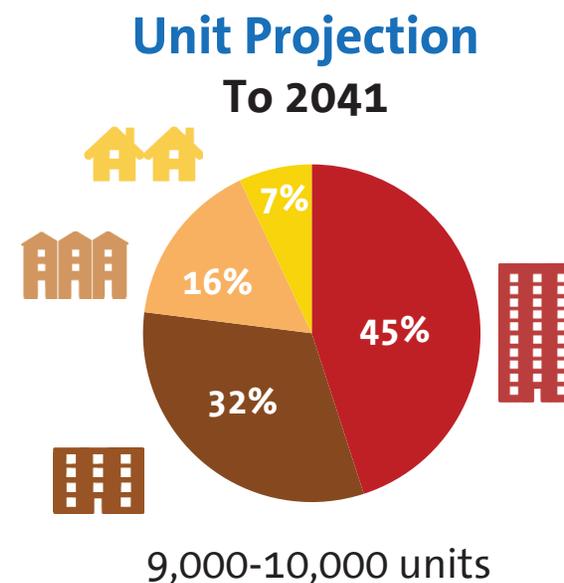
- **Phase 1 – Background, ideas and opportunities**
- **Phase 2 – Land Use, transportation and amenities**
- **Phase 3 – Draft Plan**



Land Use Overview

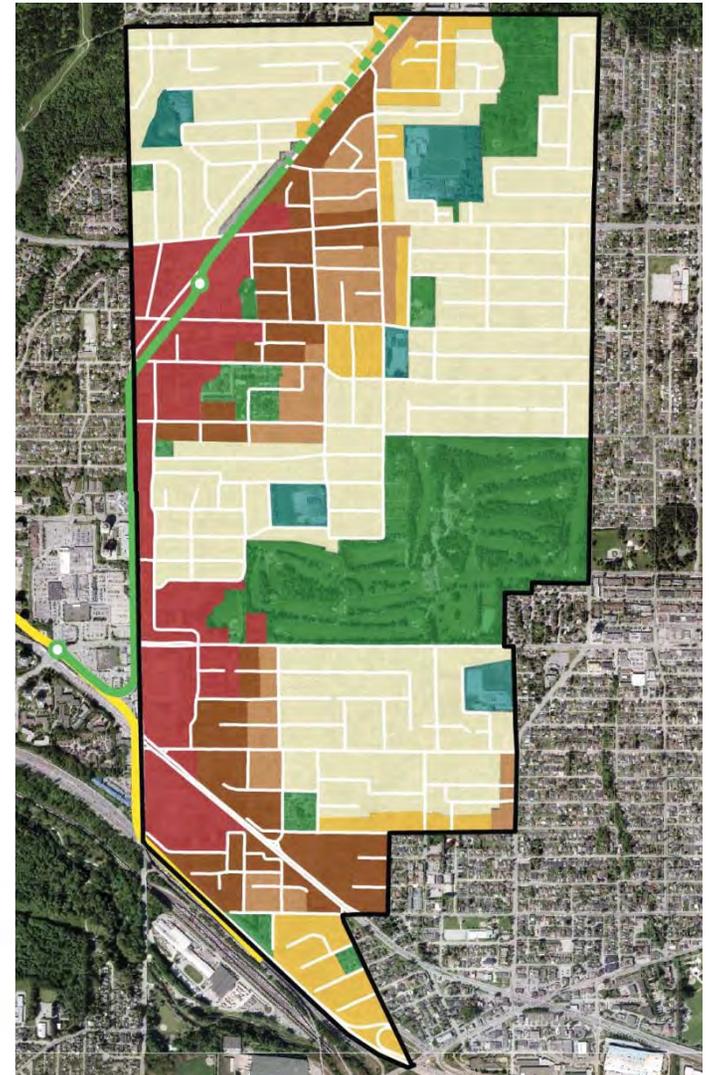
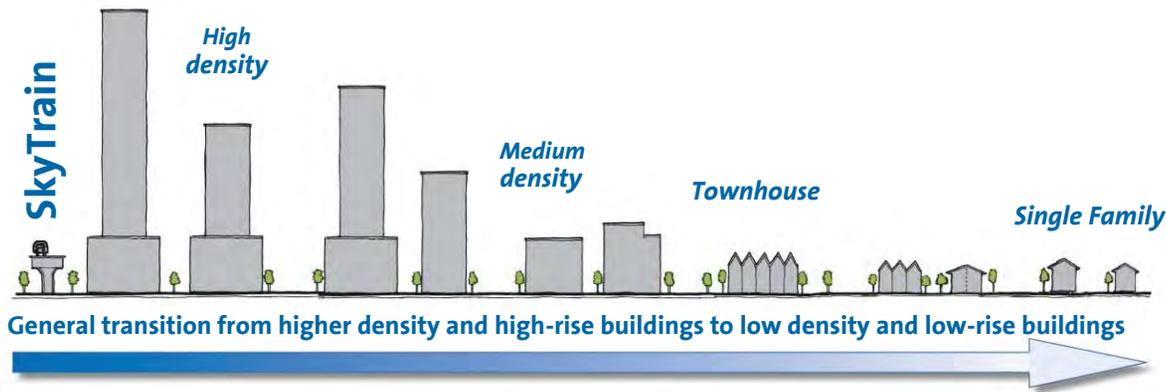
Guide 'locally appropriate' growth:

- Focus density into 'Core' areas, as per TDS
- Improve transition between land uses
- Family-friendly housing mix
- Support transportation, streetscape, park and amenity improvements
- Redevelopment directed to 34% of plan area



Land Use Overview

- 300 acres for 7,000 apartments
- 100 acres for 1,500 townhouses
- 85 acres for Housing Choices
- 150 acres of single-family re-designated to higher and better uses

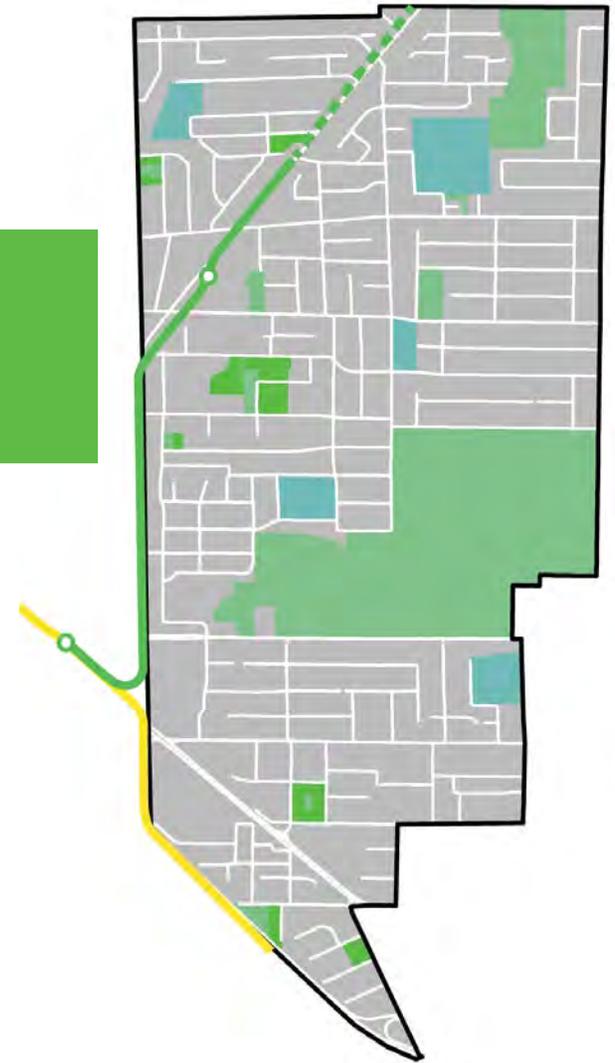


Parks Approach



New Parks

- Double the park space
- Approximately 10 hectares (25 acres) of new parks over 30 years
- Priority determined by Park Prioritization Framework and as opportunities arise



Transportation Approach



New Streets and Lanes



Citywide Greenways



Neighbourhood Greenways



Urban Design Framework



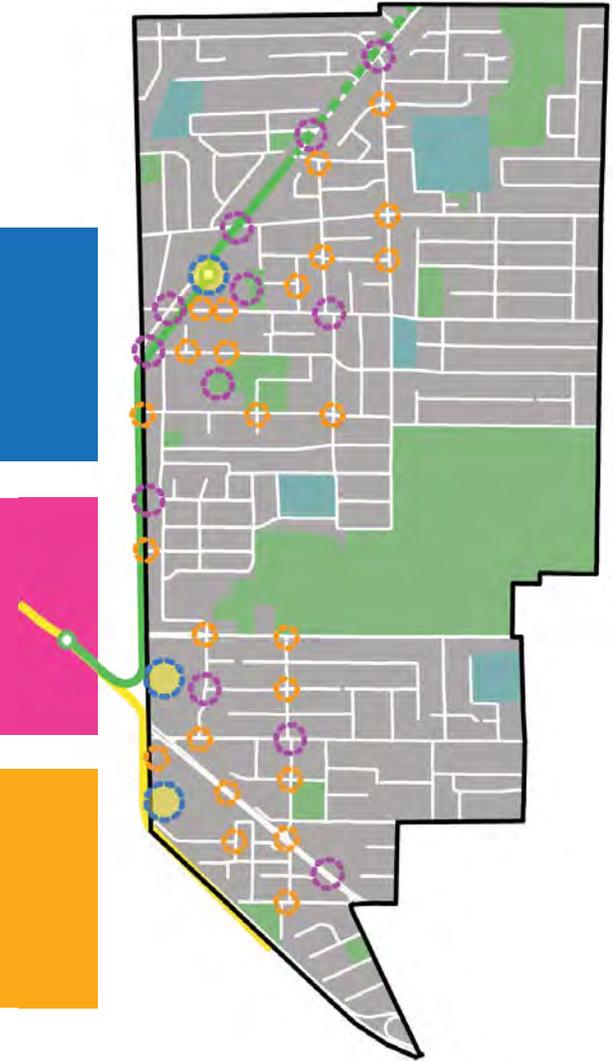
Primary Node



Major Node



Minor Node



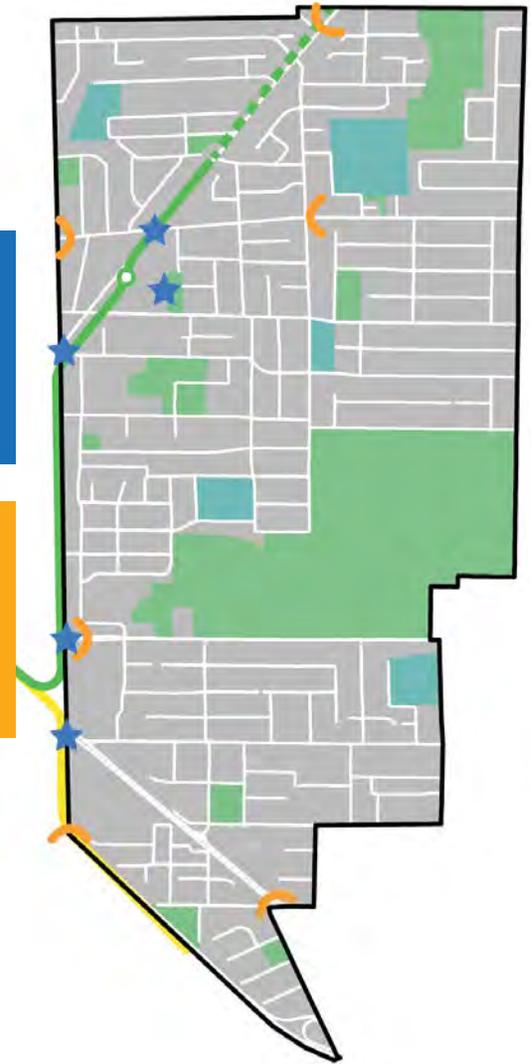
Urban Design Framework



Landmark Sites



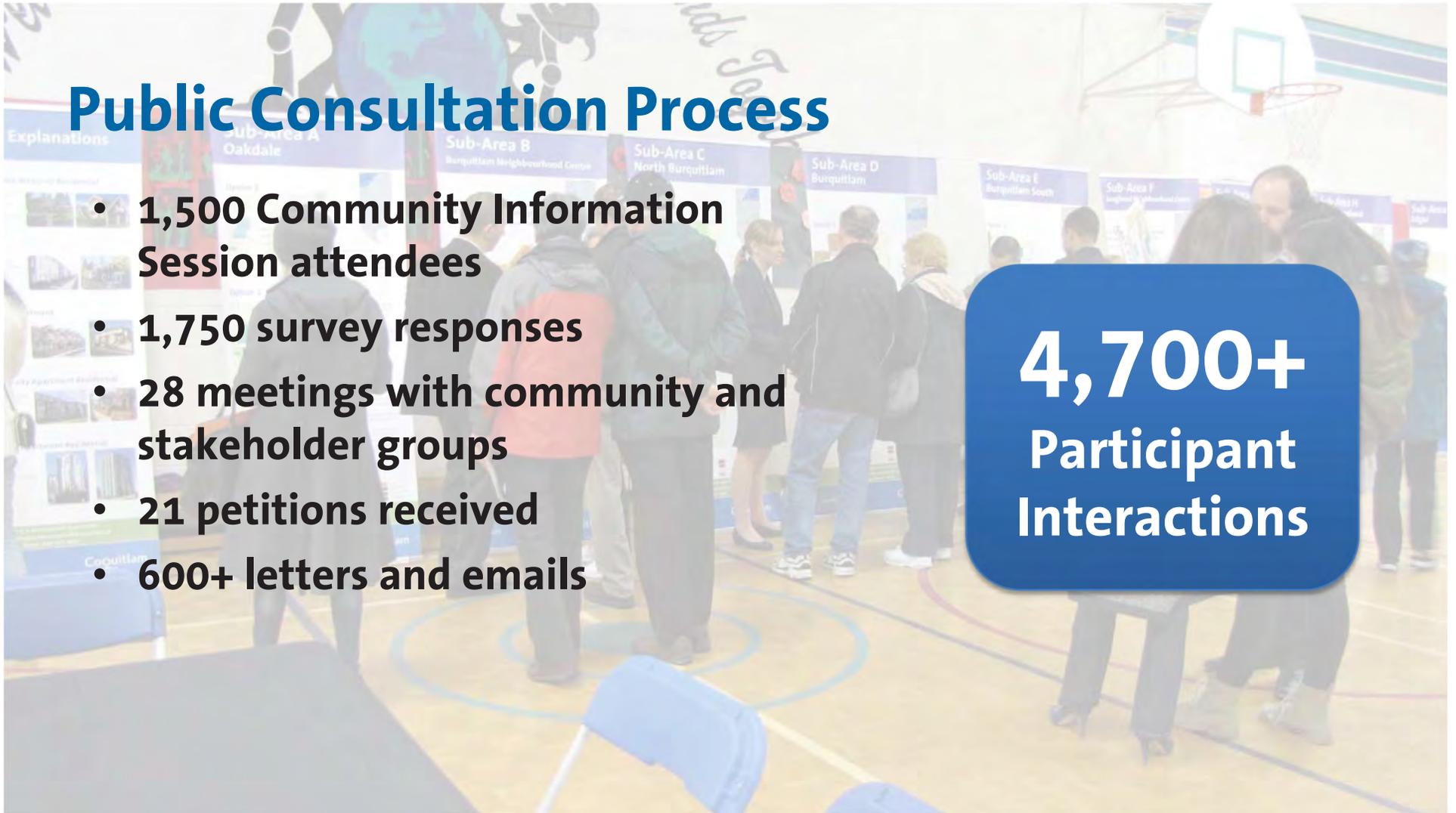
Gateways



Public Consultation Process

- 1,500 Community Information Session attendees
- 1,750 survey responses
- 28 meetings with community and stakeholder groups
- 21 petitions received
- 600+ letters and emails

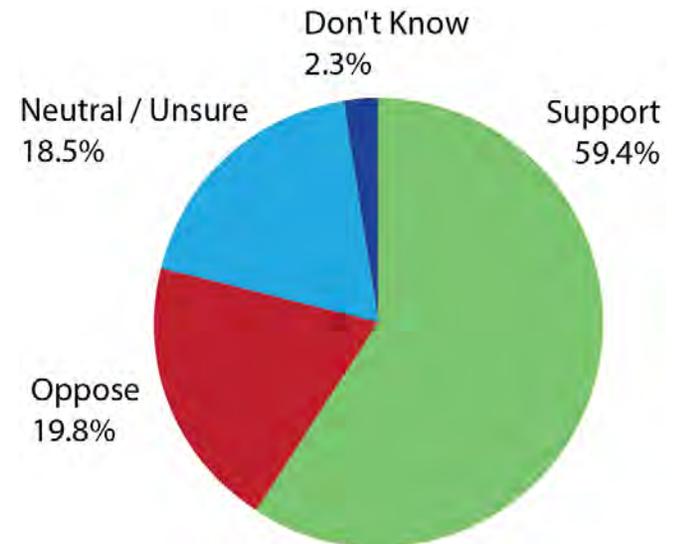
4,700+
Participant
Interactions



What we heard

Overall Support for the Draft Plan:

- **60% in support**
- **Level of those neutral / unsure similar to opposed**





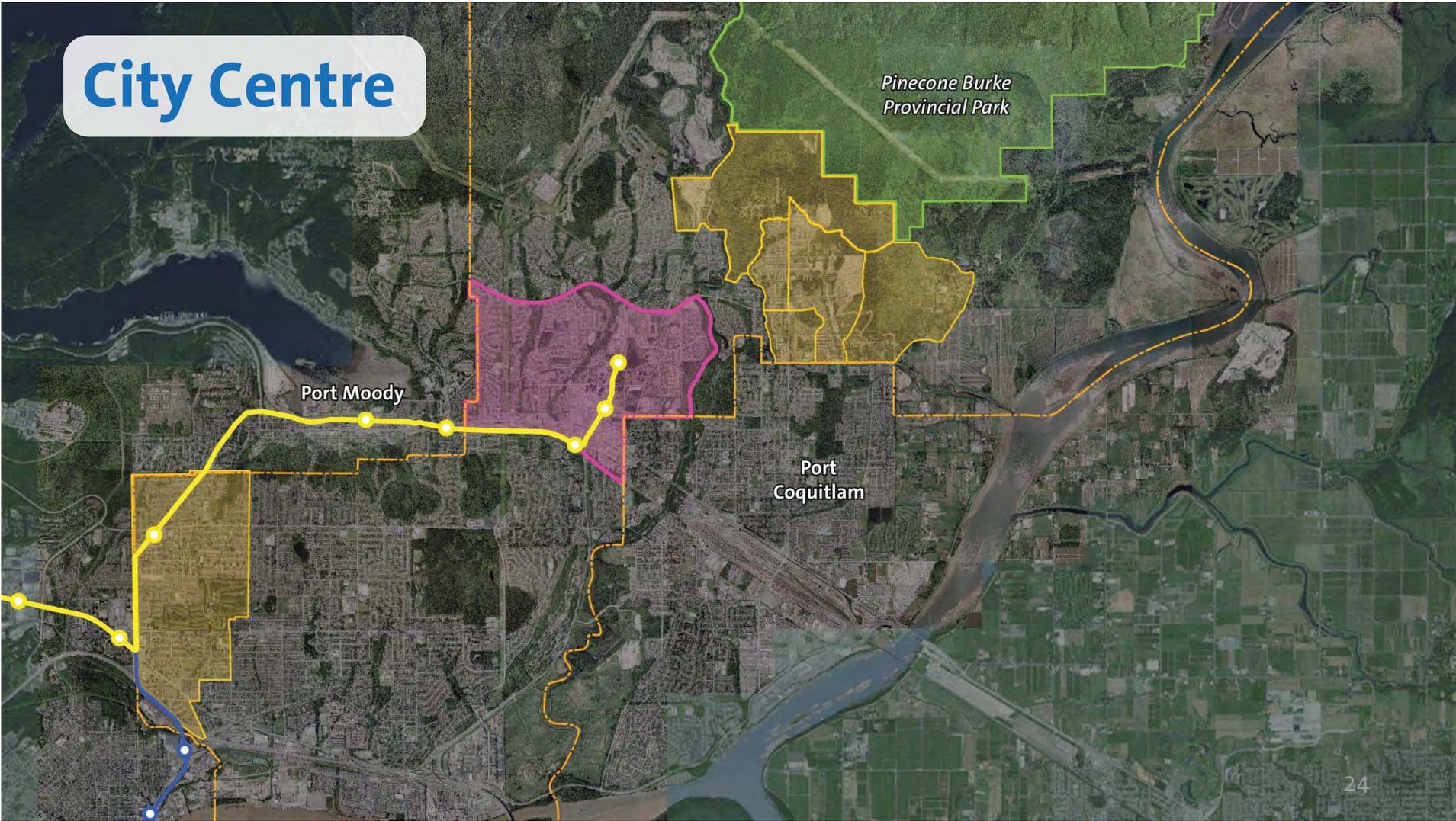




North Road: Today



North Road: Future



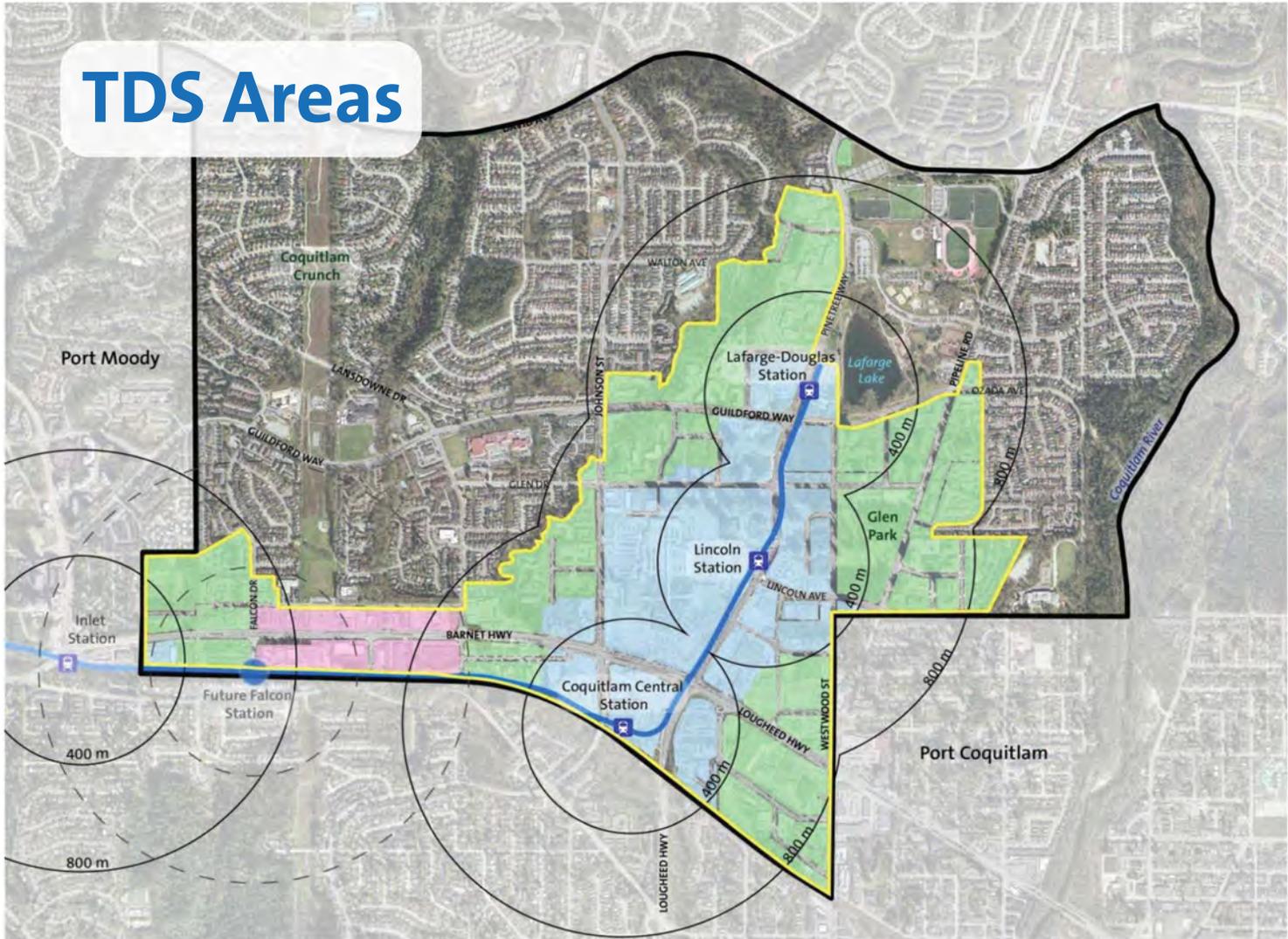
City Centre

Port Moody

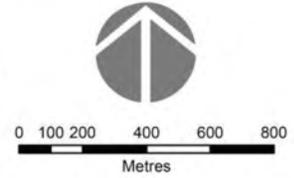
Port Coquitlam

*Pinecone Burke
Provincial Park*

TDS Areas

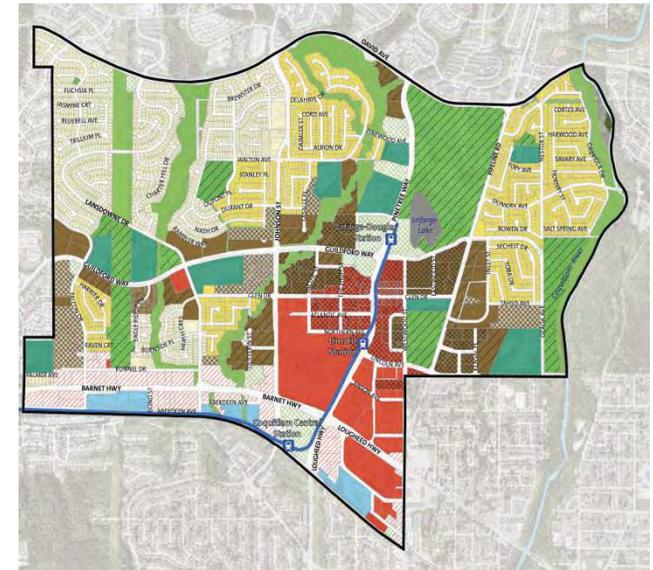


- City Centre Area Plan Boundary
- SkyTrain Station
- SkyTrain Route
- Future Falcon Station
- Focus of the CCAP update (TDS Areas)**
 - Core
 - Shoulder
 - Transit Corridor
 - 400 and 800 Metres/Catchment Areas

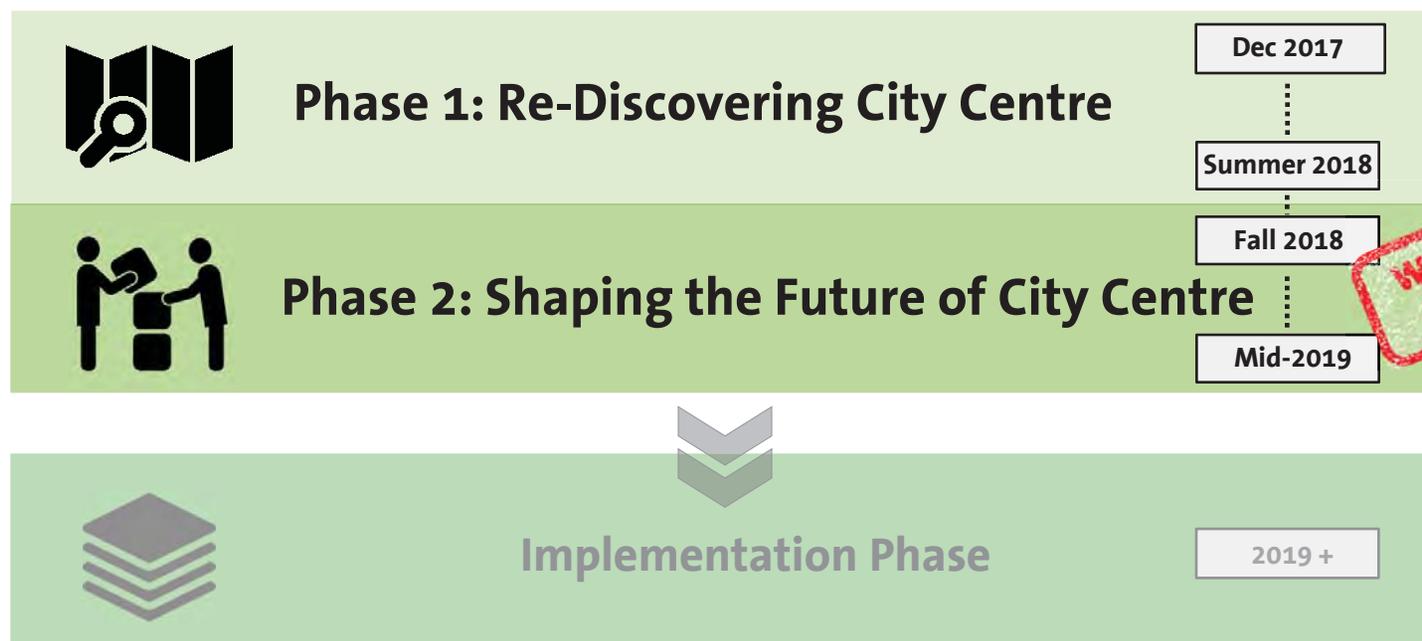


Scope of Work

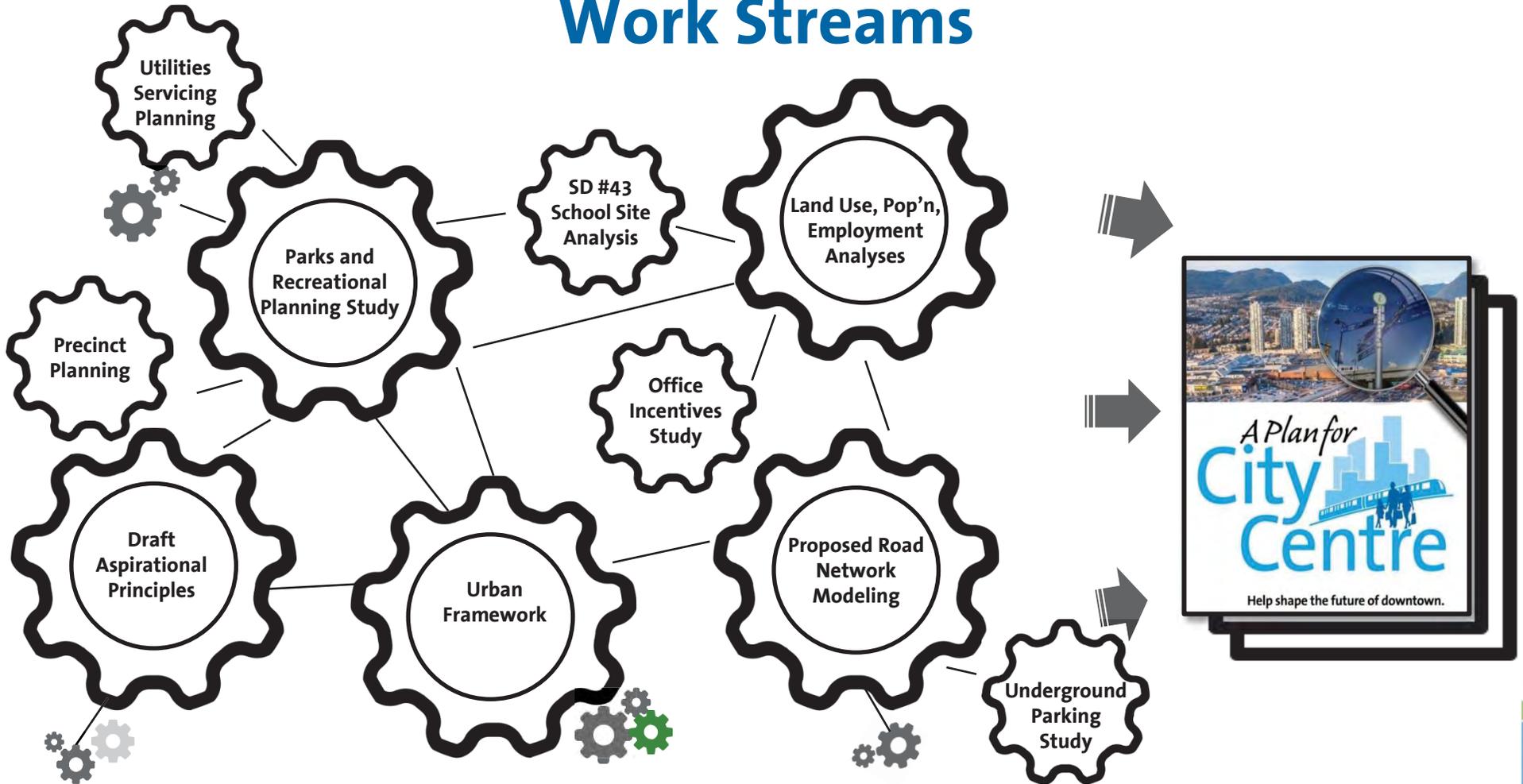
- Solidify City Centre as a regional centre and downtown
- Update OCP land uses & policies
- Prepare urban framework
- Attracting employment
- Establish finer street grid and smaller blocks
- Public open space network
- Plan for public utilities and amenities



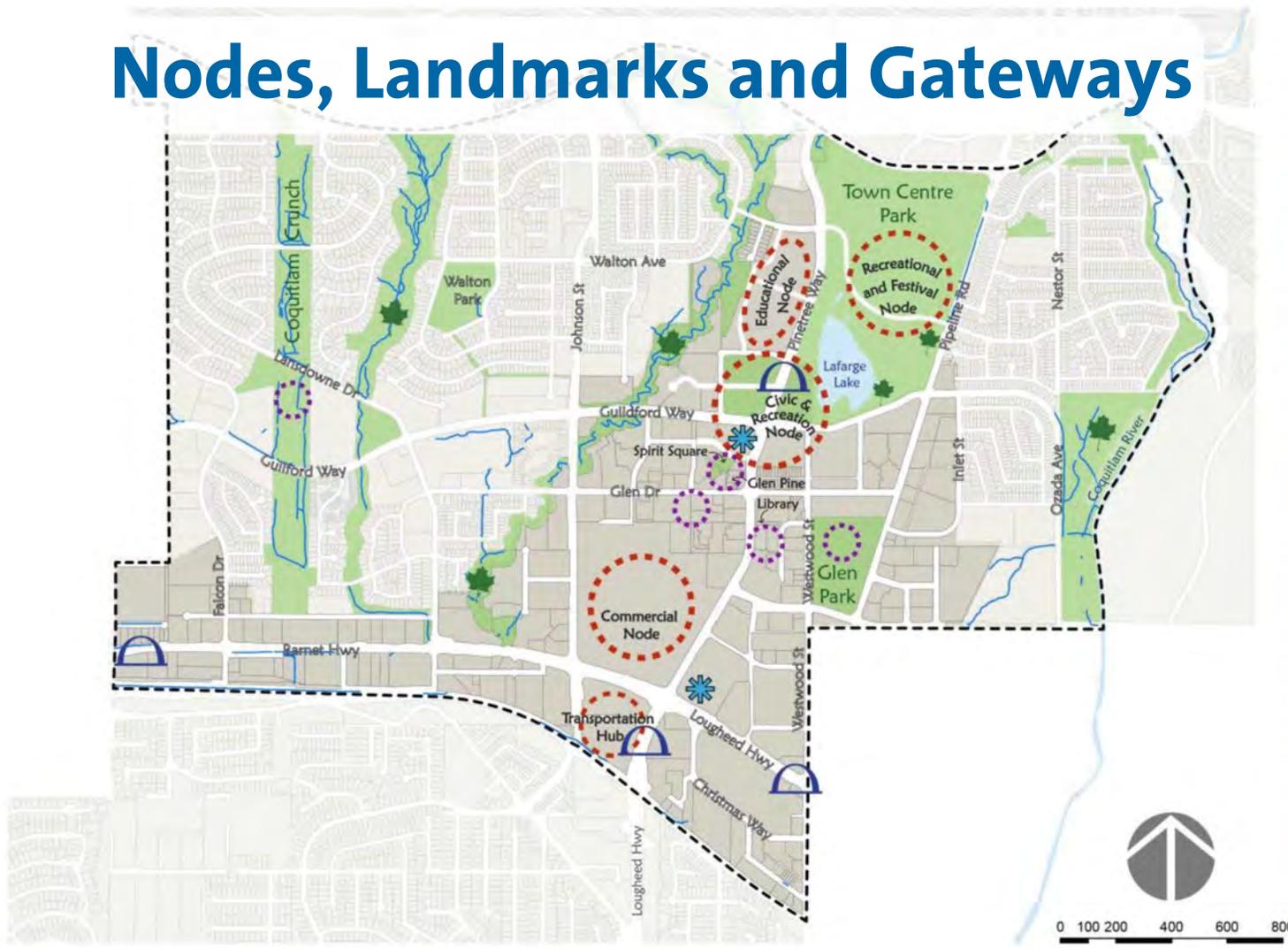
City Centre Area Plan Update Timeline



Work Streams



Nodes, Landmarks and Gateways



LEGEND

- City Centre Area Plan Boundary
- Plan Area Update Boundary
- Current Major Node
- Current Minor Node
- Built Landmarks
- Environmental Landmarks
- Future Gateway
- Watercourses

Major Nodes are large spaces that encourage public gathering and are characterized by a high level of activity.

Minor Nodes are smaller public spaces that encourage public gathering and are typically used by people who live or work in the area.

Landmarks are physical points of significance, e.g. iconic buildings, mountains, bridges, and monuments that often represent ideas or events of special significance and are important to the community. They are typically visible from various distances, and aid in wayfinding.

Gateways will be developed as points of significance that create a sense of arrival and announce the entrance or passage into City Centre.

Plazas, Gardens & Squares

- Built Through Development and Publicly Accessible 24/7
- Contribute to the quality of life of residents, workers and visitors
- Implemented to fill in gaps and create new focal points
- Unique character and opportunity to connect open spaces
- Types: plazas, gardens, squares, courtyards, parkettes, etc.



Funding for Growth

Growth Shall pay for Growth

- Development Cost Charges
- Density Bonus
- Community Amenity Contributions (CACs)



Parking Management



Unrestricted Daytime Spare Capacity

-  **Before Intervention**
Blocks under pressure
-  **After Intervention**
Anticipated blocks under pressure and requiring monitoring
-  **After Intervention**
Fringe Blocks requiring monitoring



Parking Management

	Pay – Up to 2 hrs 8am-6pm Mon-Fri
	Pay – Up to 4 hrs 8am-6pm Mon-Fri
	Pay – Up to 4 hrs 8am-6pm Mon-Sat
	Time – Up to 2 hrs 8am-6pm Mon-Fri
	Time – Up to 4 hrs 8am-6pm Mon-Fri
	Time – Up to 4 hrs 9am-3pm Mon-Fri



Before



After



Before



After













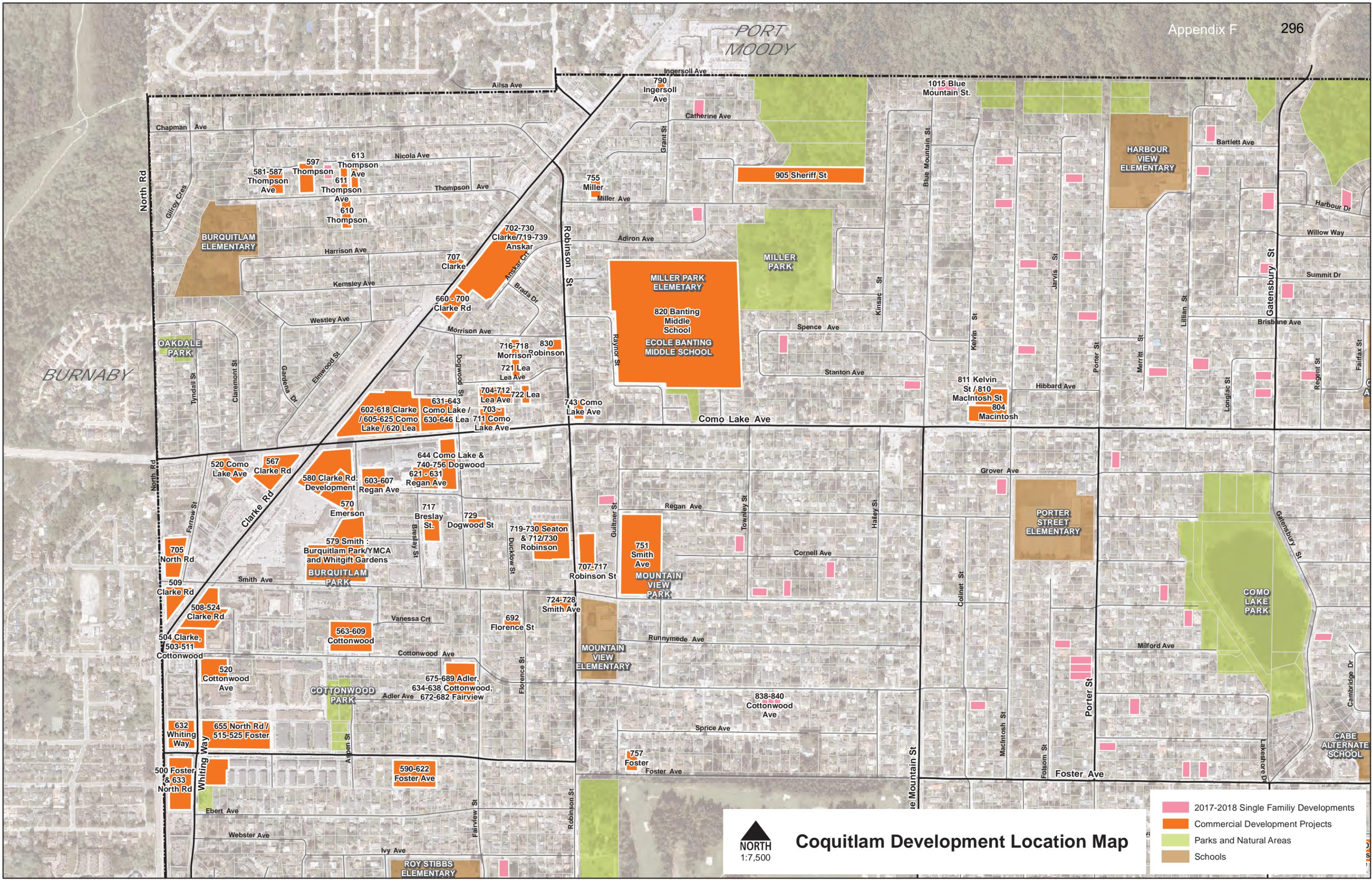






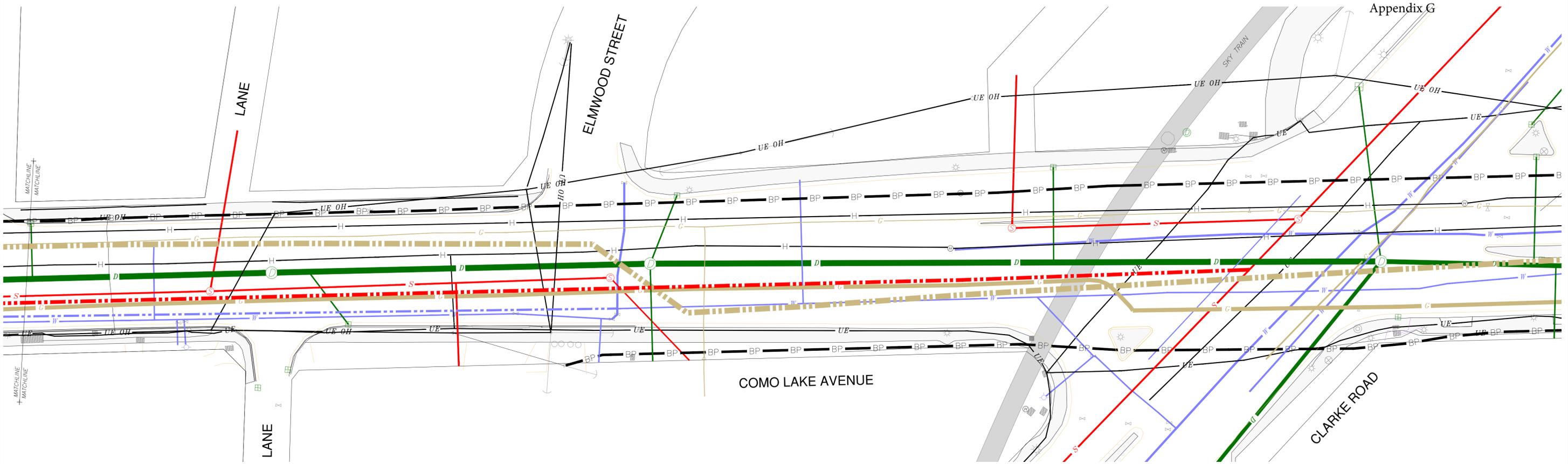
Thank-You!

Andrew Merrill
Manager Community Planning
amerrill@coquitlam.ca



Coquitlam Development Location Map

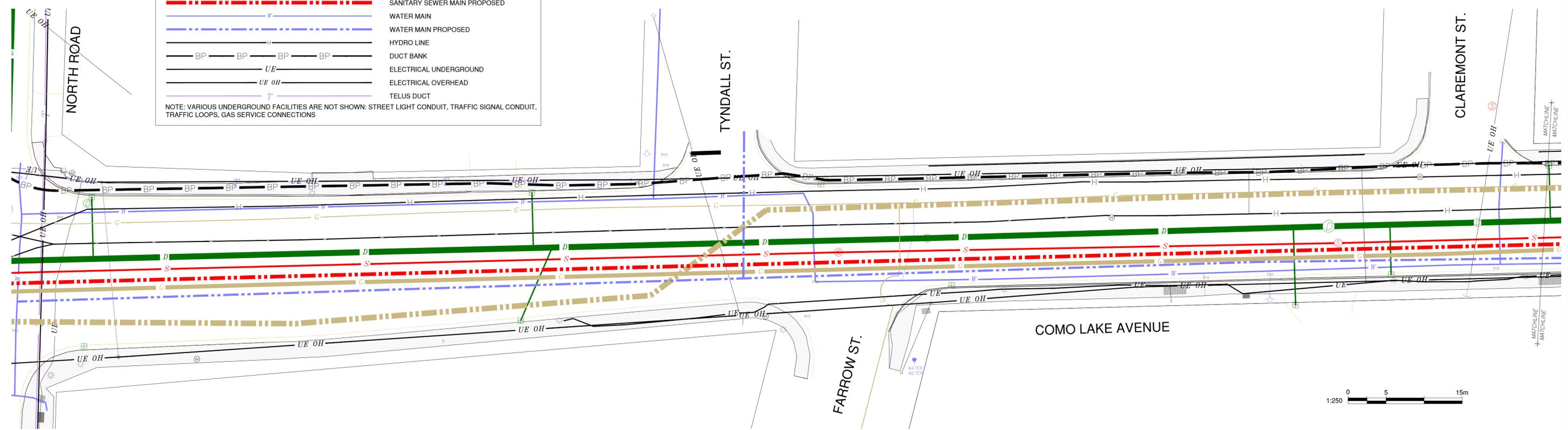
- 2017-2018 Single Family Developments
- Commercial Development Projects
- Parks and Natural Areas
- Schools



LEGEND:

	FORTISBC NPS 30 GAS LINE - PROPOSED
	FORTISBC NPS 20 GAS LINE
	FORTISBC DISTRIBUTION LINE
	STORM SEWER MAIN
	SANITARY SEWER MAIN
	SANITARY SEWER MAIN PROPOSED
	WATER MAIN
	WATER MAIN PROPOSED
	HYDRO LINE
	DUCT BANK
	ELECTRICAL UNDERGROUND
	ELECTRICAL OVERHEAD
	TELUS DUCT

NOTE: VARIOUS UNDERGROUND FACILITIES ARE NOT SHOWN: STREET LIGHT CONDUIT, TRAFFIC SIGNAL CONDUIT, TRAFFIC LOOPS, GAS SERVICE CONNECTIONS



COMO LAKE AVENUE UNDERGROUND UTILITIES









August 1, 2018



303

MICHELS®

MICHELS

MICH

PRO 4612

August 1, 2018



