



## ADMINISTRATIVE REPORT

Report Date: September 23, 2014  
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Meeting Date: October 15, 2014

TO: Standing Committee on City Finance and Services

FROM: General Manager of Engineering Services in consultation with the Chief Digital Officer and the Chief Information Officer

SUBJECT: BCNET Fibre Optic Exchange Agreement

### ***RECOMMENDATION***

THAT this report be received for information.

### ***REPORT SUMMARY***

The City has reached an agreement with BCNET that will expand the City's fibre optic network which in turn will improve City services, help support City initiatives and save the City money on network operating costs. Through this agreement BCNET will utilize City infrastructure to connect the education and research bodies in Vancouver with high speed fibre optic lines. This agreement will be at no cost to the City.

BCNET is a not-for-profit, shared information technology (IT) services organization that is led, owned, governed and funded by 25 post-secondary education institutions and 18 research institutes in the province: UBC, SFU, UVIC, BCIT, UNBC, BC Cancer Agency, National Research Council, etc. BCNET maintains a set of leased long distance network links that interconnect these institutions with high speed fibre optic cables. The service BCNET provides with this network of cables improves service quality and efficiencies to better serve students, faculty and staff of these institutes. BCNET is a regional partner with CANARIE, a Canadian government-supported non-profit corporation, which connects education and research bodies across Canada.

Through this agreement:

- the City will leverage its existing fibre optic infrastructure (ducts and vaults) to enable installation of approximately 16kms of City-owned fibre optic cables

which will connect BCNET's network to UBC, VGH, VCC and Women and Children's Hospital;

- BCNET grants a connection point in their cabinet at the Internet exchange hub of Western Canada to the City. This would provide unrestricted access to the City, meaning the City will own the access point instead of relying on a third party for access as is the current state;
- The City grants to BCNET the use of dark fibre strands along these fibre optic cable routes. Dark fibre (i.e. unlit fibre) is unused optical fibre that is not controlled by a telecommunications company; and
- BCNET will be better enabled to provide shared technology services to its membership of post-secondary and research institutions, decrease costs, reduce technology duplication and improve efficiencies.

This fibre optic exchange agreement is important for improving the reliability of the fibre optic network of the City, the implementation of the City's Digital Strategy and providing BCNET, an important public sector education consortium, with premium connectivity to its institutional members.

High-speed, affordable internet access is essential to both the City's core business and global competitiveness. It drives job creation, promotes innovation, expands markets for businesses, and supports improved education, health care, and public safety. Further, it is an essential piece of infrastructure for delivery of core City services and ownership which reduces third party leasing costs.

### ***COUNCIL AUTHORITY/PREVIOUS DECISIONS***

Council approved the implementation of the Street Utilities By-law on October 6<sup>th</sup>, 2011. The Street Utilities By-law regulates how utility companies install their equipment on City streets and allows the City to recover the costs of allowing utility companies to work on City streets.

Council approved the City's Digital Strategy on April 9, 2013. One of the goals of the Digital Strategy is to 'Enhance digital infrastructure through creative partnerships'. The City will move forward on this goal through this partnership.

Council approved a fibre optic exchange agreement with Urban Networks on January 22, 2002. This agreement provided the City with dark fibre which was used to replace the existing copper cable connections to several City facilities. Two extensions to this agreement were approved by Council on February 24, 2004 and December 12, 2006.

### ***REPORT***

#### ***Background/Context***

Fibre optic communication is the high-speed telecommunications medium of choice, with capacity far in excess of either conventional copper lines or wireless links. The expansion of the City's fibre optic network through this agreement will provide

improved service and reliability that is important for the advancement of the City's digital strategy.

This agreement between the City and BCNET will provide up to \$2.4 million in value to the City in exchange for access by BCNET to a limited number of dark fibre strands. The \$2.4 million figure reflects BCNET's financial contribution to the project and covers the cost of labour, overhead and materials to place fibre in City-owned ducts in specified connection points. In exchange, the City grants BCNET an exclusive, fully paid licence to use the BCNET Strands served by that BCNET extension for the duration of the agreement.

The City will perform all work associated with making these connections (i.e., placing and splicing fibre and any associated civil work). The City will also perform any future maintenance work except in the case where City crews are not available and then BCNET would be allowed to use their contractors. All work associated with BCNET fibre optic strands will be paid for by BCNET.

### *Strategic Analysis*

This agreement provides for the City ownership and control of 16km of fibre optic cable which will be paid for by BCNET. In addition, the City also gets unrestricted access to the Internet exchange hub of Western Canada. The additional fibre optic strands obtained through this arrangement will provide the City in the long term with the ability to leverage these fibre optic strands including:

- Connect to other City sites not currently on fibre;
- Reduce single points of failure on the existing fibre optic network by building fibre diversity and redundancy into some routes and sites to make our fibre optic network more resilient; and
- Enable partnerships with other local government groups (e.g., other municipalities, BC Hydro and Translink) seeking access to the Internet exchange. This in turn adds value to the City network and makes us a local leader in the dark fibre connectivity.

This arrangement also benefits the citizens of Vancouver in that several of BCNET's Member sites are local hospitals, and by connecting them with diverse points of entry and by providing them with dark fibre, the City is helping to increase redundancy and support the local community's ability to survive and recover from a major disaster as quickly as is possible.

### *Financial*

There is no risk associated with the agreement. The agreement is 100% funded by BCNET and BCNET is responsible for covering the costs of any maintenance on BCNET fibre strands. The increase in maintenance costs to the City due to the cable placement in the duct is negligible relative to the duct structure that is already being maintained by the City.

***CONCLUSION***

In summary, this agreement will achieve one of the Digital Strategy's goals of enhancing digital infrastructure through creative partnerships. The City will expand its fibre optic network by almost 16km paid for by BCNET. BCNET will be able to provide high bandwidth network capabilities to their members (universities, colleges, research labs and hospitals).

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