

DATE September 12, 2018

Report To: Administration and Finance Executive Committee

From: Shane Freamo, Information Technology Manager

SUBJECT: Fibre Network Agreement with Tbaytel

Currently, buildings within the Town of Fort Frances are connected through wireless point to point connections over microwave. These connections provide both computer network access and phone services. The Civic Centre acts as the main hub where all other buildings connect. The proposed fibre network would replace these existing wireless connections, with the Civic Centre remaining as the main hub.

History

Tbaytel officially announced their fibre network in December 2016. Discussions began at that time about connecting Town of Fort Frances facilities and FFPC facilities by leveraging the new fibre network. FFPC had previously undertaken a fibre project with Riverside Healthcare Facilities and was looking to expand on that project to connect other facilities by creating their own fibre network. After preliminary discussions with Tbaytel, the plan was changed due to Tbaytel being able to leverage the network they were building to offer the service to the Town of Fort Frances and FFPC. The type of network and service Tbaytel has proposed has been through many iterations before arriving at the solution we have today.

Proposed Network

The network that Tbaytel has proposed involves having fibre ran to all the buildings listed. Each facility will have aerial, buried or a combination of both to bring the fibre service to them. Tbaytel would like to get the project started as soon as possible to ensure the underground work is complete before there is frost in the ground. The proposed go-live date for Tbaytel's portion of the network is December 1, 2018. Facilities will be phased onto the new network after that time.

Tbaytel will install networking equipment at each site along with the required equipment at their Central Office on Sixth Street. This network will be a private Local Area Network that only the Town of Fort Frances can access. All internet traffic will be routed from facilities back to the Civic Centre and leave through the firewall and out a separate internet connection. As part of the capital budget that was approved for 2018, new networking equipment will be purchased for use at all facilities to take advantage of this new fibre network.

Additional Facilities Included

The first facilities that were included as part of the fibre network were those with existing connections, but several others were added. These include the Water

Tower, both cemeteries, the Sorting Gap Marina, and the Sister Kennedy Centre. In FFPC's case, their switching station was added to the list.

All of the additional facilities were added taking future requirements and growth into account as now is the time to complete the work required. The marina is a perfect example of this. With the recent acquisition of the Shevlin woodyard, having a reliable network connection there opens up more possibilities for any future development in that area and the services that can be offered to the citizens of Fort Frances.

The airport is not part of this project due to the fibre services required not being available in that area. However, the Water Tower acts as a connection point currently for the airport and having fibre installed there will add more stability to the connection.

Issues with Current Network

The current wireless network has issues that affect its reliability. The change of seasons affects how the equipment operates. During winter, wireless dishes can ice up causing communication issues. There is also an issue in the spring when vegetation is blooming which causes a loss of connection due to the blocked line of sight. These wireless connections are also susceptible to interference from other wireless connections operated through the Town. The number of hops for a connection to reach the Civic Centre also introduces latency and more opportunity for the connection issues listed above.

As an example, Public Works originally connected to the Water Tower, which connects to the Memorial Sports Centre and then connects back to the Civic Centre. Having these hops is necessary due to the requirement of a direct line of sight. The connection at Public Works was temporarily replaced by an internet connection utilising a virtual private network (VPN) to connect back to the Civic Centre. This temporary connection was necessary because the connection issues experienced at Public Works were affecting their ability to conduct routine business.

The daycare faces similar connection issue which has caused issues primarily with their phone system. Temporary measures are being worked on to fix the ongoing issues at the daycare. The solution is very similar to what was done at Public Works, setting up a new internet connection with a VPN.

Using VPN connections works well as a short-term solution, but they add a level of insecurity due to the connection being established over the internet. Also, if there is an issue establishing an internet connection these VPN connections may not operate, effectively cutting off the facility from the rest of the network. The temporary internet connections would be cancelled once the proposed fibre network is up and running.

Cost Implications

The 2018 capital budget was set at \$150,000 between installing fibre optic services to facilities and purchasing new computer networking equipment. A tender will be prepared for the purchase of computer networking equipment that

will be deployed at the facilities listed in the proposal. Between the one-time fee and the projected cost of new computer networking equipment, this project will remain within the set budget.

The monthly reoccurring costs are outlined for each facility in Tbaytel's proposal. There is a one-time fee of \$50,000 to offset the work and equipment required to get the network up and running along with the installation at each facility. The fee also reduced the monthly recurring costs at all the facilities. Below is a breakdown of cost sharing between FFPC and the Town of Fort Frances. FFPC will be responsible for the monthly recurring costs of their sites and a percentage of the one-time fee and the recurring monthly cost for the Civic Centre connection.

One-Time Fee	
Town	\$42,307.69
FFPC	\$7,692.31
<u>Total</u>	<u>\$50,000.00</u>
Civic Centre Monthly Recurring	
Town	\$ 270.77
FFPC	\$ 49.23
<u>Total</u>	<u>\$ 320.00</u>

Tbaytel's proposal is a standard five-year agreement to provide wireline, or fibre services in this case to a business. Two additional clauses were added to the agreement. The first allows the Town of Fort Frances to cancel the connection at the Daycare without penalty after 24 months. The second allows the bandwidth to be adjusted down at any facility so long as the monthly cost is not reduced more than 25% at that facility. There may be a requirement in the future to adjust bandwidth requirements at facilities due to demand at those facilities. The bandwidths set are being used as a baseline and will be adjusted accordingly.

It is recommended that Council support entering into the attached agreement with Tbaytel to provide fibre network services to Town of Fort Frances' facilities.

Respectfully submitted,



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