Regional District of Central Kootenay

Box 590, 202 Lakeside Drive, Nelson, BC V1L 5R4
250-352-6665   1-800-939-9300   Email info@rdck.bc.ca

Community Works Fund Application Gas Tax Program Services – CWF Funding (UBCM)		
Project Title		
Date of Application		
Applicant Information		
Name of Organization		
Address		
City, Prov. Postal		
Phone No.	Fax No.	
Organization's Email		
Name of Contact	Contact's Email	

Director in Support of Project		
Name of Director(s)	Area(s)/Municipality	Amount Requested

Project Time Line	
Project Commencement Date (yyyy/mm/dd)	Project Completion Date (yyyy\mm\dd)

Land Ownership
Ownership and legal description information is required for all parcels of land on which the proposed work will occur.

Legal Description of land(s)	
Registered Owners of Land(s)	
Crown Land Tenure/License No./Permit No.(s)	

Compliance With Regulations
The proponent shall in all respects abide by and comply with all applicable lawful rules, regulations and bylaws of the federal, provincial or local governments, or any other governing body whatsoever, in any manner affecting the Project.

Have you consulted with a building official?	Yes No
Have you applied and received a building permit?	Yes, Permit No. _____ No
If No, please explain:	

Application Content

Must include all of the following:

1.0 - Description of the Project including management framework
1.1 - Project timeline and supporting documents
2.0 - Project budget
3.0 - Accountability Framework Financial statements that adhere to Project accountability

1.0	Description of the Project including management framework

(If needed, please provide additional information on separate page)

1.1 Project Costs including Timeline and Supporting Documents

(If needed, please provide additional information on separate page)

1.2   Project Impact

(If needed, please provide additional information on separate page)

1.3   Project Outcomes

(If needed, please provide additional information on separate page)

1.4   Project Team and Qualifications

(If needed, please provide additional information on separate page)

2.0   Project Budget

List anticipated and confirmed Project revenue and expenses that have been deemed necessary for the implementation of the Project. Schedule B outlines eligible costs for eligible recipients (see attached).

Project Revenue
(Capital, Professional, Environmental Assessment, Employee, Equipment, Incremental)

Item	Description of Revenue	Value ($)
		$
		$
		$
		$
		$
		$
(If needed, please see page 7 to provide additional budget information)	Sub-Total Project Revenue	$

Project Expenses
(Capital, Professional, Environmental Assessment, Employee, Equipment, Incremental)

Item	Description of Expenses	Value ($)
		$
		$
		$
		$
		$
(If needed, please see page 7 to provide additional budget information)	Sub-Total Project Expenses	$

Project Revenue (continued) (Capital, Professional, Environmental Assessment, Employee, Equipment, Incremental)		
Item	Project Revenue	Value ($)
		$
		$
		$
		$
		$
		$
		$
		$
		$
	Total Project Revenue	$
Project Expenses (continued) (Capital, Professional, Environmental Assessment, Employee, Equipment, Incremental)		
Item	Description	Value ($)
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
		$
	Total Project Expenses	$

2.1 Additional Budget Information
Quote rationale to be reviewed by RDCK Chief Administrative Officer

<div align="right">(If needed, please provide additional information on separate page)</div>

3.0 Accountability Framework

The eligible recipient will ensure the following:
- Net incremental capital spending is on infrastructure or capacity building
- Funding is used for eligible Project and eligible costs
- Project is implemented in diligent and timely manner
- Where recipient is a Local Government, undertake Integrated Community Sustainability Planning
- Provide access to all records
- Comply with legislated environmental assessment requirements and implement environmental impact mitigation measures
- Provide a Project Completion Report including copies of all invoices
-

4.0 Schedule of Payments

The RDCK shall pay the grant to the proponent in accordance with the following schedule of payments:
a) 75% upon signing of the Contract Agreement
b) 25% upon receipt of a Project completion report indicating 100% completion of the Project and proof of meeting anticipated impacts and outcomes, a statement of income and expenses, and copies of invoices/receipts supporting funding expenditures.

5.0 Acknowledgement of Requirements

Gas Tax-funded projects aim to achieve national objectives: a clean environment; strong cities and communities; and productivity and economic growth.

By signing below, the recipient agrees to prepare and submit a Project completion report outlining Project outcomes that were achieved and information on the degree to which the Project has contributed to the above mentioned objectives. The Project completion report must include details of project revenue s and expenses and copies of invoices or receipts that support funding expenditures. In addition, an annual report (for 10 years) is to be submitted to the RDCK prior to October 31st of each year detailing the beneficial impacts on the community as a result of the completed Project.

Authorized Signature for Proponent	Name	Date

Application Number:

Swift Internet Inc.

Project Plan

Boosting Connectivity
in the Creston Valley

Responsible

This project plan was prepared by:

| Laura Francis | February 14, 2020 |

President & Principal   **Date**
Consultant
OneDay Community
Partners

1.   Project Goal(s)

The purpose of the Boosting Connectivity in the Creston Valley project is to upgrade last-mile broadband infrastructure in order to meet or exceed the Canadian Radio-television and Telecommunications Commission (CRTC) Quality of Service (QoS) standards, including the Universal Service Objective of 50Mbps download and 10Mbps upload, for the communities of Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk, British Columbia and to offer those communities 50Mbps download and 10Mbps upload service with unlimited data usage at fair and affordable pricing.

2.   Background and geographical coverage

2.1. Geographical Coverage and Connectivity Needs

The Swift service area spans from Regional District of Central Kootenay (RDCK) Area A (including Sanca and Kuskonook) in the north, south through RDCK Area B (including Glenlily, Huscroft, Kingsgate, Kitchener and Yahk) and Area C (including West Creston), out to Regional District of East Kootenay Area C (including Moyie) in the east. These communities are located in the surroundings of the Town of Creston. Moyie's nearest centre is the City of Cranbrook. Although there is variation in local geography - from the lakeside communities of Sanca, Kuskonook, and Moyie, to the open flats of West Creston – the terrain compromises of a series of narrow mountain valleys which provide for similar service conditions.

There are 1458 households in the area that are currently without broadband access that is consistent with CRTC standards. This connectivity gap represents a critical economic development barrier in an area that is home to a high proportion of telecommuters and home-based businesses, as well forestry and agri-food operations whose ongoing viability is tied to adopting new technologies. The Boosting Connectivity in the Creston Valley project would achieve CRTC standards for all 1458 households. Swift currently serves 1378 customers in the community, including local anchor institutions and employers.

2.2. Swift's History in the Creston Valley

In 2012, Swift Internet became available to residents of Creston and area. Since then, Swift has steadily invested in expanding and upgrading its last-mile network infrastructure, growing both in terms of number of customers served and in terms of coverage area. Today, Swift can deliver Internet access to all but very small pockets of the region.

Swift attracts and retains Creston Valley customers because we offer a high-quality service at fair and transparent pricing. Swift is known for professionalism, reliability, and exceptional, personalized customer care. Swift's own brand values reflect the Creston Valley brand values for friendliness and authenticity.

Swift's reputation for excellence has led to citizens and community stakeholder groups in various outlying communities in the Creston Valley to demand Swift service. Indeed, amalgamation with other Internet service providers has represented an important growth strategy for Swift. Three rounds amalgamation have enabled Swift to refine a set of procedures for migrating large groups of customers to enhanced service. Swift Internet amalgamated with Wynndel Internet Society in 2014, with Kootenay Wireless in 2016-2017, and with Yahk Area Communications Society in 2018-2019. The amalgamations involved migrating a combined total of nearly 600 customers.

In all cases, the service providers had been struggling to correctly configure and manage a broadband network and to keep up with customer service demands of providing broadband access in a rural setting. In all cases, Swift invested care and financial resources into upgrading the networks and developing positive relationships with customers efficiently. These communities would have been left with very limited options for Internet access had Swift not stepped in.

Since the migrations, Swift has remained the primary Internet service provider for the affected communities. Meaningful relationships with local customers and strong local loyalty to Swift are legacies of the transition processes.

All of Swift's customers in the Creston Valley benefit from the low latency, low packet loss, low jitter threshold, and excellent customer care that Swift is known for. However, access to speeds above 20Mbps download and 20Mbps upload is not consistent across the region and the growth of Swift's customer base is currently constrained by the capacity of its last-mile infrastructure.

2.3. Project History and Design

For some years, Swift has been preparing for the eventual need to upgrade last-mile infrastructure in our service area to better meet the demands of Creston Valley Internet users and to ensure that the network remains current with their changing patterns of use in the years to come. We have used a variety of Valley communities, such as Huscroft and Yahk, as a case studies when considering the feasibility of potential solutions, including non-wireless solutions such as Fibre to the Home.

Swift's ongoing network development planning efforts have aimed to advance the Regional Broadband Committee' Columbia Basin & Boundary Connectivity Strategy. We share the Committee's vision for regional connectivity: *"Equitable, affordable high-speed broadband Internet services throughout the region, ensuring rural economic development and sustainable, healthy communities." We embrace that we have a role to play in eventually achieving the Strategy's target objectives, including access speeds for critical community assets and households in the Region.*

The last-mile upgrades proposed in the Boosting Connectivity in the Creston Valley project are the result of a thorough planning and design process that was triggered by the opportunity to pursue Connecting BC and CRTC Broadband Fund investment to boost connectivity across our service area. To date, this process has involved consulting with: local elected officials; local government staff; community members; anchor institutions; businesses; industry colleagues; equipment retailers; resource people at the Columbia Basin Broadband Corporation; and, potential project funders. A local consultant, who Swift has hired to support past upgrading initiatives, was retained to guide project development.

Early stages of the project focused on validating the demand for increased speeds through dialogue with community stakeholders and reference to Swift's subscriber management software and customer care records.

Project planning also involved identifying and assessing various technical solutions in terms of their capability to meet community needs, funding program expectations, and Swift's own long-term network development and financial planning goals. Coaxial cable and Fibre to the Home options were ruled out almost immediately on account of prohibitive costs and sub-optimal fit to local terrain and population distribution. This was done with confidence based on past informal, but in-depth feasibility studies. Various LTE solutions, including Telrad, Huawei, and Baicells brand equipment, were considered, along with fixed wireless solutions from Cambium Networks and Radwin.

Assessment criteria for potential network technology included: compatibility with transport infrastructure; operating range and coverage area; interference mitigation; spectral efficiency; power/energy efficiency; initial infrastructure costs; ongoing operating costs; lifecycle issues; scalability; customer premises equipment implications; ease of installation and maintenance; fit with Swift's existing last-mile infrastructure, equipment, and expertise; and, a range of quality of experience factors.

Cambium Networks 450m platform technology outranked all other options for potential deployment in the Swift service area as a whole and for the communities of Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk in particular. The technology has been purpose-built for fixed wireless deployment and is being deployed in rural communities globally. Notable advantages of the PMP 450m technology include:

- Appropriate operating range and coverage area for Swift's service area

- Ease of use advantages due to flat Layer 2 architecture that is simple to deploy and manage

- Interference mitigation advantages due to GPS synchronization capability that makes access point co-location and frequency reuse feasible

- Scalability advantages due to the ability to support a high number of subscribers per sector, competitive total sector capacity, remarkable spectrum efficiency, and the ability to fine tune downlink/uplink ratios to meet customer needs and maximize network performance

- Relatively low initial acquisition costs due to reduced need for ancillary components (such as the EPC equipment required for LTE networks)

- Relatively low lifetime cost of ownership due to energy and power efficiency and none of the recurring monthly operating charges typical for LTE networks

Swift referenced an array of research findings that support the real-world performance of the Cambium technology. A key resource in the decision-making process was the 2019 Edition Preseem Fixed Wireless Network Report. The Report was produced by Aterlo Networks, a Canadian based technology company. Aterlo's Preseem platform is a precision Quality of Experience monitoring and optimization solution for wireless Internet service providers (WISP). Preseem processes billions of data points daily from its WISP subscribers, who are concentrated in the United States but also spread across Canada and the globe. The report leverages that data to provide a unique perspective on the real-world performance of network equipment options. It presents a clear picture of the performance of Cambium PMP 450m technology. Key findings include that, "Cambium PMP 450m has 1.7% of access point market share by element count but 9.54% by subscriber count," that it leads the field for download and upload throughput during peak, and that it shows channel width advantages. For reference, the full report is included as Project Plan Appendix A.

The appropriateness and fundability of a Cambium solution was discussed with potential local funders who were impressed with the network performance, quality of service, scalability, and affordability of the technology.

Once Cambium technology was selected, the project proceeded into a network design phase. Cambium 3GHz and 5GHz PMP 450m access point equipment was complemented by Ubiquiti Networks AF-24HD and AF-5XHD LTU airFiber backhauls. This backhaul technology was selected for its dense modulation rates and throughput capacity, low latency, long range, energy and power efficiency, ease of installation, intuitive interface, industry-leading software, and cost-effectiveness, amongst other considerations. Mikrotik

RB4011iGS+RM model routers were selected because they offer ten Gigabit ports, SFP+ 10Gbps interface, IPsec hardware acceleration, and energy and power efficiency. The project would deploy Cambium 3GHz and 5GHz PMP 450b High Gain subscriber module for customer premises equipment. Built to work seamlessly with our chosen access point technology. The equipment boasts ultra-wide band technology, Gigabit Ethernet Interface, enhanced packet processing power, and other capabilities to help guarantee excellent quality of service and experience for our customers. Spec Sheet for all key network equipment are provided in Project Plan Appendix B: Network Equipment Spec Sheets.

The proposed network was built to use existing Swift tower sites. It was also configured to take full advantage of the potential that the area's narrow mountain valleys provide to load balance traffic among fibre points of presence for network optimization and redundancy. The network has been configured to meet or exceed the CRTC's Universal Service Objective of 50Mbps download/10Mbps upload speeds, its round-trip latency threshold of 50 milliseconds, its packet loss threshold of 0.25%, and its jitter threshold of 5 milliseconds. The network design could deliver the CRTC standard to all current residents and businesses, not just current higher-speed Internet users. It could accommodate future population growth, business development, and foreseeable changes to the way people access the Internet.

Great care was taken in ensuring that the network would be robust and resilient, without being overbuilt - a task that was made easier by the spectrum efficiency, GPS synchronization, duty cycle flexibility, and subscriber per sector capabilities of the mm wave beamforming Cambium 450m platform technology.

The Swift team then took into account the infrastructure that would be required to mount, shelter, and power tower sites based on the updated network infrastructure. Necessary upgrading includes the addition of larger capacity equipment shelters, generators, propane tanks, and batteries. In two of the five locations an additional requirement is adding actual towers to replace setups where equipment is currently mounted to structures that have come to pose important equipment or employee safety limitations.

2.4. Project Viability and Impact

Swift has chosen to proceed with the project at this time because the level of need in the community justifies upgrading last-mile infrastructure and the company and its team are well positioned to carry out the work. Swift Internet is ready to invest $376,016.49 in the project and impacted local governments have all pledged a $100 per household contribution. The project would complete the last-mile upgrading for the Creston Valley, leveraging a Columbia Basin Broadband Corporation transport project that was previously funded through the program.

Were the project to proceed, the upgrades would achieve CRTC broadband connectivity standards for the communities of Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk, fully closing the current broadband access gap and opening up the potential for all of the personal, social, and economic benefits that come with connectivity. As mentioned, the last-mile infrastructure would be scalable to accommodate future population growth and additional business development in the area. It would also be able to accommodate foreseeable demands for higher speeds and increased throughput.

2.5. Proposed Service Packages

At Swift we pride ourselves on a fair, transparent, and straightforward pricing model that suits the rural communities we serve. Our monthly package rates, as they are advertised to customers, are effectively all-inclusive. In other words, we charge customers one price from

when they sign up and do not also charge installation fees, transfer fees, one-time initial service fees, equipment purchase/rental fees, unlimited top-up fees, restocking fees, plan change fees, monthly dry loop fees, etc. as almost all Internet service providers do.

Instead, our model has been developed to reflect the real cost of delivering service to our customers over time. It takes into account the cost of offering the high level of customer care that we are known for on the one hand, and the low attrition that we experience as a result on the other. It allows for a reasonable rate of infrastructure development, including the acquisition of customer premises equipment for new subscribers. Internally, we are able to breakdown the pricing for each of our packages into various charges.

We currently offer five service packages ranging from 3Mbps to 30Mbps download/upload speeds. Packages vary in pricing, minimum upload and download speeds, streaming/video capability, and onsite service levels. Guaranteed onsite service levels are tied to the packages, with lower speed/cost packages guaranteeing next day onsite service and higher speed/cost packages guaranteeing same hour onsite service. All of our customers enjoy unlimited monthly transfer usage, free external static IPs on request, no bandwidth throttling, no installation fees, no equipment rental fees, and month-to-month contracts.

Customers leaving for holidays and seasonal customers can simply reconnect when they are back, without charges or re-connection fees. We strive for affordability and occasionally run special promotions. Our regular Referral Program rewards customers for referring others to Swift by offering up to 100% off their Internet bill for as long as the referrals stay with us. The program is popular among our loyal customers and is an empowering way for people to earn free service.

Swift's array of package speeds and costing has been set to reflect local customer demand and to optimize the performance of our network. Our higher speed packages are only available in some parts of our service area. Updating our infrastructure would prompt customer and community consultation and market testing, potentially transforming our package model.

No matter how Swift's package speed and pricing options might evolve, the basics of the Swift approach to pricing (e.g. one price from sign-up, no hidden fees, etc.) would not change. Whatever other options might eventually be offered, we would include a package of minimum 50Mbps download and 10Mbps upload speeds and unlimited data usage, at a $80.00/month charge to the customer.

This rate is intended to be consistent with the CRTCs goal that rural customers gain access to high-speed broadband connectivity at "urban pricing." It is the result of extensive comparator pricing research for the Vancouver and Victoria markets. However, it was set with some difficulty due to vast inconsistencies in comparator pricing models and a general lack of transparency around pricing among comparators. Swift has aimed to reflect a competitive cost per month for the Internet access charged to customers.

3. Success Criteria

The project will be successful if/when:

- All project stakeholder groups have been appropriately and meaningfully engaged (See Section 10).

- 34 tower sites have received planned upgrades: equipment for 69 access points and 60 backhauls have been installed; 25 sites have adequate equipment shelters installed; 9 sites have received solar panel upgrades; each site has upgraded

power infrastructure, including generator, propane tank, and batteries installed, as needed; and, site inspections have been successfully completed at each location.

- Customer premises equipment has been installed for at least 78 existing customers and for any new/additional customers, according to demand.

- Network elements, power systems, monitoring systems, user devices, and support systems have been tested. Key performance indicator targets for energy/power, quality of service, quality of experience, security, and reliability/resilience have been achieved.

- There has been uptake of the achieved access to 50Mbps download and 10 Mbps upload speeds in Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk.

- Final reporting to all project funders has been completed and approved.

4.   Project Scope

The major deliverables for this project are:

- Engaging project stakeholder groups according to the project plan

- Upgrading the network equipment and infrastructure at 38 tower sites according to the project plan

- Installing customer premises equipment according to the project plan

- Completing network elements, power systems, monitoring systems, user devices, and support systems testing and ensuring that performance indicator targets for energy/power, quality of service, quality of experience, security, and reliability/resilience have been achieved

- Carrying out all project closure activities, including final reporting to all project funders

The project will NOT deliver:

- Transport components as backbone infrastructure in this area are already capable of supporting last-mile delivery of 50 Mbps download and 10Mbps upload speeds

5.   Links and Dependencies

This project is dependent on the following:

- Formal approval of pledged RDCK Community Works Fund funding, approval of requested NDIT Connecting BC funding, approval of CRTC Broadband Fund funding, as well as the receipt of approved funds will be required to carry out proposed project activities.

Key linkages include:

- Past local, provincial, and federal investment in Columbia Basin Broadband Corporation projects has helped to develop robust backbone infrastructure that Swift's network makes use of. The Boosting Connectivity in the Creston Valley project would carry out the last-mile upgrading necessary to realize that

infrastructure's capacity to actually deliver 50 Mbps download and 10Mbps upload speeds to local Internet users. In this way, the project would represent return on previous investments in developing accessible and affordable backbone infrastructure for our part of the province.

- This project is intended to be carried out in combination with Swift's proposed Boosting Connectivity in Wynndel project, for which funding is being requested from NDIT Connecting BC and the RDCK Community Works Fund. Completing both projects will not only mean 50 Mbps download and 10Mbps upload coverage throughout the Creston Valley, but also a more robust Swift network, and economies of scale on the planned upgrading. Should both projects be funded the total combined eligible costs would decrease by approximately $40,000.

6.　Constraints

Constraints that could impact project success include:

- Approval of requested NDIT Connecting BC funding
- Approval of requested CRTC Broadband Fund funding
- Formal approval of pledged RDCK Community Works Fund funding
- Formal approval of pledged RDEK Community Works Fund funding
- Receipt of approved funds in a timely manner
- Timelines prescribed by funders
- Dependency on retaining adequately skilled and experienced personnel
- Availability and pricing of proposed equipment, materials, and supplies
- Weather dependent construction, inspection, and testing

7.　Assumptions

The following assumptions have been made for the project:

- Approval of funding requests to the NDIT Connecting BC, CRTC Broadband Fund, RDCK Community Works Fund, and RDEK Community Works Fund programs
- Availability of key Swift personnel to complete project tasks according to the proposed project timeline and/or timelines prescribed by funders
- Availability of required materials and supplies (or more desirable alternatives) at or below quoted rates and delivery in a timely manner
- Ability of proposed technology to perform as advertised to meet or exceed funding requirements
- Ability for construction, inspection, and testing to proceed according to the proposed project timeline and/or timelines prescribed by funders without significant impact from weather or other natural phenomena

8.　　Major Risks

Risk Statement	Probability	Impact	Risk Management
If… Then	H, M, L	H, M, L	Accept, Transfer, Mitigate, Avoid
If adequate funding were denied, then Swift would be unable to proceed with the project on its planned timeline.	M	H	This risk is being avoided by engaging a skilled project planning and fundraising professional, by seeking the guidance of industry mentors and peers, and by diversifying potential funders. This risk could be mitigated by re-applying for funding during future intakes with a strengthened proposed project and/or applications.
If Swift were unable to procure equipment and supplies at costs consistent with the project budget, then the cost of delivering the project could exceed the budget.	L	L-M	This risk could be mitigated by finding ways to cost-save on other aspects of the project without compromising the achievement of deliverables. A less desirable, but feasible alternative would be to seek additional funding sources and/or by return to our local funding partners for increased contributions.

If key Swift personnel were to become unavailable to complete the tasks assigned to them in the project's operational planning, then progress on the project could be delayed.	L	M	This risk has been avoided by working sufficient flexibility into the project timeline to accommodate some slippage.
			This risk is actively avoided as part of regular Swift operations through measures (such as competitive compensation, access to fleet vehicles, and positive workplace culture), which result in strong employee retention.
			This risk could be mitigated by taking advantage of Swift's active back-up human resource strategy, carrying out a high-intensity recruitment campaign for needed personnel, and/or engaging contractors to ensure that project deliverables are achieved.

If key Swift personnel were to become unavailable to complete the tasks assigned to them in the project's operational planning, then mitigation measures could result in unplanned costs and overage.	L	L-M	This risk could be mitigated by finding ways to cost-save on other aspects of the project without compromising the achievement of deliverables. A less desirable, but feasible alternative would be to seek additional funding sources and/or by return to our local funding partners for increased contributions.
If adverse weather conditions were to arise, then progress on the project could be delayed.	L-M	L-M	This risk has been avoided by scheduling the project during a time of year when significant weather impacts are less likely to occur. This risk has been avoided by working sufficient flexibility into the project timeline to accommodate some slippage.

If a natural phenomenon such as a wildfire, landslide, etc. were to strike, then progress on the project could be delayed.	L-M	M-H	Should the natural phenomenon be of limited duration/impact, then this has been avoided by working sufficient flexibility into the project timeline to accommodate some slippage. Should the natural phenomenon be of more significant duration/impact then this risk would have to be accepted and funding and other partners would need to be engaged in accommodating the delay.

9.   Milestones

Following is a list of major project milestones:

Milestone	Target Completion Date (Month Day, Year)
Project Starts	January 1st, 2020
M1 Completion: Project Planning & Design Phase 1	February 10th, 2020
M2 Completion: Submission of Funding Applications (All Sources)	March 27th, 2020
M3 Completion: Formal Approval of Funding (All Sources)	June 1st, 2020
M4 Completion: Project Planning & Design Phase 2	July 1st, 2020
M5 Completion: Procurement	July 15th, 2020

Milestone	Target Completion Date *(Month Day, Year)*
M6 Completion: Preparation & Training	August 1st, 2020
M7 Completion: Construction & Implementation	September 30th, 2021
M8 Completion: Inspection & Testing	October 31st, 2021
M9 Completion: Stakeholder Engagement	November 15th, 2021
Project Completion	November 30th, 2021

10.   Stakeholder Management

At Swift Internet we pride ourselves on our relationship management. From customer care to liaising with funders, we strive for excellence. Standard practices for stakeholder management include:

- proactive and direct communication/consultation;

- active listening and sensitivity to stakeholder needs, resources, and goals;

- prompt responsiveness to questions, concerns, and suggestions; and,

- a pragmatic win-win approach to solving problems and pursuing opportunities.

Key stakeholders for the proposed Boosting Connectivity in the Creston Valley project are listed below along with more targeted management plans to appropriately engage each stakeholder group during relevant stages of the project.

10.1 The Creston Valley Community

Residents, businesses, anchor institutions, and community groups in Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk are seen as primary stakeholders of the project. Community outreach is already underway. It will accelerate after the submission of the Connecting BC funding application, consistent with the community consultation expectations of the CRTC Broadband Fund.

Should the project be funded, Swift would work with local elected officials and local community associations to develop a meaningful and locally-appropriate community outreach strategy. Two core objectives would guide that outreach: 1) maximizing informed support for the project and minimizing uniformed dissatisfaction; and, 2) promoting (new) customer uptake of the improved broadband connectivity.

A more targeted strategy would be used to liaise with existing Swift customers. This strategy would take advantage of existing communication channels with these community members and would include personalized, one-on-one customer care components.

10.2 Impacted Landowners

Swift Internet has agreements with a number of property owners whose properties host Swift towers that serve Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk. These agreements allow Swift 24/7 access to the tower sites.

They are reinforced through positive relationship management. Swift has had no past issues with these property owners. Swift would notify the landowners of planned activity on their properties well in advance and ensure that activity during the constructions phase is consistent with our tenancy agreements.

10.3 Local Governments

The four jurisdictions directly impacted by the project are Regional District of Central Kootenay Electoral Areas A, B, and C and Regional District of East Kootenay Electoral Area C. Elected representatives for these jurisdictions are all very supportive of the project and committed to contributing financially to its success. They would also serve as key informants in designing a locally-appropriate community outreach strategy. These stakeholders would continue be kept up-to-date on progress and key developments. Consistent with Community Works Fund contribution agreements, the RDCK and RDEK would also be updated on network operations and community impact for a five-year term following the completion of the project.

10.4 Columbia Basin Broadband Corporation

Columbia Basin Broadband Corporation is both Swift's transport provider and a major stakeholder in meeting the broadband connectivity needs of the people of the Columbia Basin-Boundary region. Key staff at CBBC, including Chief Operating Officer Dave Lampron and Chief Technical Officer Richard Wake, have been actively engaged in supporting project planning. Should the project be funded, it would make use of CBBC backbone infrastructure. The project would also proceed with some level of in-kind technical assistance from CBBC colleagues. These colleagues would be made familiar with implementation planning and timelines and would be kept abreast of progress towards key milestones.

10.5 NDIT Connecting British Columbia and CRTC Broadband Fund Program

Should NDIT and the CRTC choose to fund the Boosting Connectivity in the Creston Valley, Swift would dedicate project management resources to working closely with program staff to ensure compliance with NDIT and CRTC expectations. Every effort would be made to keep relevant NDIT and CRTC colleagues up to speed with project developments and to publicly acknowledge the essential role of NDIT and CRTC in closing the broadband connectivity gap for Glenlily, Huscroft, Kingsgate, Kitchener, Kuskonook, Moyie, Sanca, West Creston, and Yahk.

11. Operational Planning

11.1 Project Planning & Design Phase 1, Completion: February 10th, 2020

As outlined in Section 2, project planning got underway in January 2020 after Swift established a working business case for pursuing NDIT Connecting BC and CRTC Broadband Fund investment in upgrades to their last-mile infrastructure. The initial phase of project planning and design was geared towards refining that business case and developing fundable proposals for both the Boosting Connectivity in the Creston Valley and the complementary Boosting Connectivity in Wynndel proposals. Planning and design were led by Swift Chief Technical Officer Adam Sumbler with supervision from President and Chief Operating Officer Kitt Santano and Senior Network Engineer Kenneth Dyer.

11.2 Stakeholder Engagement, Completion: November 15th, 2021

The stakeholder engagement of the project was launched in tandem with the development of plans and funding proposals for the project. Stakeholder consultation was focused on validating the need for the project, the validity of the proposed technical solution, the viability of the project as a whole, and the gathering of expressions of support and financial commitments.

Stakeholder engagement will accelerate after the submission of the Connecting BC funding application, consistent with the community consultation expectations of the CRTC Broadband Fund.

If the project were to be funded, stakeholder engagement would proceed according to Section 10.

11.3 Funding Application and Approval, Completion: June 1st, 2020

Applications to the NDIT Connecting BC, RDCK and RDEK Community Works Fund programs, and CRTC Broadband Fund are being prepared with the active participation of Swift management and staff, support from industry mentors and peers, and in consultation with other local stakeholders. A trusted local project planning and fundraising professional has been retained to lead the process. All applications will be submitted to the prospective funders by the CRTC deadline of March 27th, 2020.

If funding were to be approved, Swift's Adam Sumbler would be seconded to the project. Adam would liaise with NDIT, CRTC, RDCK, and RDEK staff to enter into funding agreements.

11.4 Project Planning & Design Phase 2, Completion: July 1st, 2020

As needed, the second phase of project planning would make any amendments necessary to align the project plan with funding agreements.

Regardless of the need for amendments, this phase would involve refining the network design and project plan. A priority would be ensuring that all relevant Swift staff and stakeholders have had the opportunity to participate in the review process to ensure that the plan is as easily actionable as possible.

Should any procurement challenges present themselves, this phase would provide an opportunity to adjust accordingly.

11.5 Procurement, Completion: July 15th, 2020

Procurement would be carried out parallel to the second phase of planning and design. The objective would be to secure the planned equipment, materials, and supplies (or more desirable alternatives) at or below quoted rates, consistent with project timelines.

11.6 Preparation & Capacity Building, Completion: August 1st, 2020

In advance of construction and implementation, project activity would be geared towards preparing tower sites, preparing last-mile and customer premises equipment, materials, and supplies, and building staff capacity to carry out the upgrading effectively, efficiently, and with confidence. Staff training in new testing, monitoring, and maintenance procedures would also be completed at this time. Training would likely include classroom as well as hands-on workshop and on-site elements.

11.7 Construction & Implementation, Completion: September 30th, 2021

Construction and implementation would take place in two phases: late summer/autumn 2020 and spring/summer/autumn 2021. The project would avoid winter month construction due to adverse conditions and additional risks. Time between construction and

implementation phases would allow for sales and marketing and related customer premises upgrades in the initially impacted communities. Each phase would begin with tower site upgrades. Customer premises equipment upgrades to existing customers and installations for new customers would follow.

Trained staff would complete the work. Swift management would supervise and support troubleshooting. Swift would implement construction/implementation practices that have enabled the completion of similar projects ahead of schedule, including creating conditions for straightforward installations through routine maintenance, building a foundation for success through diligent off-site equipment preparation and training, and efficient sequencing of upgrades to tower sites based on the number of impacted customers.

11.8 Inspection & Testing, Completion: October 31st, 2021

Upon completion of tower site upgrades, Swift management would lead site inspections. Initial testing of network equipment, power systems, and monitoring systems would be completed. Upon completion of customer premises upgrades/installations, testing of user devices and support systems would be carried out. Initial testing of last-mile infrastructure and customer premises equipment would ensure that performance indicator targets for energy/power, quality of service, quality of experience, security, and reliability/resilience have been achieved. From that point onward, monitoring would proceed according to Swift's standard operating procedures.

11.9 Project Closure, Completion: November 30th, 2021

With construction, implementation, inspection, and testing satisfactorily completed, the project would move towards closure. This would involve wrapping up stakeholder engagement, completing final reporting for the project, and debriefing with staff to support moving into regular operations.

11.10 Operations

The assets acquired through the project would be monitored and maintained according to Swift's standard operating procedures. Likewise, quality of service and quality of experience for impacted Swift customers would be monitored to Swift's high standards.

Standard practices include:

- Maintaining an adequate roster of trained staff and employing an active back-up protocol;

- Making use of leading edge Preseem and Sonar software for network monitoring and customer support;

- Performing daily checks on network performance to identify any congestion, bottlenecks, or latency issues;

- Carrying out highly responsive (often same-hour) servicing to resolve network issues;

- Maintaining an accurate inventory of all network components;

- Maintaining an adequate supply of replacement equipment and parts;

- Making use of cameras at tower sites to enable remotely monitoring site conditions;

- Making use of tower site automation to enable remotely rebooting site power and equipment

- Making use of tower site automation to enable remotely removing of snow/debris;

- Carrying out (at minimum) meticulous semi-annual servicing of all tower sites;

- Producing regular reports on network performance and subscriber use patterns across the network and optimizing configuration accordingly;

- Practicing proactive asset management to plan for network development over time; and,

- Taking advantage of opportunities to leverage funding and other support to maintain a robust network.