VILLAGE OF SILVERTON

COMMITTEE OF THE WHOLE

COUNCIL AGENDA

SILVERTON COUNCIL

MEMORIAL HALL & ONLINE

June 22, 2022

Immediately Following Special Meeting

A. CALL TO ORDER

B. THE VILLAGE OF SILVERTON ACKNOWLEDGES THE INDIGENOUS PEOPLES ON WHOSE TRADITIONAL TERRITORIES WE STAND

C. ADDITION OF LATE ITEMS IF ANY

D. DELEGATION

E. DISCUSSION

1. Community Partnership Projects Update

2. Municipal Capital Projects Update

3. Grant Funding Opportunities

4. SMARTnet update and discussion

5. Hopeland Systems Inc. – Remote Alert System Proposal

F. ADJOURNMENT

SILVERTON PARTNERSHIP PROJECTS

Projects:

Slocan Valley Wildfire Resiliency Project, Fire Hall Improvements

This program has been funded under the Community Resiliency Investment Program for 2021 FireSmart Community Funding. The funding program was provided by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. The funding program is administered by the Union of British Columbia Municipalities (UBCM).

SIFCo completed a Wildfire Hazard Assessment and Mitigation Report on the Silverton Fire Hall that served as the foundation document for the grant funding application. Silverton was awarded $139,982 under the program.

The scope of work included:

Fire Hall exterior improvements consistent with the FireSmart Report authored by SIFco and related improvements to the facility. In addition, improvements were undertake to address the zero scaping of the surrounding grounds, resurfacing of driveways and access.

Estimated Project Cost: $ 56,767

Program Funding: Grant: $ 60,000

Costs Incurred to Date:

2022 $ 20,740

Kootenay Rockies Tourism Association, Campground Attendants Housing

This program has developed by the Government of British Columbia under the BC Economic Recovery Plan. The Targeted Regional Tourism Development Initiative is a one-time grant to establish targeted regional tourism development initiatives.

The scope of work included:

Site preparation, construction and furnishing a campground attendant housing structure. The furnishings include apartment fridge, stove, bed, couch and cabinetry.

Site Prep	-	$ 10,000 in-kind contribution
Professional Services -	$ 6,000	
Construction -	$ 66,000	
Furnishings -	$ 10,000	
Project Management -	$ 6,600	
Contingency -	$ 19,720	

Estimated Project Cost: $ 118,320

Program Funding: Grant: $ 98,320

                                       In-Kind   10,000

                                       Silverton 10,000

Costs Incurred to Date:

2021 $ 11,159

2022 $ 4,510

Strong BC Recovery Program

In March of 2021 the Province embarked on a 2 year pilot project exploring how it can support rural areas and perhaps resident attraction. In the Slocan Valley, the Villages of New Denver, Kaslo, Slocan and Silverton, as well as RDCK areas H and D received funds totalling $250,000.

The Village of Silverton secured funding in the amount of $50,000 to support local wayfinding projects as well as the Lardeau Valley. The funding allocation for Silverton is $30,000 and $20,000 for Lardeau Valley.

To date the Village has not incurred any costs towards the wayfinding project. Scope of work for the project is as follows.

Phase 1

- ➢ Recreational and community asset inventory
- ➢ Silverton trails mapping
- ➢ Existing signage, wayfinding, storyboard, historic sites inventory
- ➢ Development of wayfinding plan, recommendations, preliminary design, narrative

Phase 2

- ➢ Final design, tourism map development, installation of wayfinding initiatives

2022 SILVERTON MUNICIPAL CAPITAL PROJECTS

	Project Cost	Funding		2021 Actual Costs
Curling Rink Worksafe Requirements	$5,000	5,000	Gas Tax Fund	9,903
Campground Design/Rebuild Project	25,000	25,000	Gas Tax Fund	11,575
Village Office Renovation	60,000	60,000	Covid Restart	
Urban Forestry Plan	20,000	20,000	Gas Tax Fund	
Highway Sidewalk Upgrades	20,000	20,000	Gas Tax Fund	
Kayak Racks	4,000	4,000	RDCK	
Footbridge Railing Assessment	7,000	5,000	MIA	
		2,000	Operating Contribution	
Website Update	3,200	3,200	Operating Contribution	
Recreation Wayfinding Project	42,880	42,880	Rural Resident Attraction Pilot	
Campground Attendant Housing	108,320	98,320	Kootenay Rockies Tourism Association	
		10,000	Covid Restart	
Storage Shed Replacement	8,000	3,000	MIA	
		5,000	Operating Contribution	
	$303,400	$303,400		

GRANT PROGRAMS AVAILABLE

The following is a list of Grant Programs available with current intakes for Village Council to give consideration to.

RDCK   Community Development Grant

Eligible funding in the amount of $36,373

Eligible projects are wide open, at the sole discretion of Village Council.

Columbia Basin Trust   Community Development Program

Eligible Projects include capital projects such as construction or renovations of facilities and capital assets, community research based and planning projects such as feasibility studies, community planning, business planning for community amenities.

The Trust prefers not to be the sole funder of projects and thus municipal contributions ranging from 20% to 40% are looked upon favorably.

Columbia Basin Trust   Outdoor Active Recreation Grant

Eligible projects include the development or enhancement of outdoor recreation facilities. Installing or upgrading amenities to enhance safety or user experience.

Application deadline is September 13, 2022.

The Trust will fund up to 75% of eligible project costs to a maximum project cost of $250,000

This is a short list of grant programs with current intakes. There are a number of Provincial and Federal programs that will be explored in addition to the aforementioned. The challenge at hand is that we could access a great number of granting opportunities, financially supporting our contribution is an endeavour that requires a sound financial framework that spans multiple years. Council is now in a position to undertake such an exercise that sets the stage for future capital investment of infrastructure works, facility replacement or enhancement and new cultural, recreational or social projects.

‖ HOPELAND
‖ PROPOSAL FOR ALERT SYSTEM

Date: June 10, 2022

OVERVIEW

Hopeland is pleased to submit this proposal for services to support Village of Silverton in achieving its goal for becoming more climate resilient by deploying Hopeland's remote alert system.

The Objective

- Need #1: detect and report wildfires and/or flood
- Need #2: monitor air quality, reduce CO2 by responding quicker to wildfires
- Need #3 increase job opportunity in local community

The Opportunity

Climate changes such as increasing heat waves increases the possibility of wildfires. More than 1700 wildfires burned nearly 8700 square kilometers last year in BC alone. Lytton was burned to the ground and caused human life loss.

"Detecting wildfires early is critical for success", according to BC wildfire service. But approximately 40% of the wildfires in B.C. are reported by the general public. It means some wildfires were not detected in days or longer.

The governments are aware of this situation and set up some grants to help communities become more climate resilient.

- https://ourtrust.org/grants-and-programs-directory/climate-resilience-program/
- https://www.canada.ca/en/pacific-economic-development/services/funding/community-economic-development-diversification.html

This is an opportunity for Silverton to build this innovative alert system for free or minimum cost.

The Solution

Recently, more and more agencies and communities are turning to technological solutions.
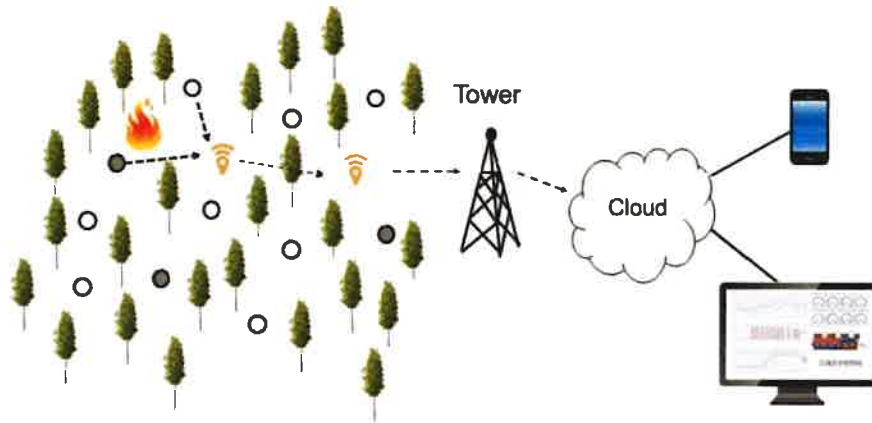
- Satellite technology is an efficient way to cover a very large area, but there is a delay in hours or days.
- Optical cameras have also been used in some areas. But it depends on the power supply and internet. Installation cost is very high for areas without an existing network.

The Ideal solution should be able to detect wildfire at its early stage and with low installation and maintenance cost.

OUR PROPOSAL

Our system takes the advantage of AI and Internet of Things(IoT) technologies. By deploying sensors in the appropriate locations in the forest, it can detect wildfires in their early stages and generate alert messages to subscribed mobile devices. Different sensors can be used to collect different types of data and perform different tasks, such as monitoring air quality and flood etc.

The data collected by the sensors in the forest will be sent back to the cloud through our own LoRaWAN network. The advantage of this is that the system can be deployed in any area without an existing network.

Execution Strategy

Building a wildfire alert system using IoT + LoRa is an innovative idea. Our partner Radacat has deployed several similar systems in China. But this is the first system we deploy in Canada. We'll work closely with the Village of Silverton to make sure it works as designed.

We'll need Silverton's help to hire contractors to do the survey and initial installation in the first stage of the project. Since those sensors can work in the forest from 2-6 years without changing batteries. Starting from the third year, we'll exam and evaluate the sensor's reliability in Canada's environment and will continue hiring local contractors to help on the maintenance job.

If this project successes, we'll have a good chance to grow the business and deploy similar systems to other communities. In that case, we need to hire experienced staff to train new contractors in other communities.

Following is a description of our project methods, including how the project will be developed, a proposed timeline of events, and reasons for why we suggest developing the project as described.

Project Deliverables

Following is a complete list of all project deliverables:

Deliverable	Description
Alert System network	A network with IoT sensors and LoRa gateway installed in the area to collect and monitor forest fire and / or flood.
24 / 7 Alert service	A cloud based service which can generate and send alerts and reports to subscribed mobile devices.

Timeline for Execution

Key project dates are outlined below. Dates are best-guess estimates and are subject to change until a contract is executed.

Description	Start Date	End Date	Duration
Survey and research in the environment	Mar., 2023	Feb., 2024	12 months
Install a system to test hardware and communication, collect real data to tune AI model for fire detection.	Mar., 2024	Feb., 2025	12 months
Full system complete, into maintenance model.	Mar., 2025	Feb, 2026	12 months

EXPECTED RESULTS

We expect our proposed solution to Village of Silverton's requirements to provide the following results:

Financial Benefits
- Result #1: Save lives and property by responding to wildfires quicker
- Result #2: Generate # parttime job opportunities in local community

Technical Benefits
- Result #1: provide 24 / 7 wildfire monitoring service
- Result #2: provide air quality monitoring service

PRICING

The following table details the pricing for delivery of the services outlined in this proposal. This price is the total cost of the project applying for the government grant. We'll apply for a research grant to cover 2/3 of the cost. Hope the grant climate resilience program for Basin area can cover the rest 1/3 of the cost. If Silverton does not have resource for grant application, we'd be glad to help.

We also have a plan to make this system self-support (hope it can generate enough revenue to cover its maintenance cost after the 3rd year).

			1st Year	2nd Year	3rd Year	Total
Grant 1	Hopeland		$130,000	$130,000	$130,000	$390,000
	UBC		$70,000	$70,000	$70,000	$210.000
Grant 2	Silverton	Equipment	$70,000	$70,000	$40,000	$180,000
		Travel	$7,500	$7,500	$5,000	$20,000
		Installation	$40,000	$40,000	$20,000	$100,000
Total			$317,500	$317,500	$265,000	$900,000

Sample Disclaimer: Disclaimer: The prices listed in the preceding table are an estimate for the services discussed. This summary is not a warranty of final price. Estimates are subject to change if project specifications are changed or costs for outsourced services change before a contract is executed.

QUALIFICATIONS

Hopeland Systems Inc. (Hopeland) is a joint venture of ScopeMedia Inc. (Scopemedia) and Radacat Technologies Inc. (Radacat). Both companies are tech startup companies registered in Vancouver BC.

Scopemedia was incorporated in 2013 and is doing research in AI, machine learning, pattern recognition and video analysis. Scopemedia has released AI powered product recommendation and personalization service as SaaS services to ecommerce businesses and gained working experience of delivering and managing large-scale cloud based systems. More than 2000 businesses installed our services for their online stores.

Radacat has expertise in LoRaWAN technology and developed different applications such as smart city and smart farm etc. It is a licensed manufacturer of LoRa gateway devices. Radacat has assigned a Sr. Solution Architect to join this project.

Hopeland is licensed to use Scopemedia's AI technology and Radacat's LoRa and IoT IP in the proposed Alert System.

Hopeland has partnered with UBC Professor Dr. Zheng Liu to apply for Research grants together. Dr. Liu has expertise in intelligent sensing, Digital twin, Data analytics and machine learning. Dr. Liu will supervisor Ph.D and Postdoctoral fellows to do research for this project. Dr. Liu did research on using drones in fire management systems.

CONCLUSION

We look forward to working with the Village of Silverton. We are confident that we can meet the challenges ahead, and stand ready to partner with you in building a climate resilience community.

If you have questions on this proposal, feel free to contact me at your convenience by email at paul@hopelandsystems.com or by phone at 604-785-8428. We will be in touch with you to arrange a follow-up conversation on the proposal.

Thank you for your consideration,

Paul Tan

Paul Tan
CEO
Hopeland Systems Inc.