VILLAGE OF SILVERTON

COMMITTEE OF THE WHOLE

COUNCIL AGENDA

SILVERTON COUNCIL

MEMORIAL HALL & ONLINE

August 24, 2022

7:00 P.M.

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. Lakeside Campground Winter Operations Discussion
2. Village Office Hours of Operation
3. Playground Improvement Project
4. Operational Fibre Optic Grid for Village of Silverton Review and Discussion
5. Memorial Hall Upgrades

F. ADJOURNMENT

Administrative Report: Viv Thoss, Chief Administrative Officer

Village of Silverton Council

Committee of the Whole Meeting of Silverton Village Council August 24, 2022

Agenda Topic: Lakeside Campground Winter Operations

Executive Summary

The purpose of this report is to present, for discussion, a discussion regarding the potential for Lakeside Campground to be open year round thus offering winter camping.

Background

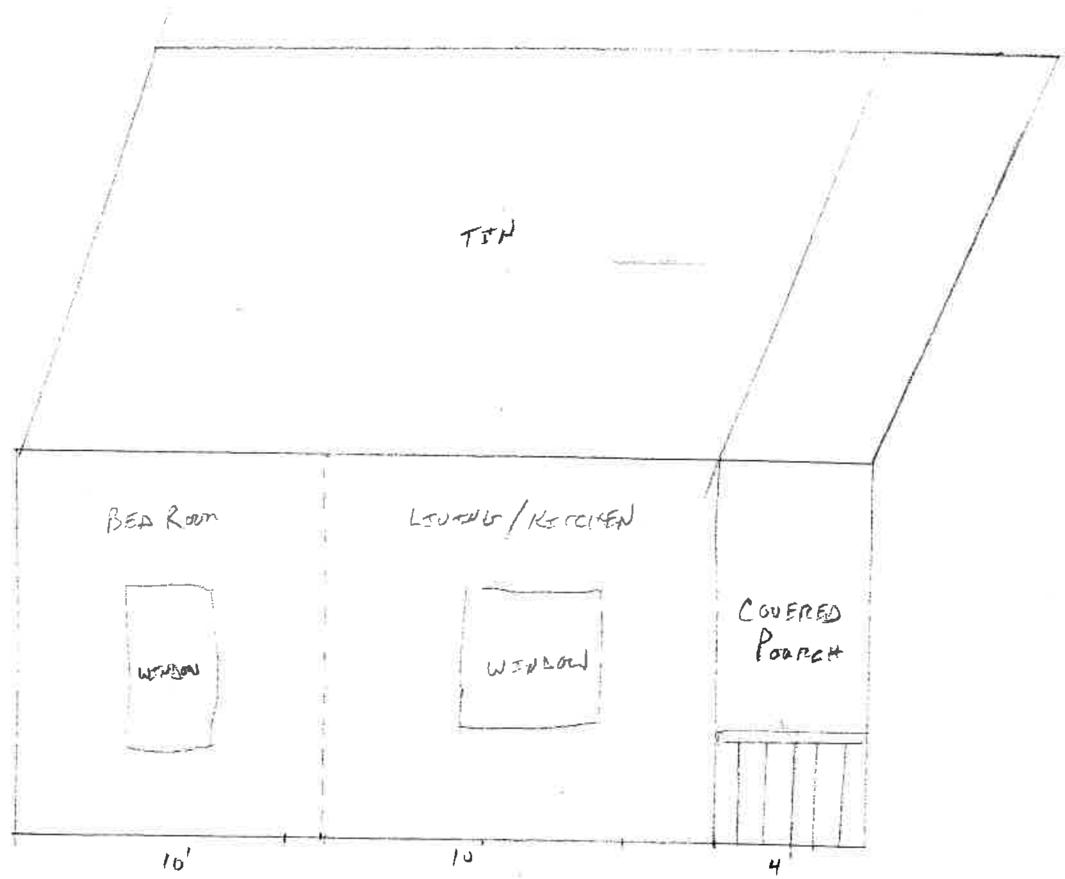
There have been preliminary discussions regarding the establishment of cabins and wall tents located at Lakeside Campground. This would open up a niche market of campers that enjoy the experience of true outdoor camping in the winter within a rustic wall tent. The cabins would avail clients, that don't necessarily have a recreational trailer, the ability to enjoy the camping experience in the comfort of a self contained building. Sites 14, 15, 16 and 17 of the campground are the least desirable and would be the best location for a 24' x 12' or 20' x 12' cabin.

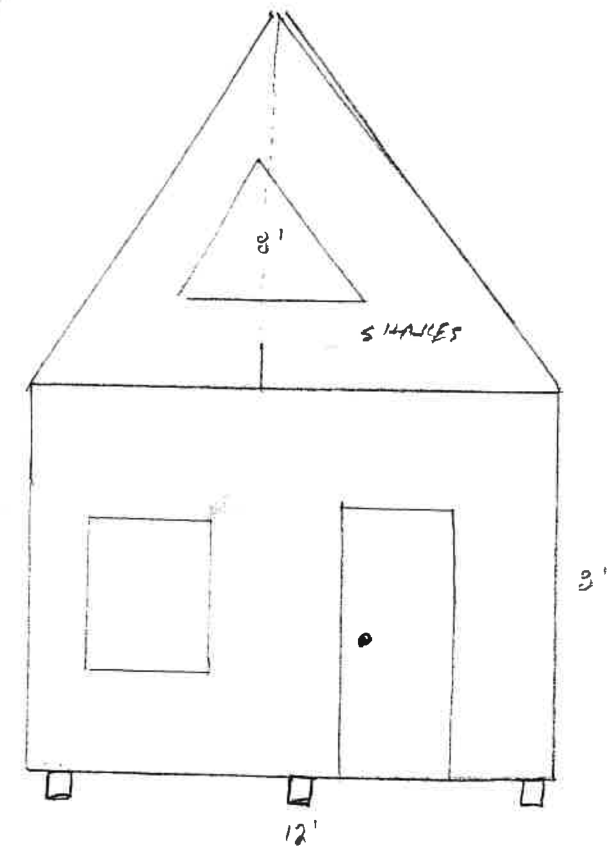
Discussion

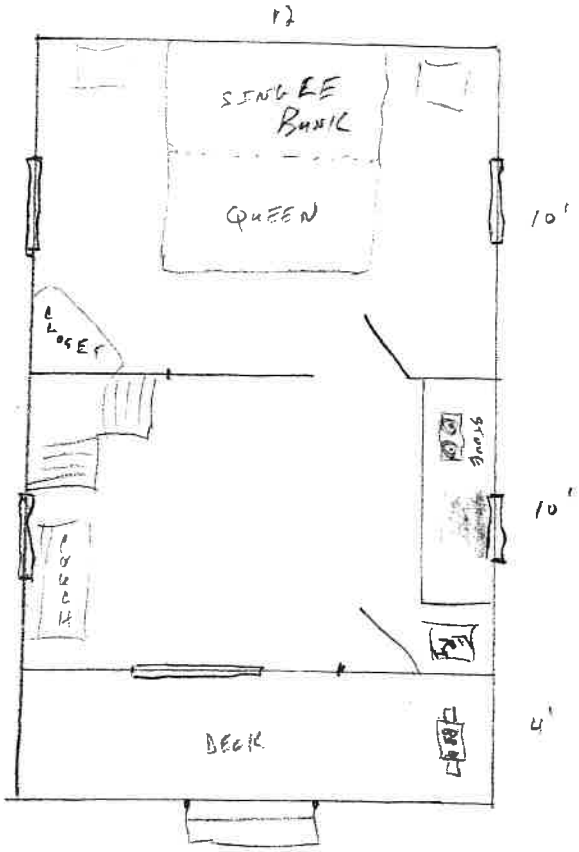
Staff have prepared a sample rendering of a cabin for Council's review and consideration. There are many styles and options of cabins that can be considered, the primary factors would be size and cost. There is another aspect of winter camping to be considered that would address a serious community need in Silverton and region. There is a critical shortage of rental properties in the region and it is feasible that persons with a recreational trailer would set-up on a monthly rental basis during the winter months. Our development plans of the campground make provision for electrical services to sites 15, 14, 13, 12, 11, and 10 fronting the lake. The electrician has suggested that these sites can be metered and thus allowing for independent electrical billing of each site.

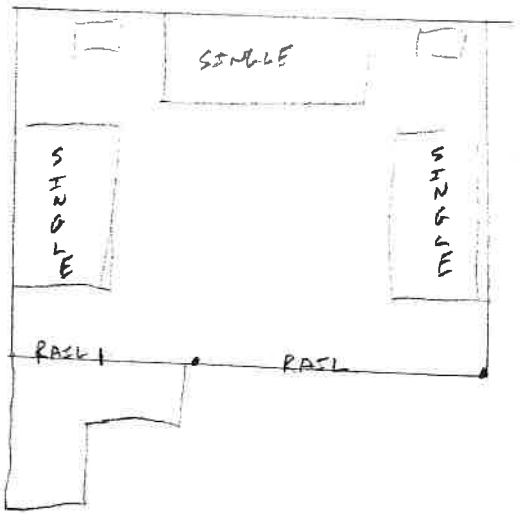
Staff attending the meeting will speak to all these issues in assisting Silverton Village Council in making an informed decision regarding consideration of year round operation of the campground.

Viv Thoss, Chief Administrative Officer


TIN
BED ROOM
LIVING / KITCHEN
WINDOW
WINDOW
COVERED PORCH
10'
10'
4'


8'
SHAKES
8'
12'


12
SINGLE BUNK
QUEEN
10'
CLOSET
SINK
10'
COUCH
DESK
4'


SINGLE
SINGLE
SINGLE
RAIL
RAIL

Administrative Report: Viv Thoss, Chief Administrative Officer

Village of Silverton Council

Committee of the Whole Meeting of Silverton Village Council August 24, 2022

Agenda Topic: Village Office Hours of Operation

Executive Summary

The purpose of this report is to present, for discussion, a review the days and hours the Village Office is open to the public.

Background

At present, our hours of operation are Tuesday through Thursday 10 am to 4 pm. Staff are at work from 8 am to 4 pm during this period. Should the office be open 4 days a week this would have a financial implication of $9,568 to the annual budget for personnel, this would affect one employee. Alternatively, should the office remain open 5 days a week this would have a financial implication to the annual budget for personnel of $18,769 for one employee.

Discussion

Administration wishes for Silverton Village Council to understand the full scope of the municipal operations in terms of our current customer service delivery model of hours of operation. Your Administrative Assistant is in support of maintaining the current hours of operation or any changes to expand the hours of operation.

Viv Thoss, Chief Administrative Officer

Administrative Report: Viv Thoss, Chief Administrative Officer

Village of Silverton Council

Committee of the Whole Meeting of Silverton Village Council August 24, 2022

Agenda Topic: Playground Improvement Project

Executive Summary

The purpose of this report is to present, for discussion, a proposed playground enhancement project.

Background

Administration has obtained costs for the installation of a set of shade sails, embankment slide, water fountains and bike stand at the playground in Dewis Memorial Park. The shade sail structures provide shade over the kids playground area as well as the older youth playground apparatus. The slide is designed to be embedded into the bank providing a safer environment for the youth. The water fountains will provide great relief and have a bottle fill station as well. We are in desperate need of bike racks in the community as well.

Discussion

Administration proposes to make an application under the Outdoor Active Recreation Grant offered by Columbia basin Trust. The Program funds 75% of project costs for any one project valued at $250,000.

The costing breakdown of the project costs are as follows:

2 sets of Shade Sails and Hardware (posts)	$ 49,895
Embankment Slide	$ 9,216
2 Water Fountains	$ 16,000
Bike Racks	$ 8,000
Freight	$ 6,705
Tax	$ 5,200
Total Project Cost	$ 95,016

Project Funding

CBT	$ 71,262
Community Works Fund	$ 23,754

Viv Thoss, Chief Administrative Officer

QUO-05783

PARKWORKS BY MAKR

Dewis Park, Silverton, BC

Quote Date:	8/2/2022	**Prepared For:**	Village of Silverton
Expiry Date:	9/1/2022		Darrell Garceau
Payment Terms:	50% of product to order.50% upon shipment of product.Balance due upon Substantial completion		(250) 358-2472
Lead Time:	12-14 Weeks		dgarceau@silverton.ca
Ship To	Silverton BC		Supply Only

Description	Qty	Unit	Price	Extended Price
TA-1000 Shade Sail #1 (4 point) 25' x 40' Commercial Heavy fabric (15 year warranty, available in 15 standard colours).	1.00	Each	$5,995.11	$5,995.11
TA-1000 Shade sail #1 4pcs 6" sched 40, welded and powder-coated steel posts at (2pcs at 13' and 2pcs at 17' respectively) and associated hardware.	1.00	Each	$18,720.00	$18,720.00
TA-1000 Shade Sail # 2 (4 point) 30' x 40' Commercial Heavy fabric (15 year warranty, available in 15 standard colours).	1.00	Each	$6,459.83	$6,459.83
TA-1000 Shade sail # 2 4pcs 6" sched 40, welded and powder-coated steel posts at (2pcs at 13' and 2pcs at 17' respectively) and associated hardware.	1.00	Each	$18,720.00	$18,720.00
KP-1000 PCM110121-0950 Embankment Slide, Greenline Dark Teal, PE Slide, Inground	1.00	Each	$9,216.00	$9,216.00
PW-Freight	1.00	Each	$6,705.38	$6,705.38

Notes:

Investment:

$65,816.32+ tax

DESIGN CONSULTANT: Mitchell Taubensee
mitchell.taubensee@makrgroup.com

#14 - 7228 Progress Way, Delta, BC V4G 1H2
P. 1.604.940.0067 | TF: 1.888.890.6257 (MAKR) | F. 1.604.940.0162

FUN BUILDS

PARKWORKSCO.COM

QUO-05783

PARKWORKS BY MAKR

Dewis Park, Silverton, BC

Quote Date:	8/2/2022	**Prepared For:**	Village of Silverton
Expiry Date:	9/1/2022		Darrell Garceau
Payment Terms:	50% of product to order.50% upon shipment of product.Balance due upon Substantial completion		(250) 358-2472
Lead Time:	12-14 Weeks		dgarceau@silverton.ca
Ship To	Silverton BC		Supply Only

Purchase Agreement Terms and Conditions

- Parkworks Solutions Corp. (Langley) shall hereinafter be referred to as 'The Company'.
- Price and terms will be held for 30 days from the date of this agreement pending the customer's signature and receipt of any required deposit
- 'The Company' will notify the customer of the expected delivery date
- In the event the project is delayed and the requested delivery date changes, through no fault of 'The Company' or its suppliers:
  - 'The Company' reserves the right to invoice the outstanding balance on the original delivery date
  - 'The Company' reserves the right to invoice for storage and any additional transportation and receiving costs that are incurred as a result
- If the customer requests any changes to the agreement after production begins, the customer is responsible for any costs related to changes, modifications or reviews
- 'The Company' has a No Return, No Cancellation policy on all orders. All deposits are nonrefundable
- 'The Companys' contractor will off-load and receive all product if 'The Company' is contracted for installation services
- The customer is responsible to off-load and receive product (as per "Instructions For Receiving Your Equipment" supplement) when 'The Company' is not contracted for installation services or during a volunteer installation

Please make order and cheques payable to: **Parkworks Solutions Corp. (Langley)**

Remit to: 805 Crowley Avenue, Kelowna, BC Canada V1Y 7G6

SubTotal:	**$65,816.32**
PST:	**$4,607.14**
GST/HST:	**$3,290.82**
Total:	**$73,714.28**

Date

Signature

Printed Name & Title

Deposit Required: **$32,908.16**

DESIGN CONSULTANT: Mitchell Taubensee
mitchell.taubensee@makrgroup.com

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FUN BUILDS

PARKWORKSCO.COM

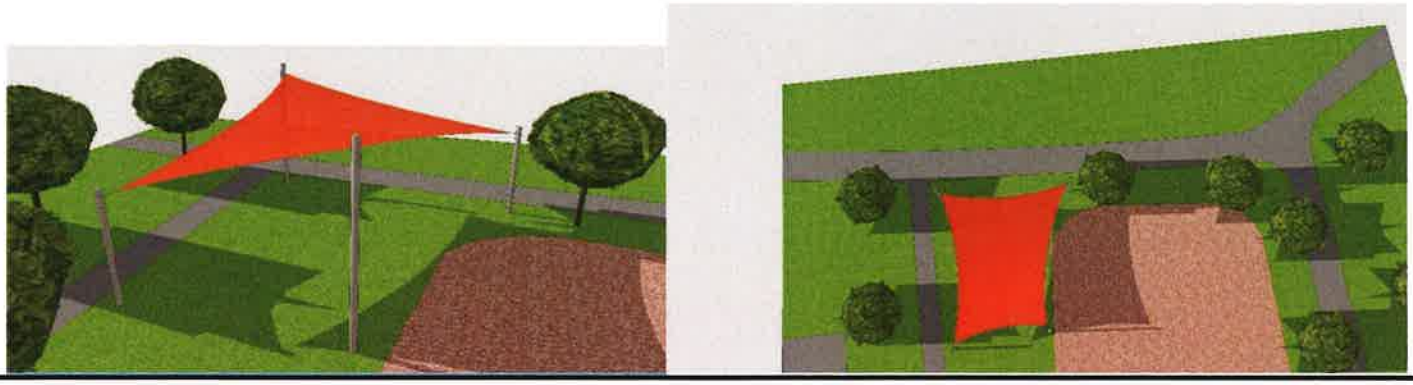
CANADA
SHADE SAILS

Proposal

Sustainability and accreditations	• Leading programs towards minimal landfill including www.greenbagcompany.ca using our remnant fabric to make bags • Oeko-Tex certified to be BPA-free, lead-free and phthalate free • 15-year warranty against UV degradation, rot, mould and tear • IFAI & IFAI Canada members • Canadian designed. Canadian made. Canadian Engineered. • Canadian supplied and installed by certified installers

RENDERING EXAMPLE ONLY

Rendering



Colour options:

Posts (any standard RAL powder coat colour):_____

Sail (please choose from the options below): _____

Note: Dual shade is an additional upcharge

COMMERCIAL-GRADE HEAVY

Imported from Australia, the home of tensile shade, Monotec fabric is an industry leading 100% Monofilament cloth, best suited to larger span sails over 25ft.

DUAL SHADE

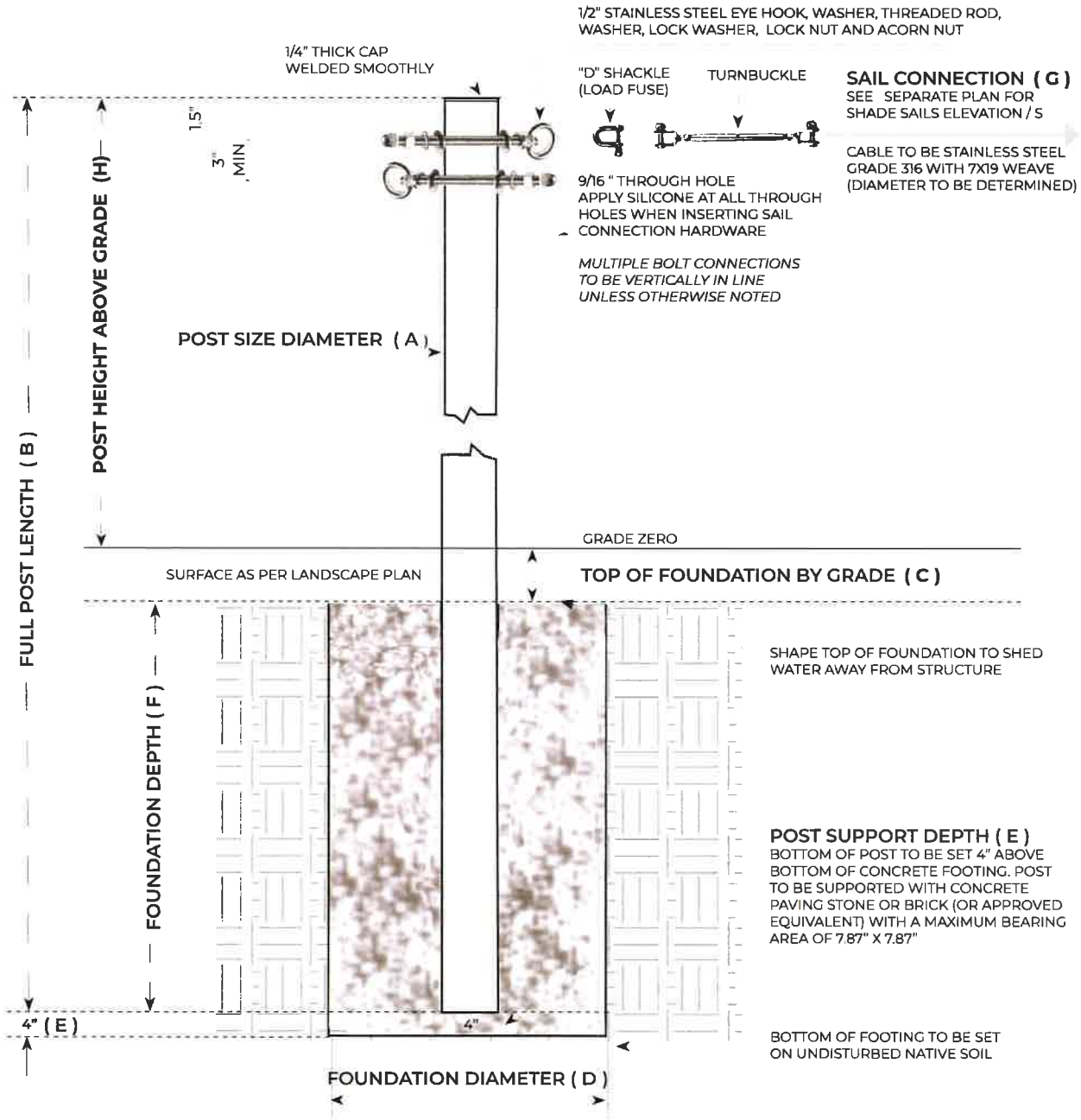
TYPICAL STANDARD POST
CONFIGURATION & SPECIFICATION

SHADE SAILS CANADA
THE ORIGINAL... THE BEST.

POST # — EMBEDDED IN CONCRETE / SAIL CONNECTION HARDWARE

The values below are typical and given as examples only for a 10' above grade post. Refer to your local building code or engineering report or Shade Sales Canada design report for actual specifications and sizes.

(A) POST SIZE DIAMETER	6.625"	(E) POST SUPPORT DEPTH	4"
(B) FULL POST LENGTH	14'2"	(F) FOUNDATION DEPTH	4'
(C) TOP OF FOUNDATION BY GRADE	6"	(G) SAIL CONNECTION HARDWARE	1/2"
(D) FOUNDATION DIAMETER	2' 6"	(H) POST HEIGHT ABOVE GRADE	10'



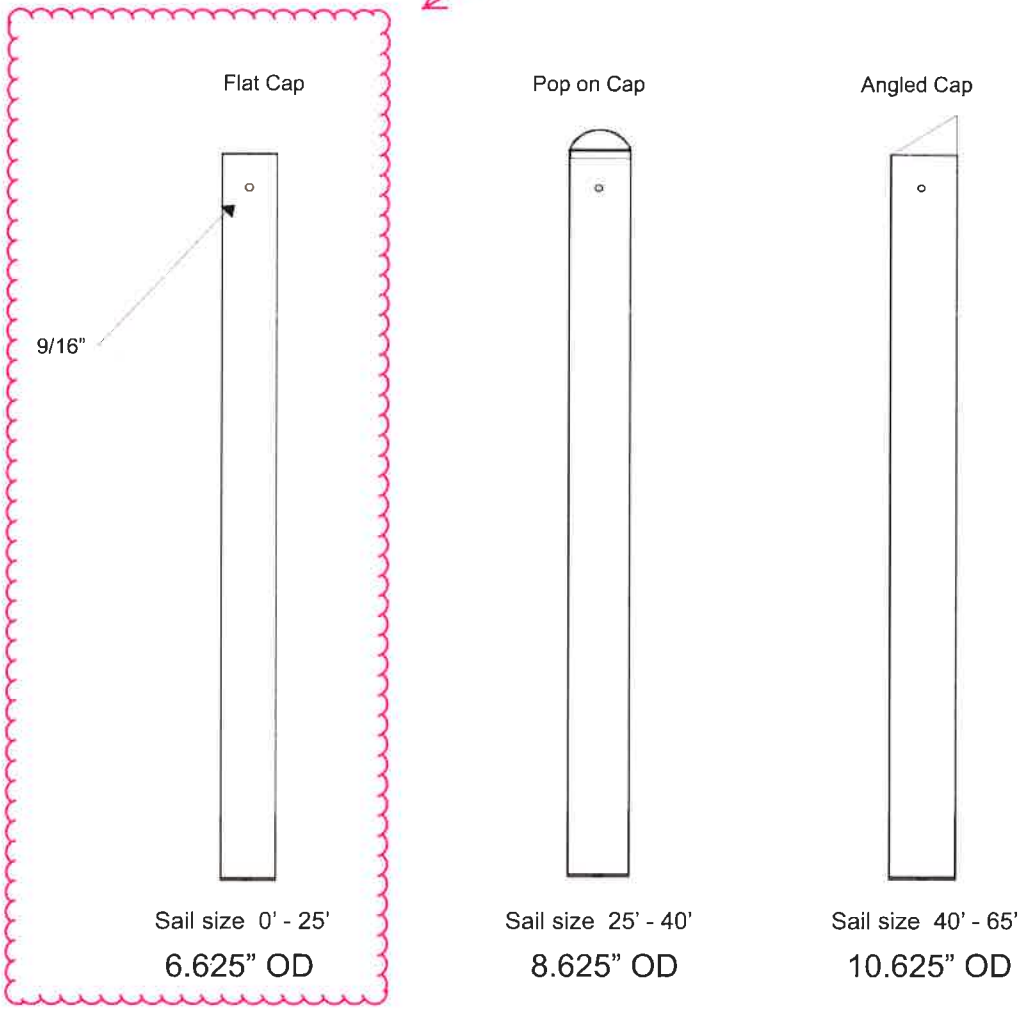
V0221

222 Hwy 23 North , Box 2940 Revelstoke, BC V0E 2S0 www.shadesailscanada.com , info@shadesailscanada.com , Toll free 1-855-899-8290

Post Sizes

Caps Available Welded Fat, Angled, or Pop On.

Recommended Option



Notes:

- This drawing is not to scale. Dimensions provided herein are for reference only.
- Post heights will vary upon TensArch consulting.
- Shade Sails Canada / TensArch Fabric Structures reserves the right to amend the design and specifications without prior notice for product improvement.

TENSARCH
FABRIC STRUCTURES

General Description

Post options; Recommended sail sizes for pole type, and optional end caps.

Typical Specifications

Height: Consult TensArch
Diameter: 6.625", 8.625", or 10.625"
Inside Wall: .25" minimum
Material: Hollow Structural Steel or Tube

Finish Options

- Powder Coated
- Raw Steel
- Galvanized
- Stainless steel
- Spray Coated

Mount Options

- Direct Embedded
- Surface Bolt with Gussets
- Weighted Base Mount
- Steel Weighted Plate
- Hinged Base with Pin
- Screw Piles

SHADE SAILS CANADA
THE ORIGINAL... THE BEST

Embankment Slide

PCM110121

Item no. PCM110121-0901	
General Product Information	
Colour options	
Dimensions LxWxH	463x161x110 cm
Age group	4 - 12
Play capacity (users)	3

The curved embankment slide motivates fun for all children and those childish at heart. Due to the embankment run loop, children will run up and slide down again and again. Sliding on the embankment slide is a great fun experience as friends can run up or down next to the sliding child. There is room for many children and for different ages and abilities to play together. The embankment hill is a great place for rolling or running too. When children slide they train their core muscles, sitting upright while sliding down. This stimulates their trunk stability, important for avoiding back and neck pains – a growing problem in children due to sedentary lifestyles. Running uphill or downhill they can train their balance and coordination as well as their muscle strength. They can train risk taking in holding back or letting go downhill.

Embankment Slide

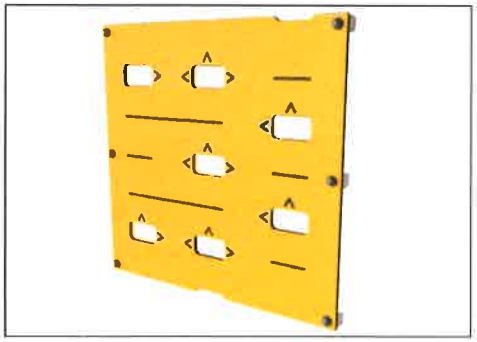
PCM110121

Curved slide
Physical: sliding develops spatial awareness and a sense of balance. Furthermore, the core muscles are trained when sitting upright going down.
Social-emotional: empathy stimulated by turn-taking.
Cognitive: young children develop their understanding of space, speed and distances when sliding down quickly.

Embankment Slide

PCM110121

The slides can be chosen in different materials and colors: Straight or curved one-piece molded PE slides in yellow or grey. Combined EcoCore™ sides and stainless steel. Full stainless steel in one-piece designs for more vandalism-proof solutions.



Panels of 19mm EcoCore™. EcoCore™ is a highly durable, eco friendly material, which is not only recyclable after use, but also consists of a core produced from 100% recycled material.

Main posts with hot-dip galvanized steel footing are available in different materials: Pressure impregnated pinewood posts. Pre-galvanized inside and outside with powder-coated top finish steel posts. Lead-free aluminum with color anodized top finish. Greenline TexMade posts of 100% post-consumer recycled PE and textile waste.

Item no. PCM110121-0901

Installation Information	
Max. fall height	100 cm
Safety surfacing area	8,7 m2
Number of installers	2
Total installation time	11,3
Excavation volume	0,27 m3
Concrete volume	0,00 m3
Footing depth (standard)	90 cm
Shipment weight	199 kg
Anchoring options	

Warranty Information	
EcoCore HDPE	Lifetime
Post	10 years
PP Decks	10 years
PE Slide	10 years
Spare parts guaranteed	10 years

All decks are supported by uniquely designed low-carbon aluminum profiles with multiple attachment options. The grey-colored molded decks are made of 75% post-consumer ocean waste PP material with a non-skid pattern and texture surface.

KOMPAN GreenLine versions are constructed with the most environmentally friendly materials with the lowest possible CO2e emission factor. TexMade posts, EcoCoreTM panels of 100% post-consumer recycled ocean waste, and molded PP decks.

Sustainability

Cradle to Gate A1-A3	Total CO_2 emission	CO_2e/kg	Recycled materials
	kg CO_2e	kg CO_2e/kg	%
PCM110121-0901	422,60	2,77	28,50
PCM110121-0950	378,70	2,36	36,80

The overall framework applied for these factors is the Environmental Product Declaration (EPD), which quantifies "environmental information on the life cycle of a product and enable comparisons between products fulfilling the same function" (ISO, 2006). This follows the structure and applies a Life-Cycle Assessment approach to the entire Product stage from raw material through manufacturing (A1-A3))

KOMPAN
Let's play

Kompan A/S
C.F. Tietgens Boulevard 32C
DK-5220 Odense SØ
Denmark

Validation of CO_2 calculation method
BUREAU VERITAS
HSE Denmark A/S

Validation of CO2 calculation of:
Play systems

Data version no. 2021-01-11

The CO^2 calculation and data are in compliance with the principles of a carbon footprint impact according to the GHG protocol (Greenhouse Gas Protocol), Scope 3, cradle to gate related to all individual components in the product category: "Play systems" represented by item no.: PCM200309-0010

(Scope 3 emissions include emission sources in the upstream and downstream value chain).

Date: 15. October 2021 | Valid until: 15. October 2023
Validated by:

Bente Hviid, Senior Consultant

Peter Bendtsen, Senior Consultant

Validation based on report: Validation of CO^2 calculation of play systems – Kompan, version 1.0, prepared by: Bureau Veritas HSE, Denmark. Bente Hviid and Peter Bendtsen.

Publication date: 15. October 2021

By Bureau Veritas HSE
www.bureauveritas.dk
+45 7731 1000

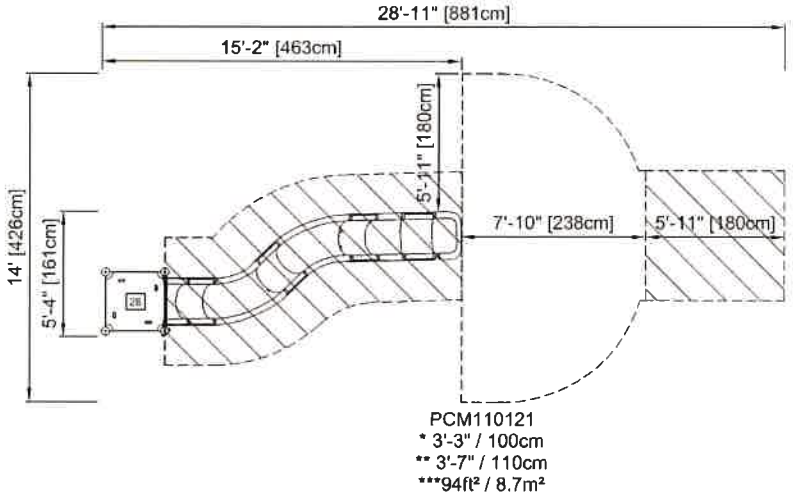
BUREAU VERITAS

Embankment Slide

PCM110121

KOMPAN Let's play

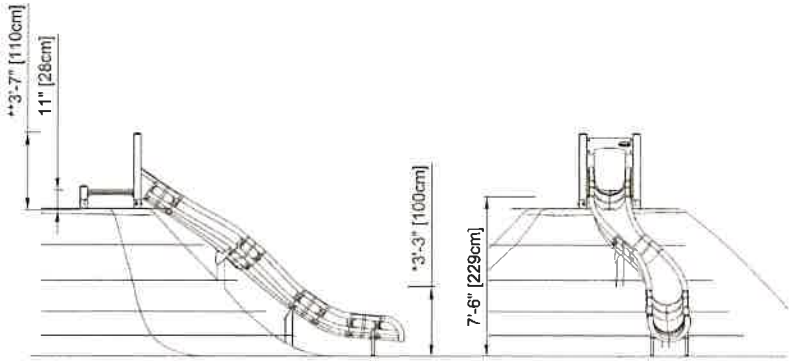
* Max fall height | ** Total height | *** Safety surfacing area



PCM110121
* 3'-3" / 100cm
** 3'-7" / 110cm
***94ft² / 8.7m²

Click to see TOP VIEW

* Max fall height | ** Total height



PCM110121

Click to see SIDE VIEW

Administrative Report: Viv Thoss, Chief Administrative Officer

Village of Silverton Council

Committee of the Whole Meeting of Silverton Village Council August 24, 2022

Agenda Topic: Operational Fibre Optic Grid Analysis

Executive Summary

The purpose of this report is to present, for discussion, a proposed fibre optic grid that services all properties in Silverton and the costs associated.

Background

The issue of providing fibre optic internet service to the residents and businesses of Silverton has been problematic, near impossible, a vision and appears to be a possibility now. Silverton has been apart of a valley wide initiative to review and discuss the possibility of becoming an ISP now that CBBC has provided the backbone of fibre optic cable to each of the member municipalities.

The reality today is how to get the last mile of fibre optic cable to the residents and businesses of our respective communities. Our discussion focuses on the servicing requirements and costs associated with building a fibre optic grid in Silverton that achieves that last mile endeavour.

Discussion

The financial costing of the build out is for Silverton Village Council to review and discuss in that they can make an informed decision in determining your next steps regarding a fibre optic internet service.

Viv Thoss, Chief Administrative Officer

Administrative Report: Viv Thoss, Chief Administrative Officer

Village of Silverton Council

Committee of the Whole Meeting of Silverton Village Council August 24, 2022

Agenda Topic: Memorial Hall Upgrades

Executive Summary

The purpose of this report is to present, for discussion, the Climate Resiliency Assessment of Silverton Memorial Hall, completed by Prism Engineering and to review the Community Readiness Grant Program offered by Columbia Basin Trust.

Background

Councillor Mills has taken the lead on having an assessment of Memorial Hall being completed with the intent of making an application for funding of the findings identified within the assessment. The assessment identifies 3 key components of the facility operational capacity that supports a communities ability to meet their needs during emergencies and disasters such as floods, wildfires, extreme heat or sustained power outages.

The summary of results concludes that a backup power source be provided to the facility in case of a sustained power outage. It concludes that the heating and cooling system be replaced with a modern efficient system to meet the requirements of the facility and to replace the building envelope be replaced with siding that replaces the wood material, potentially hardie board or fire retardant paint.

Discussion

The estimated project costs for the aforementioned elements are as follows:

HVAC System	$ 90,000
Backup Generator	$115,000
Siding	$ 50,000

The CBT Grant funds 80% of a project up to a maximum project value of $100,000 for the 2022 intake, we are seeking clarification from CBT if this Program will be available in 2023. The municipality has secured grant funding of $40,082 for 2022, 2023 and 2024 under the Local Government Climate Action Program. In addition, the municipality has secured funding of $36,000 from RDCK both of which can be contributed as the municipal contribution towards a proposed Memorial Hall Climate Resiliency Action Plan Grant Application under the CBT Program.

A potential Grant funding plan could look like this:

Project		Funding	
Generator	$115,000	$92,000	CBT Community Readiness Program (80%)
		$23,000	RDCK Grant
HVAC System	$100,000	$75,000	CBT Basin Charge Up Program (75%)
		$25,000	Local Government Climate Action Program
Building Siding	$ 50,000	$13,000	RDCK Grant
		$15,000	Local Government Climate Action Program
		$22,000	Community Works Fund

Viv Thoss, Chief Administrative Officer

Prism ENGINEERING

saving you energy

Community Readiness Program

Columbia Basin trust

Climate Resiliency Assessment

Silverton Memorial Hall

Prepared for: Brian Mills
Prepared by: Lizz Hodgson, P.Eng. (lizzh@prismengineering.com | 250.878.0406)
Project No.: 2022013
Date: 2022-08-12

ENGINEERS & GEOSCIENTISTS

OQM CERTIFIED

TABLE OF CONTENTS

Disclaimer

1. INTRODUCTION

1.1 Overview

This report summarizes the findings from a climate resiliency assessment conducted by Prism Engineering, and funded by the Columbia Basin Trust (CBT).

This assessment has been conducted as part of the CBT's 'Community Readiness Program'. This program supports Basin communities' ability to meet their needs during emergencies and disasters such as floods, wildfires or sustained power outages. In addition to this assessment, eligible applicants may also apply for funding for any or all the following activities:

- the purchase of emergency readiness equipment and supplies to be made available for community wide benefit;
- facility improvements to accommodate emergency readiness; and
- improvements to emergency readiness facilities to increase accessibility.

Applicants can request up to a maximum of 80% of total project funds up to $100,000 per applicant. The deadline for applications is currently **September 1, 2022**.

The Program supports community well-being and climate resilience, both of which are priorities in the Columbia Basin Management Plan.

More information on this program can be found here: https://ourtrust.org/grants-and-programs-directory/community-readiness-program

1.2 Objectives

This assessment was conducted to meet the following objectives:

- For the Community Readiness Program Advisor (Prism Engineering) to meet with site representatives and conduct a physical site assessment of the facility.
- To assess the condition and design of the existing infrastructure and building systems.
- To evaluate the existing building systems against potential climate events and risks, and define the areas where improvements are necessary to increase resilience.
- To provide descriptions and cost estimates of potential upgrades.
- To evaluate the priority of each upgrade based on risk of various climate events.
- To provide a concise report to allow participants to decide which upgrades they wish to apply for funding for.

1.3 Site Visit

A site visit was conducted by Prism Engineering on June 30, 2022. We met with Brian Mills and Leonard Casley; their assistance is much appreciated.

2. FACILITY OVERVIEW

The community of Silverton is located on the east side of Slocan Lake, BC. The Silverton Memorial Hall is a gathering place for the community and provides a space for community activities including dances, weddings, concerts and community meetings. The building was originally built in 1919, with significant renovations to the original hall were completed in 1985. A kitchen addition and new accessible washrooms were completed in 1950's and 2010 respectively. The hall consists of the main hall, kitchen, balcony, mechanical room and storage.

Photos of the hall are shown below.

Hall from east

Hall from south

Hall from West

Main hall

Interior Balcony

Kitchen

3. RESILIENCY ASSESSMENT

3.1 Risk evaluation criteria

To evaluate the potential climate vulnerability of various attributes based on different climate events that this community might face, we have applied a scoring system. This system uses the matrix shown below to estimate the likelihood and consequence that a climate event might have on various aspects of the community hall. The overall risk score for an event is determined by multiplying the *Likelihood* rating by the *Consequence* rating. The intent of providing a numerical scoring system is to allow the community to prioritize upgrades based on the level of potential risk.

Scores have been applied to each climate event based on our understanding of the local climate, but have not been validated by climate models or specialists. This is intended to provide a comparative evaluation only.

		Consequence				
		Negligible 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
Likelihood	5 Almost certain	Moderate 5	High 10	Extreme 15	Extreme 20	Extreme 25
	4 Likely	Moderate 4	High 8	High 12	Extreme 16	Extreme 20
	3 Possible	Low 3	Moderate 6	High 9	High 12	Extreme 15
	2 Unlikely	Low 2	Moderate 4	Moderate 6	High 8	High 10
	1 Rare	Low 1	Low 2	Low 3	Moderate 4	Moderate 5

Figure 1: Risk evaluation matrix

3.2 Summary of results

Prior to providing a more detailed description of the climate resiliency assessment findings in Section 3.3, we have provided a brief summary of the results of our assessment in the table directly below.

Estimated upgrade costs are not guaranteed, and are based on experience with similar projects that can be used as part of the CBT grant funding application for this program. All costs should be confirmed with contractors and suppliers prior to proceeding.

Table 1: Summary of results by climate event

Climate Event	Site Attribute	Upgrade required	Estimated upgrade cost	Climate vulnerability risk score
General	Site power - backup	Yes	$115,000	20 (Extreme)
Forest fire	HVAC (ventilation, filtration, cooling)	Yes	$5,500 (temporary)-$90,000 (permanent)*	15 (Extreme)
Forest Fire	Envelope Integrity	Yes	$50,000	15 (Extreme)
Extreme heat	HVAC (cooling, ventilation)	Yes	Included in HVAC upgrade above.	12 (High)
Forest fire	Potable water supply	No	-	10 (High)
Wind event	Tree fall	No	-	12 (High)
Flood	HVAC (fresh air intake)	Yes	Included in HVAC upgrade above.	6 (Moderate)
Extreme Rain	HVAC (fresh air intake)	Yes	Included in HVAC upgrade above.	6 (Moderate)
Flood	Facility elevation above lake, creek, flood plain	No	-	3 (Low)
Warmer winters	Insect screens	Yes	$500	3 (Low)
General	Site power - primary	No	-	-
General	Communication	No	-	-
General	Accessibility	No	-	-
General	Heli landing pad	No	-	-
General	Other (site documentation)	Yes	$100	-

** Includes allowance for engineering*

Table 2: Summary of estimated upgrade costs

Climate risk group	Estimated upgrade cost
Extreme risk	$175,500 - $255,000
High risk	-
Moderate risk	-
Low risk	$500
Other	$100

3.3 Findings

The following table outlines our findings from the assessment, and provides descriptions of existing systems and recommended actions required to increase the climate resilience of this building.

Table 3: Climate resiliency assessment findings

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
Forest fire	HVAC (ventilation, filtration, cooling)	The current HVAC system includes an electric resistance furnace ducted through the crawl space to the main hall. The furnace includes a fibreglass panel filter. The furnace is controlled by a programmable thermostat. Mechanical ventilation is provided only when the furnace is operating, via an outdoor air intake ducted from the crawl space to the main return duct branch of the furnace. It is estimated this provides around 100 cfm of outdoor air (sufficient ventilation for approximately 20 people). Electric baseboard heaters are used in storge, washrooms and mechanical room areas containing plumbing to prevent freezing.	At present the existing systems do not allow for a safe area of refuge to be provided to the local community, and filtration and ventilation requirements cannot be met in the event of a forest fire smoke event. Peak capacity of the hall during a climate emergency is estimated to be 150 – 200 people. **Temporary solutions:** • During a forest fire event, run the furnace fan (fan only, no heat) manually to provide mechanical filtration and (limited) ventilation using the existing system. • Purchase MERV 10-13 filters that can be installed temporarily in the event of forest fire. Use MERV 8 during the heating season to improve indoor air quality. Ensure filters are well sealed to eliminate air bypass. • Consider purchase of portable HEPA filters with charcoal filters, sufficient to	**Temporary solutions:** $500 (filters) $5,000 (portable HEPA filters)	5 (Almost certain)	3 (Moderate)	15 (Extreme)

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
			maintain an air change rate of 2-4 air changes per hour (ACH). Note that the permanent solution below would negate the need for portable HEPA filters. **Permanent solution:** • To ensure adequate ventilation, filtration, and cooling for a large number of community members that may require use of the hall as a refuge during an extreme climate event the following permanent recommendations are made: ○ Sufficient air volume to provide ventilation for approximately 200 people in an emergency event (approximately 2,000 cfm of outdoor air as per ASHRAE 62.1), either by a new makeup air unit or heat recovery ventilator (HRV). ○ Mechanical cooling via an air cooled chiller (reversible for heat pump operation in the winter) ○ Filtration adequate for removal of smoke from peak outdoor air volumes during full capacity emergency events (MERV 13). ○ Controls for efficient operation, including demand controlled ventilation, and emergency mode changeover.	**Permanent solutions:** $100,000			

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
			• Detailed design of the proposed HVAC upgrades by a qualified mechanical engineering firm would be required.				
Forest Fire	Envelope Integrity	The exterior cladding of the building is wood. During forest fire events, there is the potential for embers to land on the building and cause it to ignite.	It is recommended that a fire retardant paint or siding be installed.	$50,000	5 (Almost certain)	3 (Moderate)	15 (Extreme)
Forest fire	Potable water supply	Water supply for the hall and much of the community is provided from two aquifer fed wells. Each has a pump with an emergency backup generator adequate to supply 20 hours of power to the pumps. The pumps supply water to two reservoirs that use gravity to deliver water to the community.	No action.	-	5 (Almost certain)	2 (Minor)	10 (High)
Extreme heat	HVAC (cooling, ventilation)	No mechanical cooling provided at present. Operable windows are installed throughout the building for passive ventilation when outdoor conditions permit. Ceiling fans in the main hall augment air circulation within the building.	As outlined in the 'Permanent solutions' above for HVAC upgrades, mechanical cooling is recommended to be added as part of the HVAC upgrade.	Included in permanent solution estimate above for HVAC upgrades.	4 (Likely)	3 (Moderate)	12 (High)

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
		During extreme heat or forest fire smoke events, operable windows provide no function for ventilation.					
Wind event	Tree fall	There is one on the property. The tree is in good health, however due to it's proximity to the building during significant wind events damaged branches could impact the building.	None	-	4 (Likely)	3 (Moderate)	12 (High)
Flood	Facility elevation above lake, creek, flood plain	Site is above flood plain and behind dykes. Landslip potential unknown.	No action	-	1 (Rare)	3 (Moderate)	3 (Low)
	HVAC (fresh air intake)	The fresh air intake is from the crawl space. In the event of flooding the potential exists that the fresh air intake could be blocked by water.	Extend the fresh air intake vertically above ground level.	Included in permanent solution estimate above for HVAC upgrades.	1 (Rare)	4 (Major)	6 (Moderate)
Extreme rain	HVAC (fresh air intake)	Site drainage has not been an issue to date. Ground slopes away from building on all sides. However, as indicated above in flooding impact on HVAC, significant water pooling in the crawl space has the potential to block fresh air intake.	Included in solution estimate above for HVAC upgrades.	Included in solution estimate above for HVAC upgrades.	3 (Possible)	2 (Minor)	6 (Moderate)
Warmer winters	Insect screens	Screens are currently installed on all operable windows.	Gaps in door seals in main entrances should be repaired. This will also improve energy efficiency, and ability to maintain	$500	3 (Possible)	1 (Negligible)	3 (Low)

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
		Gaps in door seals exist on main entrances, impacting envelope tightness.	indoor air quality (IAQ) during forest fire smoke events.				
General	Site power - primary	Primary power is supplied by BC Hydro via overhead lines.	No action	-	-	-	-
General	Site power - backup	There is no backup power to the site. The majority of other branch distribution lines to and within the community is supplied via overhead lines. he main lines are particularly vulnerable to falling trees in extreme wind events.	To decrease the risk of lengthy power outages impacting the site, it is recommended that a backup generator be installed with fuel storage, sized to provide heating, cooling, ventilation, lighting and communications.	$115,000	5 (Almost certain) *Refers to requirement for backup power*	4 (Major)	20 (Extreme)
General	Communication	There is cell service in the Silverton community. Internet is provided to the hall by Shaw. Telus also provides the community with fibre optic communication service to the community. A Telus booster station in Silverton is served by a backup power generator.	No action. To improve redundancy of communications, it is recommended that Telus internet service be considered.	-	-	-	-
General	Accessibility	Wheelchair access to the main hall is provided by ramps which are in good condition. The washroom on the main floor are wheelchair accessible.	No Action	-	-	-	-

Climate Event	Site Attribute	Description of existing systems	Recommended actions	Estimated upgrade cost	Likelihood of event	Consequence of event on site attribute	Climate vulnerability risk score
General	Heli landing pad	A large open field adjacent to the Silverton Lakeshore Inn approximately 100m from the hall can be used as a landing zone in the event of an emergency.	No action	-	-	-	-
General	Other (site documentation)	Record drawings of site services for the Community Hall and surrounds are accurately kept in hard copy only, and if lost or damaged in a climate event could compromise future upgrades and service modifications.	To ensure longevity of site service documentation, it is recommended these drawings are scanned and stored electronically (including cloud backup).	$100	-	-	-

4. NEXT STEPS

The following provides an overview of the recommended next steps:

1. The community hall staff should review this report and discuss the recommendations with other key stakeholders as necessary.
2. Liaise with the Community Readiness Program Advisor (Prism Engineering) to help determine which upgrades you wish to move forward with.
3. Complete the online application for CBT funding support for the implementation of these upgrades through the Community Readiness Program.
    - This application form can be accessed online at the following link: https://ourtrust.org/grants-and-programs-directory/community-readiness-program/
    - Deadlines for applications close on **September 1, 2022**.
4. Once the application is submitted, it will be reviewed by the CBT and notification as to approval status will be issued.
5. Based on funding approval, project work may commence once an agreement for funding is signed with the CBT. Project work should not commence prior to this if it is to receive funding.
6. Prism Engineering is available to support you throughout this process, and can also provide engineering support for any design work that may be required for more complex upgrades.

Contact information related to the program is included below:

Community Readiness Program Advisor

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Columbia Basin Trust Program Coordinator

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- **End of Report** -