

***Witchcraft Lake Regional Trail to Mount Benson  
Regional Park Trail Upgrade Project***



**Prepared for:  
The Regional District of Nanaimo**

**Written by:  
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## Table of Contents

List of Figures.....	ii
List of Tables .....	ii
Introduction .....	1
Maps .....	2
Area of Interest.....	3
Trail Design .....	4
General Trail Maintenance: .....	4
Clearing blocked creeks and drainages:.....	5
Fixing the eroding bluff: .....	5
Small Bridge across Pond .....	6
Signage.....	7
Materials .....	7
Schedule and Crews.....	7
Records.....	8
Access .....	8
Insurance .....	9
Safety Plan.....	10
Trail Users.....	10
Volunteer Safety .....	10
Hazard Assessment.....	10
Emergency Procedures and Medical Evacuation.....	11
Fire Plan and prevention .....	11
Recognition and Sponsorship .....	12

## List of Figures

Figure 1- Trail Markers .....	2
Figure 2 -Trail Names.....	2
Figure 3 - View Point .....	3
Figure 4 – “Straight to the Top” Trail Head.....	3
Figure 5 – Trail on Creek.....	3
Figure 6 – Fallen trees block creek .....	5
Figure 7 – Fallen log diverting drainage onto trail .....	5
Figure 8 – Eroding Bluff.....	5
Figure 9 – Trail around bluff .....	5
Figure 10 - Small Bridge across pond .....	6
Figure 11 - FMCBC Waiver .....	9

## List of Tables

Table 1 - Risk Level Indicator.....	11
Table 2 - Hazard Assessment, Sample .....	11

## Introduction



The primary purpose of this project is to prevent erosion and environmental damage from foot traffic along the Witchcraft Lake Regional Trail to the peak of Mount Benson. The Island Mountain Ramblers mountaineering club wishes to provide community service to the citizens of Nanaimo by creating a legacy of trail stewardship and sustainable enjoyment of nature. We are offering to provide management and volunteer labour to a trail upgrade project between Witchcraft Lake and Mount Benson.

As you may know the route from Witchcraft Lake to Mount Benson suffers from overuse by a growing population, drainage issues, and short cutting on unofficial trails. With the addition of the new parking lot at the east end of Witchcraft lake there will be a problem with people taking short cuts up to existing unofficial mixed hiking/mountain biking trails.

We are proposing a series of ongoing projects that will continuously upgrade and maintain the trail to Mount Benson, beginning with this pilot project, if it is approved. We are asking that the RDN considers supporting our efforts by dealing with the bureaucratic elements involved with approving this project. These elements include dealing with local and provincial government authorities, obtaining access to gated roads, and funding for building materials.

# Maps

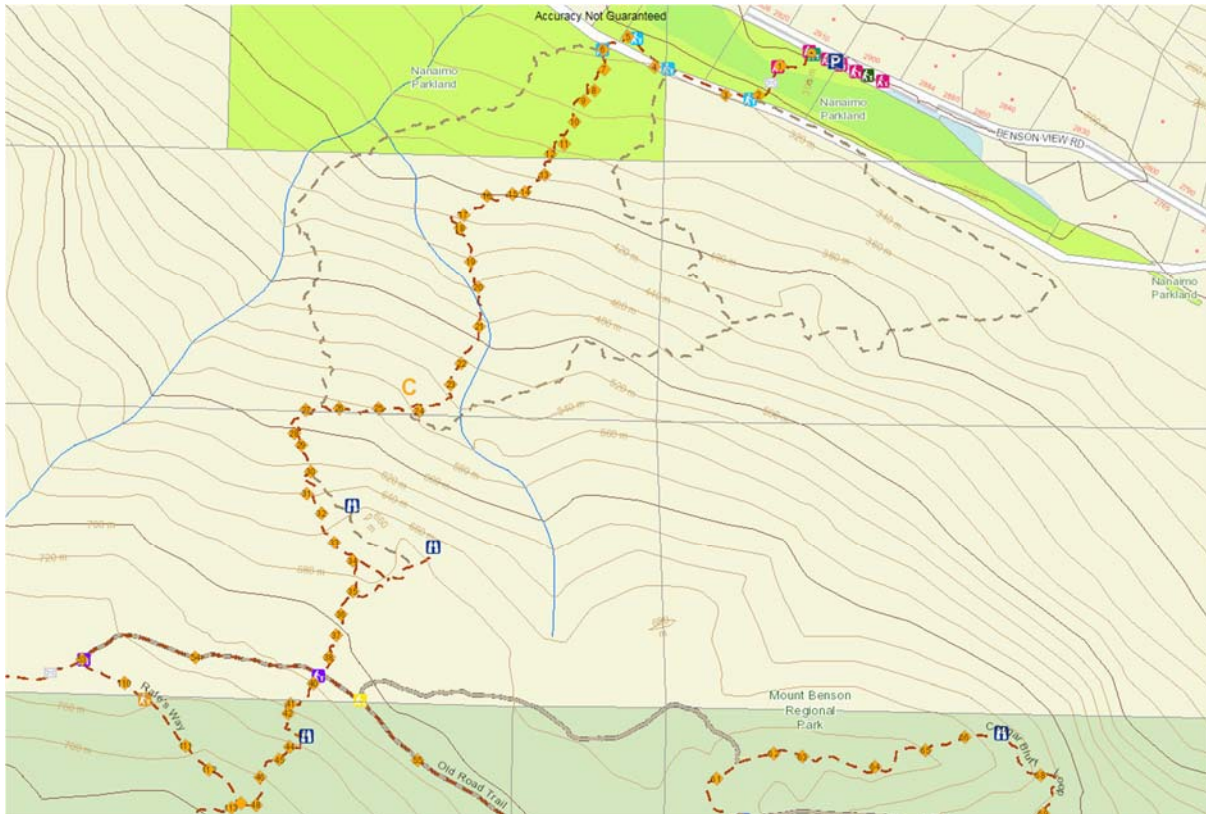


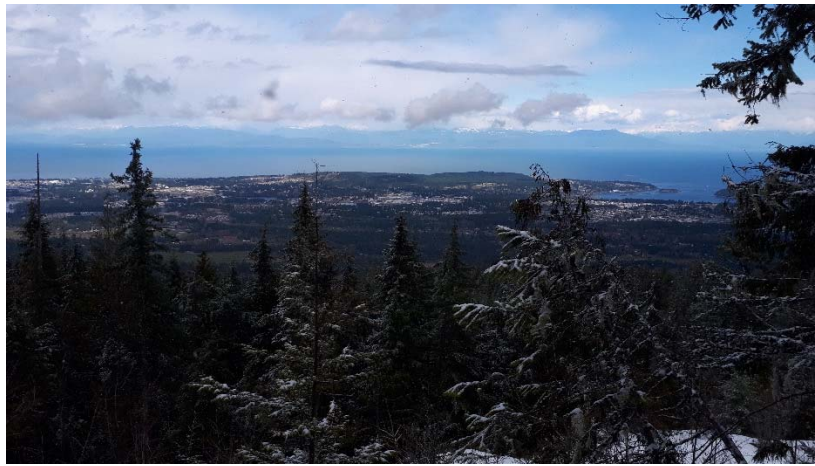
Figure 1- Trail Markers



Figure 2 -Trail Names



## Area of Interest



*Figure 3 - View Point*

Our initial area of interest is upgrading an unofficial trail that provides the most direct route from the new parking to the existing trail. Although this has been identified as a possibility in the future, because this area is not on RDN land getting permission and agreements in place for the summer 2018 isn't feasible. Instead, we propose a pilot project that will upgrade trail on RDN land between markers 41 and 48, just above the logging road. This area is named "Straight to the Top" on the trail map (see [Figure 2 - Trail Names.](#))



*Figure 4 – "Straight to the Top" Trail Head*



*Figure 5 – Trail on Creek*

After examining this area, we have developed a plan that is laid out in this document. In the event that we complete the proposed section before the end of the summer 2018, and have materials left over we would seek approval to extend the work to new sections.

Regarding the development of a trail from the new parking area to the existing trail, we recommend the RDN start the process of securing right of way access to the section that falls on forestry land. This new trail will accommodate a lot of foot traffic and developing it sooner rather than later will insure the integrity of the ecology and trail.

## Trail Design

The work to be done on 'Straight to the Top' falls into several categories which will be described in more detail below. These include the following:

- general trail maintenance, use of landscape ties, natural materials, and the creation of trail drainage
- removal of logs and debris that are blocking natural creeks and diverting water onto the trail
- where the trail is using a creek bed we will rout the trail parallel to the drainage and reinforce it. (see Figure 5 – Trail on Creek)
- repairing an existing trail up an eroding bluff in such a way as to stop erosion and degradation of said bluff
- a simple bridge across a pond just before marker 49 where the trail meets back with 'Rafe's Way'
- addition of New Signage

### General Trail Maintenance:

General trail maintenance involves redefining the existing trail. The emphasis is to create a single path that discourages shortcutting that causes trail-braiding. It will focus traffic onto terrain that can handle the wear and tear, while avoiding areas prone to flooding. Natural materials such as existing boulders and fallen logs will be used in addition to landscaping ties of different sizes to create steps on steep slopes where erosion is a problem. We will be using cedar as much as possible. No pressure treated materials will be used as the chemicals can leach into the environment.

Clearing blocked creeks and drainages:



*Figure 6 – Fallen trees block creek*



*Figure 7 – Fallen log diverting drainage onto trail*

Remains of logging and slash from the cut block above the proposed work site has ended up blocking some of the waterways near the trail. In some cases the debris is diverting the water flow out of the existing creek onto the trail. Removal of the logs and debris will redirect water to creek and provide trail building material.

Fixing the eroding bluff:



*Figure 8 – Eroding Bluff*



*Figure 9 – Trail around bluff*

Here we see the eroded bluff at the top of the clearing ([Figure 8 – Eroding Bluff](#)) that is being used as a trail instead of the more stable route ([Figure 9 – Trail around bluff](#)) that has been blocked just beyond the picture. By clearing the fallen debris and cutting in



steps with landscaping ties we will be able to make the official trail the obvious route to use instead of the slippery bluff.

### Small Bridge across Pond

There is a small water feature just before marker 49 at the end of “Straight to the Top.” The pond has been filled with small logs to cross on which are wobbly and slippery, and the area on either side has deep mud created by pedestrians trying to avoid the wet logs. We propose building a very simple bridge (see [Figure 10 - Small Bridge across pond](#)) using 2 logs running the length of the bridge, propped up cross logs to allow for any flow or water life to pass under, supporting a 2x4 or 2x6 deck. The deck would be covered with some form of grip material that will not wear out too quickly.



*Figure 10 - Small Bridge across pond*

## Signage

We will require signage for notifying users of trail maintenance ([see Safety Plan - Trail Users](#)) as well as informing the users of plans and cautioning change of trail and unfinished work. We would like approval to have our club logo, and if the RDN wants, their own symbol and any other interested party. Upon completion of the pilot project the Island Mountain Ramblers would like some permanent signage that recognizes the organisation involvement with the project (see Recognition and Sponsorship.)

The route will not be significantly moved at any point and the SAR signage can stay where it is. We have reflective orange markers that can be used as extra markers were needed.

## Materials

Exact number of materials will depend on the budget as we will work within the available budget. We will also look for donations, repurpose construction scrap, and make use of the use of wood that is blocking the creek. At the time of writing this document, as you can see in the pictures, much of the terrain is under snow making detailed plans impossible. I can however create a list of the material types we would like to use. The plans could be altered depending on the unit prices that the RDN is able to secure (ie if RDN is able to get a good deal on landscaping ties through being a bulk purchaser then we can plan to use more over less)

- Landscaping Ties, mostly in the 3-4 inch squared range (actual sizes depend on milling)
- Rebar (3/4 or 1/2 inch)
- Expanded sheet metal (for small bridge)
- Staples
- 2x4 or 2x6 for bridge (exact estimate will be available after snow melt)
- Caution, Danger, and pink flagging tape

## Schedule and Crews

Work will be ongoing weekday evenings and weekends, starting as soon as this project is approved – hopefully mid June 2018, until first snow – fall 2018. Work under the agreement can be rescheduled until May 2020 when the term ends. Evenings work will be the most common as many members are away on trips during the weekends,

however we will attempt to schedule some larger weekend shifts. Crew chiefs will be trained and assigned to all shifts to ensure that safety protocols are in place at all times. No work is to be carried out without direction of an assigned crew chief to ensure quality of work, safety, and appropriate use of materials.

## Records

All volunteers must sign a record form with the following information: Name, address, date of birth, qualifications (e.g. training, certification or training requirements). Crew chiefs will record this information and at the end of the work season turn the records over to the project manager for data entry. This form will be a one time sign in, however each work session will also require a log in and log out form with number of hours worked. The important number to keep is total number of volunteer hours, and each crew chief should submit this number at the end of the work season to the project manager, along with the records.

Our agreement requires that we provide before and after photos of work done. Before starting work on a new section, we will take photos of the section before and after. This will be done by the project manager; however, crew chiefs can also take photos to add to the records. Before and after photos will be available at the end of each work season for any requests on progress.

## Access

Access for materials will be by the logging road and will be done by RDN employees. Access for volunteers would be by foot from Witchcraft Lake.

# Insurance

Name of FMCBC Member Club



## RELEASE OF LIABILITY, WAIVER OF CLAIMS, ASSUMPTION OF RISKS AND INDEMNITY AGREEMENT

BY SIGNING THIS DOCUMENT YOU WILL WAIVE OR GIVE UP CERTAIN LEGAL  
RIGHTS, INCLUDING THE RIGHT TO SUE OR  
TO CLAIM COMPENSATION FOLLOWING AN ACCIDENT

**PLEASE READ CAREFULLY!**

SIGNATURE OF PARTICIPANT/MEMBER

To: \_\_\_\_\_ (the "Club"), Federation of Mountain Clubs of BC,  
and their respective directors, officers, employees, members, volunteers, agents, independent  
contractors and subcontractors, representatives, successors, assigns and all persons acting under their  
authority (all of whom are hereinafter collectively referred to as "the Releasees")

### DEFINITION

In this Agreement the term "Outdoor Activities" shall include but is not limited to: mountaineering (glacier travel; rock, snow, ice and mixed; roped and un-roped); climbing (indoor, rock, ice, alpine, sport and mountain); backpacking; hiking; trail running; trekking; backcountry skiing; touring; telemark skiing; snowboarding and snowshoeing; alpine skiing; Nordic or cross-country skiing; cycling; mountain biking; water sports (swimming, kayaking, canoeing, sailing or boating); horseback riding; trail building, clearing and maintenance; building, maintaining and operating backcountry huts; and, all activities, services and use of facilities either provided by or arranged by the Releasees including orientation, instructional and skill development programs and all travel by or movement around helicopters, other aircraft or other vehicles.

### ASSUMPTION OF RISKS

I am aware that participation in Outdoor Activities involves many risks, dangers and hazards. The terrain used for Outdoor Activities is uncontrolled, unmarked, not inspected, and involves many risks, dangers and hazards. Avalanches occur frequently in the terrain used for Outdoor Activities and may be caused by natural forces or by persons travelling through the terrain. I am aware that the Releasees may fail to predict whether the terrain is safe, and whether avalanche hazards or other dangers or risks may occur. Risks, dangers and hazards may include but are not limited to: rockfall, icefall, avalanches of snow, ice and rock triggered by natural forces, by persons travelling through the terrain or other causes; extreme variation in terrain, including hidden or exposed rocks, boulders, ice, logs, stumps, roots, forest deadfall, treewells, trees and other objects; falling trees, forest fires; concealed or exposed crevasses, icebridges or bergschrunds; cornices and cornice falls; cliffs; variable and difficult snow or ice conditions, including unstable snow packs or ice; ungroomed, unmarked and uncontrolled terrain; exposed or concealed holes or depressions on or below the surface or ground cover; still and moving water; lakes, streams, creeks and rivers, including crossings; cold water immersion; entrapment by trees, logs, rocks or equipment; drowning; limited visibility; variable, severe or rapidly changing weather with little or no warning including storms, high winds and lightning; dangerous and unpredictable water conditions, including waves, currents, rapids, white water and waterfalls; hypothermia; hyperthermia; frostbite; loss of balance or control and falls, particularly on steep, slippery or difficult terrain; difficulty or inability to control one's speed and direction; errors of judgment; lack of preparation; inadequate, inappropriate, improperly prepared or adjusted equipment; equipment failure, malfunction or loss; loss or damage to personal property; failure to act safely or within one's ability or within a designated area; impact or collision with vehicles, other persons or objects; encounters with domestic or wild animals; becoming lost, going off route or becoming separated from one's party; behavioural problems with the horse, including the horse being spooked, frightened or startled; riding a horse that is too aggressive or temperamental for one's riding ability; being thrown from, kicked, bitten or struck by the horse; remote locations with unreliable, delayed or no communication and inability to get rescue or medical assistance quickly or easily; dangerous driving conditions and travel over poor roads; negligence of other persons; and, NEGLIGENCE ON THE PART OF THE RELEASEES, INCLUDING THE FAILURE BY THE RELEASEES TO SAFEGUARD OR PROTECT ME FROM THE RISKS, DANGERS AND HAZARDS OF OUTDOOR ACTIVITIES.

I AM AWARE OF THE RISKS, DANGERS AND HAZARDS ASSOCIATED WITH OUTDOOR ACTIVITIES AND I  
FREELY ACCEPT AND FULLY ASSUME ALL SUCH RISKS, DANGERS AND HAZARDS AND THE  
POSSIBILITY OF PERSONAL INJURY, DEATH, PROPERTY DAMAGE AND LOSS RESULTING  
THEREFROM.

### NON-SCHEDULED OR EMERGENCY EVACUATION, RESCUE OR FIRST AID

I acknowledge and agree that all expenses associated with non-scheduled or emergency evacuation, rescue or first aid will be my responsibility and will not be covered by the Releasees.

Federation of Mountain Clubs of BC - Universal Waiver-Basic «Equestrian» Water- Page 2 of 2

Figure 11 - FMCBC Waiver

Our club members or guests (prospective members may join two trips before joining) who have signed a waiver are covered under our liability insurance with the Federation of Mountain Clubs of BC. The coverage is a Commercial Liability insurance and covers our members from defence cost and claim settlements for intentional acts that result in damages to persons or property of the public or each other. Our Insurance specifically mentions "building and maintaining trails" in its coverage. This insurance does not compensate volunteer's medical bills or lost work due to injury, all volunteer work is



done at user's assumption of own risk, as stated on the FMCBC waiver. All volunteers must also sign the RDN's waiver. Volunteers who are not club members would be covered under the RDN's general comprehensive third party liability insurance.

## Safety Plan

### Trail Users

As much as possible, there will be no trail closure, however we will have to ensure the safety of trail users. We will achieve this by notifying trail users with signage of the sections we are working on and flagging off unfinished material with the closest possible detour around the feature being worked on so that the SAR markings are still relevant. For this focus point on "straight to the top", there is an alternate trail that is only a few minutes longer that could be used as a detour if we absolutely must to ensure trail user safety. If necessary a section may be temporarily closed but will not remain closed overnight and should be reopened with only unfinished features flagged off. We will use caution or danger tape to flag off, and pink flagging tape to mark detours.

### Volunteer Safety

Volunteer safety will be achieved through training, safe working practices, and personal protective equipment. All work parties will begin with a safety meeting that will discuss hazards relevant to the task, and procedures for reducing those hazards (see Table 2 - Hazard Assessment, Sample.) Safety will be overseen by crew chiefs, ensuring volunteers are qualified with the tools they are using, and have appropriate PPE. Equipment required by volunteers will be listed under suggested equipment for each work party schedule in our trip schedule on our website. All volunteers acknowledge that the work is done at their own risk by signing the FMCBC and RDN waivers.

### Hazard Assessment

A hazard assessment table is used to identify hazards and to flag any activities that create an unacceptable level of risk (see table 1 and 2 below). The general goal is to

avoid risks above 2-high, with 3-high being unacceptable. Risk levels can be brought back into acceptable levels by applying prevention methods

Table 1 - Risk Level Indicator

Level	Outcome
1	Minor cut or bruise
2	Injury possibly requiring evacuation
3	Serious Injury or fatality

Table 2 - Hazard Assessment, Sample

**\*Example Only – New Hazard Assessment to be completed before start of work**

Hazzard	Level	Chance	Prevention
Working above each other	2	low	Area of interest is not steep enough in most places to be cause serious injury
Chips of rock in eyes	2	high	Safety Glasses provided for using mattock or pick axe
Cuts to hands	1	high	Volunteers are advised bring work gloves
Trips and Falls	2	medium	Keep tidy work area with tools and material
Chain Saws	3	low	Only certified operators to use chain saws
Reciprocating Saws	1-3	low	Provide training if needed
Wildlife	3	low	Working in groups

## Emergency Procedures and Medical Evacuation

At least one member of the work party will have first aid training (many of our members have wilderness first aid). Minor cuts are injuries that can be treated on site, and if needed persons should be escorted back down the mountain. Serious injuries will need to be evacuated by the logging road by truck or by helicopter from a clearing farther down the same logging road. UTM's of that clearing will be recorded and posted before work begins. All sections of proposed work have cell reception and so emergency number will be 911.

## Fire Plan and prevention

When the fire hazard is set to high, use of gas power tools will be restricted. Prior to cutting, combustible leaves and forest duff will be cleared. A class A fire extinguisher

will be on hand, buckets are a second option providing there is still water in the creek. In extreme fire conditions sparks from hand tools should be avoided, and smoking will not be permitted.

In case of forest fire, there are three possible routes of evacuation depending on the direction of the fire:

- 1) Down to Witchcraft Lake
- 2) Down the logging road and towards Westwood Lake
- 3) Up to the summit and down the radio tower access road to Nanaimo Lakes Road.

## Recognition and Sponsorship

The Island Mountain Ramblers' main purpose as a club is to help people get outside and enjoy nature and help them develop the skills to do so. We offer mentorship and training with very low annual memberships fees (only \$34 per year, \$20 for students). Every dollar is accounted for by the club's Secretary-Treasurer, and spending of it is managed by an elected executive council.

We would like people who use the Mount Benson Regional Park to know of the trail work we do. This project, along with providing trail stewardship and environmental protection, is a good opportunity for us to advertise our club. This is also an opportunity for the RDN and other organisations (NALT and FMCBC) involved to show that they are committed to improving hiking and parks in the area. The best way to achieve this would be to install a small permanent signage on sections that have had heavy amount of work done, or at the main trail head kiosk, crediting all groups involved. This could be done by the RDN, or we could ask someone in the IMR to create something and have it approved.

This project presents an opportunity for sponsorship from local businesses. At the time of writing this we currently have one sponsor: Atmosphere. They support the club by providing equipment for our club members to use on trips, but we do not have any contractual requirements with them. We have not approached our sponsor or any other business about this project, and it would be for executive members of our club to discuss with the RDN if this is something all parties are interested in.