

# STAFF REPORT

**TO:** Greater Vernon Advisory Committee

**File No:** 4750.01.02.2023

**FROM:** Parks, Recreation and Culture

**Date:** September 6, 2023

**SUBJECT:** Coldstream Ranchlands Development Plan

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## RECOMMENDATION:

That it be recommended to the Board of Directors, the staff report dated September 6, 2023 and titled Coldstream Ranchlands Development Plan be received; and further, That public/stakeholder engagement be sought on the Draft Coldstream Ranchlands Development Plan.

## BACKGROUND:

Staff have received regular input and inquiries from user groups and the public on their desires for the development of this property since it was acquired by the RDNO. In 2021, Environmental and Archeological Assessments were completed. There are a few factors that limit the development potential of this property:

- The majority of the interior portion of the property is designated ALR
- The public access right-of-way is designated non-motorized
- Parking is limited to a District of Coldstream road right-of-way
- The property is designated as medium to high conservation value

Following the report titled *Public Engagement for GVTNS Development Plans* received by the committee May 3 2023, staff retained Cabin Operations Ltd. to draft the Coldstream Ranchlands Development Plan. The plan was to consider all pre-planning documents including Environmental Assessment, Archeological Assessment, and ALC best practices for trail development in the ALR. The plan shows recommended trail alignment, access points, potential parking areas, existing trails to be decommissioned and site amenities.

## DISCUSSION:

Staff would like to present the committee with a copy of the *DRAFT – Coldstream Ranchlands Development Plan* and request its endorsement.

Based on the GVTNS Master Plan *Appendix D: Natural Space and Trail Management Matrix*, the Coldstream Ranchlands property is best managed as “Conservation with Passive Recreation”. While the vast majority of the park would remain in its natural state, proposed park improvements include a 6.9km looping Nature Trail that preserves the high value conservation areas within the park and minimizes impacts the long-term agricultural viability of the property. The plan also details potential parking solutions on Ravine Drive that will need the District of Coldstream’s approval, access points,

arterial connections to the Grey Canal Trail, future connections to the North Okanagan Cycling Society/Rec Sites & Trail BC – East Vernon Hill multi-use trail network, and trailhead amenities such as garbage receptacles and dog bag dispensers.

Staff would like to ensure the committee is aware that the primary non-motorized public access to this property was granted to the RDNO via a Statutory Right of Way in 2007 by the developer KRL Properties Ltd. This access utilizes a shared driveway for residents at 80,92,104,116, 128 Ravine Drive, and also provides motorized maintenance access to the GVW water reservoir/parkland. A few local residents have been opposed to the public utilizing this access point.

Once public/stakeholder engagement is complete any required edits to the plan will be included for the Committee's final adoption.


#### **FINANCIAL/BUDGETARY CONSIDERATIONS:**

Once the development plan is adopted a capital budget will included in the GVTNS 5-year capital plan for the Committees consideration.

#### ***ATTACHMENT A – Coldstream Ranchlands Development Plan DRAFT***

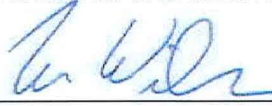
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# Coldstream Ranchlands Development Plan

July 2023



**Prepared for**



**Prepared by**



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# TERRITORIAL ACKNOWLEDGEMENT

Coldstream Ranchlands is in the traditional territory  
of the Secwepemc First Nations and the Syilx  
Okanagan People.

# 1 INTRODUCTION

Coldstream Ranchlands is comprised of three parcels owned by RDNO on a south west facing slope above Buchanan Road in Coldstream, that cover 126.5 hectares of natural area. The recreation potential for this area of interest is being considered as part of the long-term planning process in the Greater Vernon Trails and Natural Spaces Master Plan 2022 – 2032 (GVTNS Master Plan). The scope of the Coldstream Ranchlands Development Plan (Plan) is to look at the options for trail and park amenities that would make the best use of the natural area and meet the objective of conservation with passive recreation as defined in the GVTNS Master Plan.

Natural spaces are areas that are relatively undisturbed, or in the process of recovering from human disturbance. They help to protect biodiversity and environmentally sensitive habitats or features. In the case of Coldstream Ranchlands, they can provide passive outdoor recreation (e.g. hiking/biking) and also protect two red-listed ecological communities at risk and critical habitat for four snake species. Details are provided in Section 3, which summarizes the key findings of the Environmental Impact Assessment completed in 2020.

In addition, 69.2 hectares of the area of interest lie within the Agricultural Land Reserve and as such any non-farm use and/or recreational improvements will be subject to ALC approval. Recommended mitigating measures and design solutions are presented in sections 5.1.6 and 6.0.

The slopes in the area range from 20 - 50% and are generally long and even and face southwest, with some slopes of 60- 70% off the ridgeline in the eastern edge of the proposed park. The only stream identified on site is an S4 classified stream that runs along the eastern parcel boundary, there are a few small draws that run approximately southwest with no clearly identified stream connections below. Between the draws lie native grasslands and rocky outcrops. The ecological values have been assessed and recommendations to preserve these values are presented in the environmental section.

The plan is guided by the framework developed for Coldstream Ranchlands in the GVTNS Master Plan and specifically the four pillars of sustainability as they relate to the benefits of parks and trails: environmental, social, economic, and cultural. Through the Plan, options will be presented to add sustainable trails while also protecting environmentally sensitive areas and culturally significant features in this conservation-focused natural space. An additional important component will be a strategy for decommissioning existing trails that was part of past land use by ranchers and recreationists and restoring them to a natural state. The goal will be to create a net ecological benefit by offsetting any new sustainable trail and park infrastructure development with decommissioning old unsustainable trails.



## 2 SPECIFIC PROJECT GOALS AND OBJECTIVES

The goal of this Plan is to present options for a sustainable and safe trail network that will achieve the objectives set out in the GVTNS Master Plan to preserve the majority of the Coldstream Ranchlands for conservation, while providing passive recreation opportunities for members of the public via a Nature Trail that circles the property. This will provide the public with a defined route to enjoy hiking, trail running, cycling, wildlife/bird watching, and a future connection to the proposed Vernon Hills mountain bike and hiking trail system that the North Okanagan Trails Society (NOCST) and Recreation Sites & Trails BC are working to establish on the Crown lands north of the Coldstream Ranchlands.

Supporting this goal are several key objectives:

- Present Recommendations for New Trail Sections

Presently there are old roads and trails that have been used in the past by recreationalists, ranchers, and the general public to access the site. New options for Class 1 (nature) trails will utilize some of the old trails/roads, where suitable, and new construction where necessary through the grasslands. All proposed options follow the best locations identified in the field in terms of user experience, minimizing environmental impact, minimizes trail development in the ALR portion of the property, and decommissions unsanctioned trails within the ALR.

- Minimize Environmental Impact and Support Conservation

The desired outcome of the Plan will balance the development of trails and park infrastructure with the decommissioning of existing sections of old trail/road. This should minimize the development footprint in the park and bring some old, disturbed sites back to a natural state. In addition, the preference for trail options is guided by the desire to protect environmentally sensitive sites. One of the benefits of protecting these sensitive areas is a high-quality recreation experience.

- Present Recommendations for New Park Amenities

Coldstream Ranchlands does not have any park infrastructure. As such, this plan will provide recommendations on the type and amount of infrastructure required, all of which will be to RDNO standards.

- First Nations Engagement and Archaeology Assessment

An Archaeological Overview Assessment and Preliminary Field Reconnaissance of the Coldstream Ranchlands parcels was completed in 2020 by Ursus Heritage Consulting and Okanagan Indian Band. No archaeological resources were identified, and no further archaeological work was recommended. RDNO intends to engage with local First Nations regarding the development plan.

## 3 ENVIRONMENTAL SUMMARY

### 3.1 ECOSYSTEM AND WILDLIFE VALUES

#### 3.1.1 Wildlife and Terrestrial Resources

The Coldstream Ranchlands are home to a diverse community of wildlife. The area supports many species at risk, with habitat features considered critical habitat for several reptiles, birds, bats, and small mammals. Because of the high density of wildlife observations previously documented in an impact assessment by Hill Environmental (2020), and the diversity of significant habitat features, the QEP assisted with trail layout on May 16<sup>th</sup>, 2023 to ensure trail alignments did not bisect or encroach sensitive features. The primary areas of concern were the mixed shrub thickets present in the depressional areas, gullies, and natural draws found throughout the southern aspects of the hillside, and the numerous rocky outcrops. The shrub thickets were confirmed to support many nesting birds, and provide refuge for mammals. The rocky outcrops provided suitable foraging and potential overwintering habitat for reptiles, bats, small mammals, and non-vascular plant communities.

#### 3.1.2 Environmentally Sensitive Areas (ESA)

Two ecological communities at risk were identified within the property boundaries and were ground-truthed by Hill Environmental in 2020. The two communities were rather obvious in the field given they were treed ecosystems and much of the parcel is grassland or shrub-steppe. Therefore, it was easy to align the trails away from these ecological communities and keep trail alignments on pre-existing trails or in areas dominated by open grassland. Sensitive features like shrub thickets, rock outcrops, wildlife trees, high-density burrowing/excavation areas, and talus slopes were documented and buffered during the layout process.

#### 3.1.3 Species and Ecosystems at Risk (SEAR)

As previously stated, the Ranchlands property is home to several species and ecosystems at risk. It was straight forward to avoid encroaching the known ecosystems at risk on the property given they were mostly limited to the far northwest and southeast sections of the property. The trail was also laid out so that no mature tree trees would need to be removed. Suitable habitat was identified for Northern rubber boa, Western yellow-bellied racer, Great Basin gopher snake, American badger, Lark sparrow, Common nighthawk, and various bat species at risk. Trail alignments were adjusted in the field to avoid any habitat features that may be used by these species or suspected to be high-value features for other wildlife.

#### 3.1.4 Recommended Mitigation Strategies for Reducing Disturbance to Fish, Wildlife, and Sensitive Habitat

- Retain mature shrub patches and wild rose/snowberry thickets wherever possible. These features are used by a variety of bird species and offer suitable nesting habitat for bird species at risk. Fruit-bearing shrubs also offer critical winter food sources for birds and large mammals
- Consult a QEP to conduct bird nest sweeps prior to construction so that appropriate buffers and retention areas can be delineated (if works are proposed for within sensitive timing windows e.g. March – August)



- Retain mature trees and shrubs wherever possible for shade maintenance, particularly within 30m of wetland/riparian features
- Maintain habitat connectivity wherever possible
- Stage materials and machinery away from any wetland boundary or sensitive habitat
- Revegetate disturbed soils outside of the trail alignment with native Okanagan grasses, or enhancement with native tree/shrub plantings
- Reuse existing trail footprints where possible to avoid disturbing new areas
- Reroute trail alignments away from, and avoid machine operations near sensitive features such as wetland fringes, shrub thickets, rocky outcrops, or high-density burrowing areas

### 3.1.5 Riparian Features

Suspected riparian features were mapped on the property before site assessments were completed. During the site visit and trail layout in May, 2023, a QEP assessed known crossing areas with mapped riparian features to determine the potential for fish presence and document existing aquatic habitat conditions. Only two riparian feature crossings were proposed for the trail alignment, and both of these features were determined to not meet the definitions of a stream as defined by the Riparian Areas Protection Regulation (RAPR) or Water Sustainability Act (WSA). A professional opinion letter was completed by the QEP for justifying the declassification of these two features as non-riparian.

## 4 FRAMEWORK FOR EVALUATION AND DEVELOPMENT

### 4.1 TRAIL CLASSIFICATION AND STANDARDS

The trails proposed in Coldstream Ranchlands will follow the RDNO Regional Park Design Guidelines and trail classification system. The trail classification system is reproduced in Table 4 and the Design Guidelines are presented in Appendices. Type 1 trails are proposed for the park.

Table 4. RDNO Trail Classification

Classification	Surface	Construction	Tread Width	Cleared Trail Width	Maximum Grade	Accessibility	Vertical Clearance
<b>Type 1: Nature Trail</b>	Native material with some rock and vegetation/roots in the tread	Machine/hand	0.5 – 1.2 m	2.1 m min.	25%	Very limited due to slope and surface	2.5 m
<b>Type 2: Standard Multi-Use</b>	Native material	Machine	1.2 – 3 m	2.4 m min.	25%	Limited due to slope and surface	3.3 m
<b>Type 3: Surfaced Multi-Use</b>	Compacted granular	Machine	2.4 – 3 m	> 3 m	15%	Limited due to slope	3.3 m

There are sections of trail options presented that lie on undisturbed ground and will require new construction. In addition, there are existing RDNO trails and rogue routes that have been established by cattle, users walking around obstructions, and motorized use such as ATV's and dirt bikes. These unsanctioned and existing RDNO trails and roads do not meet the RDNO trail standards in all cases. They are identified and recommended for upgrades to become classified trails. Unsustainable routes/trails are recommended for decommissioning in the Implementation Section.

Unsustainable Trails are defined as trails that do not have the 5 key elements of a Sustainable Trail. The key elements are as follows:

- Keep the trail grade at less than half of the side slope. So, if the trail is crossing a 30% slope, the trail grade should be less than 15%.
- Always try to keep sustained pitches (>50m) of the trail at 20% grade or less.
- Maintain an average trail grade of 10% or less.
- Use grade reversals and drainage structures or grade dips to shed surface water on the trail tread and minimize erosion.
- Outslope the trail tread at 2 - 4% to shed water off the trail. The outslope grade may have to increase if the trail grade is > 12%.

Unsafe Trails are harder to define as there are certain risks that are accepted on park trail systems. As such, we have defined Unsafe Trails as sections that are in a condition that presents a very high risk of injury for users. This includes sections that have limited solid footing and significant exposure and sections where it is not practical to make a safe surfaced trail, such as rocky outcrops.

## 4.2 TRAIL DEVELOPMENT

The development of trails will strive to minimize the disturbance on site while allowing for a main trail loop that has connection points in the north to potential future trails in the proposed Vernon Hills mountain biking & hiking trail system, as well as the Gray Canal Trail and the residential neighborhood in the south. The loop will allow for views of Vernon, Okanagan Lake, and Kalamalka Lake, but will also avoid sensitive sites such as red listed ecosystems and habitat areas for red and blue listed species. The proposed trail network was designed to balance the needs of ecological conservation with maximum user experience and enjoyment.

## 4.3 TRAIL DECOMMISSIONING AND RESTORATION METHODS

Where an old trail has been found to be unsustainable or unnecessary, decommissioning that follows accepted ecological restoration methods will be recommended.

Accepted ecological restoration methods that could be applied include scarifying the trail treads, seeding with an approved native grassland mix, and pocket planting with native plants harvested from low to moderately sensitive sites in the park.

In addition to restoration treatments, experience shows that education is essential to stop past users from opening restored trails again. To that end, signs that provide the reason for the restoration along with sections of fence at entrance points to the restored trails are recommended. Signage could also include First Nations cultural information and descriptions of ecological values and wildlife habitat. Additional information (including a trail map) can be presented at entrances to the park and online that clearly describe restoration objectives and ways in which the public can support the restoration efforts. Where motorized users are accessing the Coldstream Ranchlands parcels, physical barriers may have to also be put in place.

## 4.5 Mapping Updates

As the trail system and infrastructure is developed at Coldstream Ranchlands, the associated maps will need the GIS layer for the trails to be updated with each phase of construction and corresponding decommissioning. Online maps will reflect the changes and signs can pass along the message for why the changes were made.

## 5 TRAIL INVENTORY AND EVALUATION

The inventory and assessment of the Plan used the RDNO Trail Classification (See Table), and the definition of an “unsustainable” and/or “unsafe” trail presented in Section 4.1

### 5.1 INVENTORY OF FEATURES

Existing RDNO and unsanctioned trails have been mapped. Natural features that have recreational value, such as rock outcrops have been identified and described in Section 3 and will not be covered here. Several viewpoints have been identified on the map as potential places for amenities such as benches. There are also several fence lines that run through and adjacent to the parcel which have been mapped where identified. Unsanctioned trails that were noted in field assessments have been mapped and are recommended for decommissioning and rehab, a total of 2,311m of trail can be decommissioned within the 3 parcel areas.

#### 5.1.1 Section of Existing Trail Connecting to Gray Canal Trail (forms part of Main Loop, portion to be decommissioned):

This existing trail is currently the only major trail identified on publicly available trail apps such as Trailforks that crosses through all three of the identified parcels. This portion connects the Gray Canal trail in the south to the Powerline trail in the northeast. From the south, it follows the southern finger upslope following the fence line along private property before traversing the southern parcel boundary. This section ends when it leaves the fence line and cuts north through Parcel 2. This is a type 1 trail with a grade of 0-30% and a trail width of 0.3-1.5m for 1.22km. The majority of this section can be used within the proposed trail network in it's current condition with minor reroutes to avoid steep and loose sections of trails. Along the southern fence line, the North Okanagan Naturalists Club has placed birdhouses, the trail following the fence here does not require any changes and can be used within the proposed trail network.



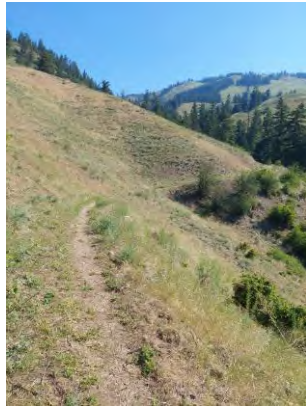
*Figure 1: View of existing trail following fence line to incorporate into proposed trail system.*



*Figure 2: Steeper 30% loose section in the south to be rerouted on 10-12% grades.*

### 5.1.2 Section of Trail Through Gully (proposed to deactivate portion of trail):

This trail is mapped as a loop into the gully containing an S4 stream east of the Coldstream Ranchlands area. The first 120m of the trail follows a 3m wide bench from historic activities in the area and can be incorporated into the proposed trail network. Beyond this segment, the trail should be deactivated and not included in the proposed new trail system as it traverses downhill into private land where a red listed Black Cottonwood – Douglas fir/douglas maple – common snowberry ecosystem is located. In addition, the trail grade is 20% directly into the stream channel where cattle use has caused the trail and stream channel to braid. The trail follows the stream channel upstream where the trail turns east and follows a 0.3 m wide cattle trail at 40% grade to rejoin the Arrowleaf and the Rut trail. Deactivating this section of trail will help protect the sensitive ecosystem and the stream channel.



*Figure 3: View of trail section to be incorporated with proposed trail network.*



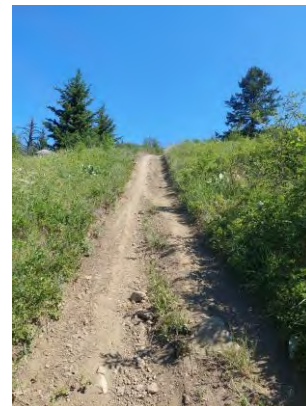
*Figure 4: View of trail where stream channel and existing trail location have been influenced by cattle, trail to be decommissioned.*

### 5.1.3 Section of Existing Trail Connecting to Powerline (to be decommissioned):

The portion of existing trail that connects the southern fence line to the powerline in the north is currently being used by hikers, mountain bikers, and motorized users. The trail ranges from 0.3-1.5m wide with grades ranging from 10-35% for 798m with minor rutting due to dirt bike and ATV use. With the proposed main loop trail using sustainable trail grades, this section can be decommissioned/rehabbed with barriers to prevent motorized access.



*Figure 5: View of trail section to be decommissioned and replaced with main loop.*



*Figure 6: View of double track trail to be decommissioned.*



#### 5.1.4 Access to Park

Currently, there is no designated parking area to access the park from Ravine Drive or Ranchland Place. The RDNO will work with the District of Coldstream to establish on-road parking opportunities. There are two no-motorized access points for members of the public, one off Ravine Drive and one off Ranchlands Place. The plan will also create connectivity to the Gray Canal trail, where numerous access points and parking options are available.



Figure 7: View of current trailhead located at the end of Ranchland Place.



Figure 8: View of Water Operations building in fenced compound at end of Private Driveway via Ravine Drive.

#### 5.1.5 Water Operations Building

There is a Water Operations Building within a fence beyond a gate on the Ravine Drive access. This building can be accessed by vehicle through the gate at the end of the road. Trail can be constructed adjacent to the fence on the southern side of the building without impacting current infrastructure.

#### 5.1.6 Agricultural Land Reserve

The land parcels that comprise the Coldstream Ranchlands Parcels lie within the provincial Agricultural Land Reserve [ALR]. When parks or trails are proposed in the ALR, an application must be submitted to the Agricultural Land Commission [ALC] to seek approval. RDNO are aware of the approval process and will coordinate this with ALC.

Any trail improvements will be designed to ensure that the long-term viability of the lands for agricultural production will be maintained and will follow the ALC's "Common Design Solutions" and "Landscape Buffer Specifications". One key element of the common design solutions involves directing trails away from agricultural areas and the proposed design has attempted to direct trails around the ALR where feasible. There is a small area in the south where the trail enters the ALR to avoid an area with sensitive soils, and an unavoidable overlap in the north to connect the western and eastern portions of the main loop. Impacts to agriculture potential within the ALR have been reduced to the extent practicable by keeping the planned trail on steeper, rockier slopes when possible and avoiding more favorable terrain in the center of the ALR polygon. In addition, decommissioning existing trails will help improve the agricultural potential of the site.

Signs are included in the development plan. Some of these could include information for users so they are aware that they are on an agricultural site and they can managing their actions on the trails to minimize their impact.





*Figure 9: View of rocky steeper soils within ALR where proposed trails are located.*

#### 5.1.11 Cattle Fence

There are several existing cattle fences within and adjacent to the Ranchlands area. One fence follows the southern boundary and western side of the finger in the south where the parcels borders private land. Another fence cuts through Parcel 2 and crosses the trail twice.



*Figure 10: View of fence dissecting Parcel 2.*



*Figure 11: View of fence along southern parcel and private land boundary.*

## 6 TRAIL DEVELOPMENT RECOMMENDATIONS

### 6.1 INTRODUCTION

Trail development includes constructing new sections of trail and adding infrastructure, such as culverts and gates. In addition, rehabilitation/decommissioning recommendations are presented for old roads and rogue trails. A detailed description and associated budget estimate for the options for each section is presented below.

As noted, before, any new trail development should be balanced with the decommissioning of unsustainable trails and restoration of the site.

### 6.2 DEVELOPMENT DETAILS AND RECOMMENDATIONS FOR TRAIL OPTIONS:

#### 6.2.1 Trail Option (Main Loop):

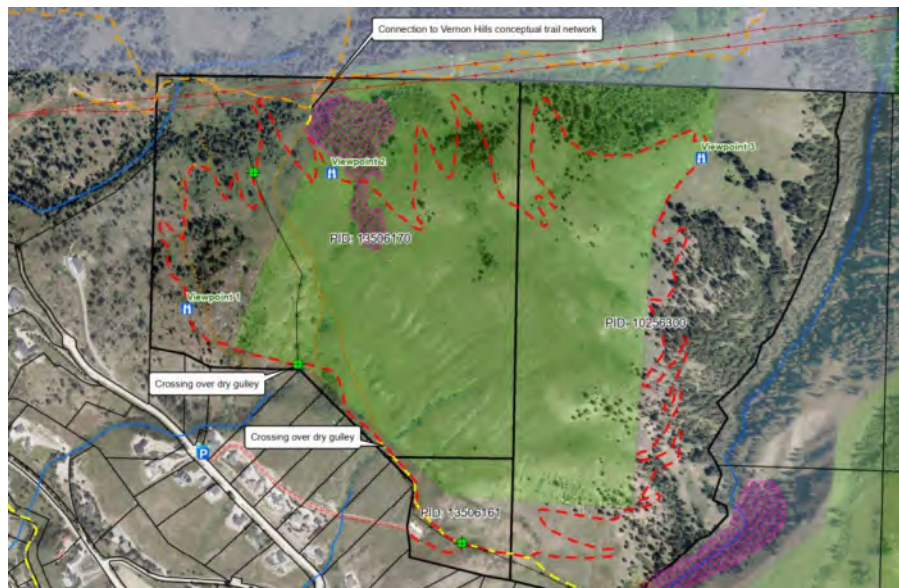


Figure 12: Main Loop outlined in red dashed line

Being the longest trail within the network at around 6.9km long, it would offer the most diverse user opportunities. It is accessed from Ravine Drive and loops around the outer perimeter of the Coldstream Ranchlands area and provides access to the proposed Vernon Hills mountain bike trail system to the north and powerline. The main loop climbs to the high point in the park with multiple viewpoints looking south-west to south-east. The trail comes close (<10m) to unique rocky features and high-density burrowing habitats which showcase the spatial diversity of the landscape without compromising the ecological integrity of these features.

The trail alignment is designed to remain outside of sensitive ecosystems to the extent practicable. The trail crosses a sensitive ecosystem in the north to avoid excess trail building within the ALR, however it crosses an approximately 5m wide section to reduce the overall impact. No Aspen or other tree species will be cut and minimal vegetation will be disturbed with the proposed trail location. The sensitive ecosystem located within the draw along the eastern boundary will not be impacted as the trail alignment stays upslope of this ESA.

On the northern portion of the main loop on the slopes in the east several rock outcrops and crevasses were identified as potential habitat for species at risk. Where rock crevasses and outcrops were noted, a 5-10m buffer was put in place to ensure that disturbance to wildlife by trail construction and trail users is minimised. What is most important about developing in this terrain is the avoidance of rocky features, high-density burrowing areas, and shrub thickets offering the greatest habitat potential. In doing so, the conservation values of the site could be upheld, while allowing for user appreciation of the natural spaces. Although construction activities such as grading may be more involved in this section, the user experience could be greatly enhanced.

The trail crosses two dry draws where a culvert or drainage structure will be required. It does not infringe on any riparian habitat anywhere within the main loop trail. As trail will be constructed on slopes up to 55% on terrain above the stream, drainage should be maintained with regularly spaced grade reversals and outsloped trail treads. The trail crosses several fence lines that will require a gate or trail cattleguard structure.

Moving in a clockwise direction along the main loop trail, grades average 7% with portions of sustained 10% grade and short pitches up to 15% to reach the highest point of the trail in the north-east. From there moving back down towards the start of the main loops grades average 10% with pitches of 15% where the soils allow a sustainable trail surface to be constructed. Where switchbacks have been identified to maintain trail grades, they have been anchored with rock outcrops, or vegetation such as snowberry patches when possible to reduce the likelihood of trail users cutting corners.

Where possible, the main loop follows existing trails that were deemed to be sustainable, reducing the total new trail construction required. Where sustained grades exceed 10% or are 15% for short pitches (< 30m) and trail surfaces become less sustainable, new trail construction is proposed.

Detailed signage and amenities are not within the scope of this development plan, however several viewpoints have been identified around the loop where amenities such as interpretive signs and benches could be placed. Viewpoint 1 is on a small knoll that looks southwest over the city of Vernon and Kal Lake and would be a good objective from Ravine Drive for trail users who prefer a shorter “out-and-back” trail without committing to the entire Main Loop elevation. Viewpoint 2 also faces southwest but from a higher elevation where Kal Lake and Okanagan Lake are visible. Viewpoint 3 faces southeast with a view of the gully to the east and Lavington in the distance.





Figure 13: Looking from Viewpoint 2 towards Kal and Okanagan Lakes.



Figure 14: Example of rock crevasse habitat that trail buffers around.

## 6.2.2 South End Gray Canal Connection Trail:



Figure 15: Gray Canal Trail connection identified with proposed trail realignments in red

This section of trail connects the main loop to the Gray Canal Trail using existing and proposed trails. Currently the existing trail follows this route to connect the Gray Canal Trail and Main Loop through a Statutory Right of Way (SRW) in favor of the RDNO, this trail plan proposes to reroute the steepest sections with new trail construction lengthening the trail but reducing the grade. The RDNO will arrange any SRW's required for the proposed trail changes. Three new sections combined with existing trail will reduce the grade from 30% to 10% with short pitches of 15%. In order to reduce the grade, the trail location will be moved to slopes above the S4 classified stream to the east of the Ranchlands. These slopes range from 40-60% and will be more difficult construction, however can offer a more sustainable long term trail surface suitable for multiple users. Where the parcel boundary runs east-west, the existing trail grade is reduced to <10% and it will be used to connect to the main loop. This section of trail will follow North Okanagan Naturalists Club birdhouses placed on fenceposts.



*Figure 16: View of existing trail with 30% grade and a loose trail surface to be rerouted.*



*Figure 17: View of steep slopes (on right of image) where trail relocation is proposed.*

### 6.2.7 Parking:

Parking is the biggest challenge associated with this project. The RDNO proposes to work with the District of Coldstream to create parking opportunities for the public along Ravine Drive, including the utilization of the maintenance turn-around near the access point, as there is a second maintenance turnaround for District of Coldstream road maintenance crews approximately 350 metres north west along Ravine Drive. Designated parallel parking may also be considered here. A third proposed parking area includes parallel parking on Cypress Drive near the intersection with Hawthorne Place where the Gray Canal Trail crosses to connect with proposed Ranchlands Trails.



*Figure 1: View of turnaround on Ravine Drive for proposed parking and garbage can.*



*Figure 2: View of parallel street parking on Ravine Drive.*

### 6.2.8 Amenities:

Standard GVTNS amenities package would be implemented at each access point. This would include: wayfinding & bylaw signage, garbage receptacles, and dog bag dispensers. Due to the remote access of the site no amenities other than wayfinding, bylaw, and interpretive signage would be considered within the Coldstream Ranchlands property.



## 7 APPENDIX

### 7.1 APPENDIX A: FIGURES

#### Appendix D. Known and potential threatened and endangered vertebrate animals in the study area.

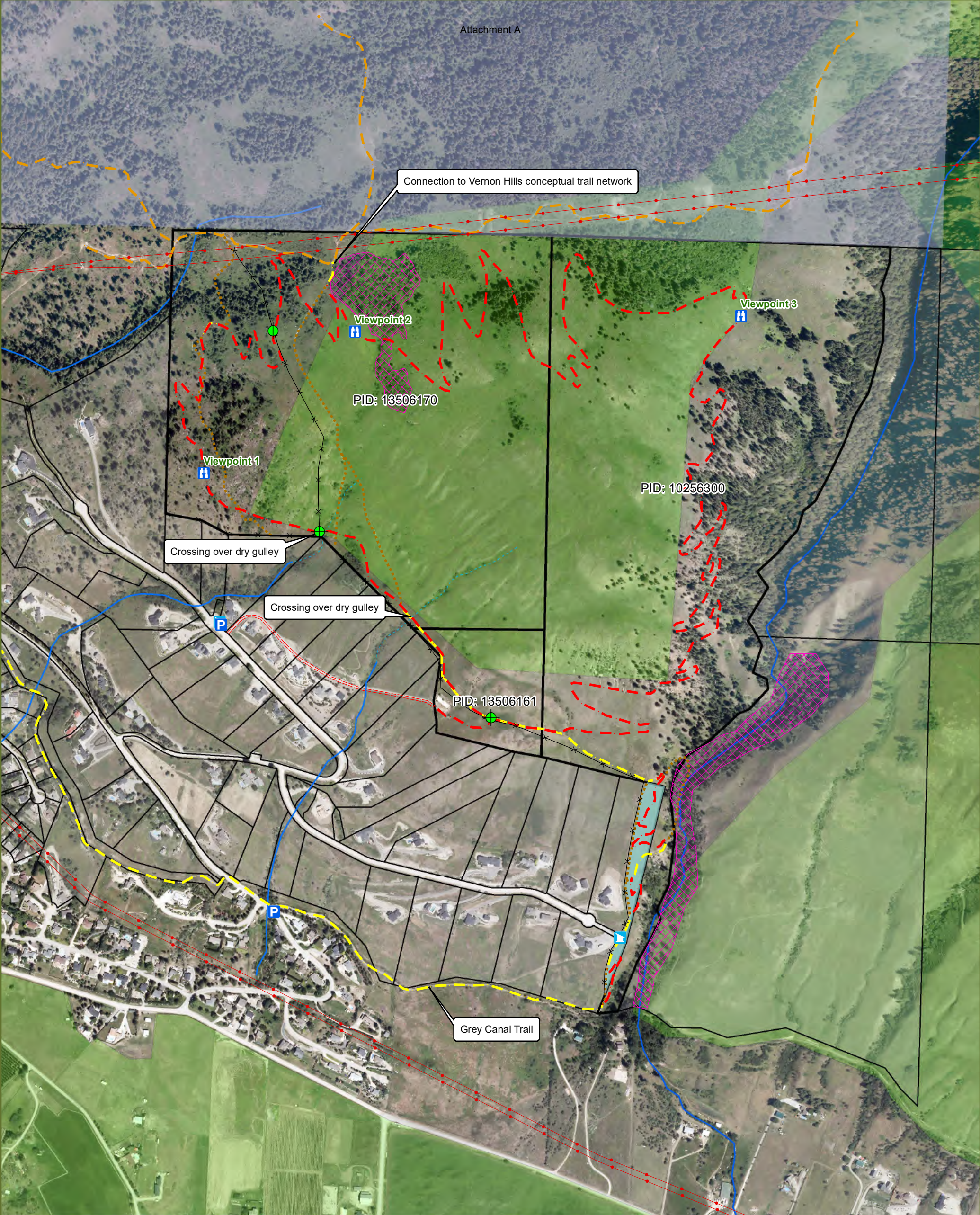
Common Name	Scientific Name	Occurrence in Study Area	Prov. Status	COSEWIC Status
<b>Amphibians</b>				
Great Basin Spadefoot	<i>Spea intermontana</i>	unknown but likely	Blue	Threatened
Western Toad	<i>Bufo boreus</i>	unknown but likely	-	Special Concern
<b>Reptiles</b>				
Painted Turtle	<i>Chrysemis picta</i>	throughout	Blue	-
Western Skink	<i>Eumeces skiltonianus</i>	unknown but likely	Blue	Special Concern
Northern Pacific Rattlesnake	<i>Crotalus oreganus</i>	southern portion	Blue	(pending)
Great Basin Gopher Snake	<i>Pituophis catenifer</i>	throughout	Blue	Threatened
Racer	<i>Coluber constrictor</i>	throughout	Blue	-
Rubber Boa	<i>Charina bottae</i>	unknown but likely	-	Special Concern
<b>Birds</b>				
Great Blue Heron	<i>Ardea herodias</i> ssp. <i>herodias</i>	occasional	Blue	-
California Gull	<i>Larus californicus</i>	seasonal transients	Blue	-
American Avocet	<i>Recurvirostre americana</i>	unknown but likely	Red	-
Long-billed Curlew	<i>Numenius americanus</i>	at least one breeding area	Blue	Special Concern
Upland Sandpiper	<i>Bartramia longicauda</i>	unknown but possible	Red	-
Swainson's Hawk	<i>Buteo swainsoni</i>	provincial benchmark	Red	-
Ferruginous Hawk	<i>Buteo regalis</i>	unknown but possible	Red	Special Concern
	<i>Otus kennicotti</i> ssp. <i>macfarlanei</i>	unknown but likely	Red	Endangered
Interior Western Screech-owl	<i>Otus flammeolus</i>	unknown but likely	Blue	Special Concern
Flammulated Owl	<i>Asio flammeus</i>	unknown but likely	Blue	Special Concern
Short-eared Owl	<i>Melanerpes lewis</i>	known but uncommon	Blue	Special Concern
Lewis' Woodpecker	<i>Icteria virens</i>	unknown but possible	Red	Endangered
Yellow-breasted Chat	<i>Spizella breweri breweri</i>	known from one location	Red	-
Brewer's Sparrow	<i>Ammodramus savannarum</i>	at least 1 breeding colony	Red	-
Grasshopper Sparrow	<i>Chondestes grammacus</i>	likely (OK Landing)	Red	-
Lark Sparrow				
<b>Mammals</b>				
Merriam's Shrew	<i>Sorex merriami</i>	unknown but possible	Red	-
Preble's Shrew	<i>Sorex prebeii</i>	unknown but possible	Red	-
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	known from one location	Blue	-
Pallid Bat	<i>Antrozous pallidus</i>	unknown but possible	Red	Threatened
Fringed Myotis	<i>Myotis thysanodes</i>	unknown (OK Landing)	Blue	Special Concern
Western Small-footed Myotis	<i>Myotis ciliolabrum</i>	unknown but likely	Blue	-
Western Harvet Mouse	<i>Reithrodontomys megalotis</i>	known from several areas	Blue	Special Concern
Great Basin Pocket Mouse	<i>Perognathus parvus</i>	unknown but likely	Blue	-
Nuttall's Cottontail	<i>Sylvilagus nuttallii</i> ssp. <i>nuttallii</i>	not currently	Blue	Special Concern
Badger	<i>Taxidea taxus</i>	throughout	Red	Endangered

Table excerpt obtained from the Goose Lake Sensitive Ecosystem Inventory (Iverson, 2002)



## 7.2 APPENDIX B: MAPS





# COLDSTREAM RANCLANDS - CONCEPTUAL TRAIL DESIGN

### Project Location Map

### Legend

Site Features	
	Parcels of Interest
	Proposed Trail
	Non-Motorized Access
	Existing RDNO
	Existing Unsanctioned
	Trail to Deactivate
	Conceptual Trail Area
	Proposed Parking
	Garbage Can
	Gate
	View Point
	RDNO SRW
	ALR
	Rare Ecosystem
	Private_Land
	Roads
	Power Lines
	Fence
	Stream
	Dry Draw

W N E S

1:7,500

125 62.5 0 125 250

Meters

Coordinate System: NAD 1983 CSRS UTM Zone 11N

Prepared For: RDNO  
Map Created: 07/07/2023  
Data Sources: Esri, RDNO, DataBC