EXECUTIVE SUMMARY

The District of Sooke initiated the Sooke River Pedestrian Crossing project to develop a stronger pedestrian and cyclist connection over the Sooke River. The purpose of this project was to identify and study potential new crossings and identify and create a preliminary crossing design for future funding and construction. This project met Sooke's larger vision of increasing connectivity throughout the community.

Project Description

This project was completed in three phases, beginning in August 2010.

- **Phase 1: Preliminary Analysis of Eight Crossing Options** – The first step undertook site reconnaissance, analysis and a comparison evaluation of eight potential crossing locations. See ***Phase 1 Summary Report*** for more information.

- **Phase 2: Preliminary Design of Four Crossing Alternatives** – The second phase investigated the four short-listed crossings identified in Phase 1. For each location, a site plan, profile and preliminary cost estimate was developed. The four sites were presented to the T'Sou-ke Nation, District of Sooke stakeholders and the public for review and evaluation. See ***Phase 2 Summary Report*** for more information.

- **Phase 3: Detailed Design of Priority Crossing Location** – Based on feedback, the District selected **Site 3: Soule Road ROW to Sunriver Nature Park** as the new crossing site. Detailed design for a crossing at this site was completed to provide documents required for regulatory approvals and funding applications. See ***Phase 3 Preliminary Design Report*** for more information.

Note:
At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

Bridge Design

Bridge design options for the Soule Road Crossing and their estimated costs were developed and reviewed. Three scenarios were created that included clear span bridges over the Sooke River and Baker Creek and alternatives for crossing the adjacent floodplain, including:

- Boardwalk on steel piles
- Boardwalk on timber piles
- Clear span bridge

Based on preliminary design for these options, the clear span bridge option was selected due to:

- Moderate cost implications (within 5% of lowest cost option);
- Longevity of steel structural elements (piles and girders) over timber components;
- Reduced risk of debris flow effects and maintenance requirements through use of bridge spans rather than boardwalk;
- Potential to elevate crossing components above 200-year flood level to reduce seasonal flooding impacts; and
- Elimination of piles required for the boardwalk options. Costs for pile driving are only estimated at this stage of the project pending full geotechnical investigation at the time of construction.

The final bridge design is a clear span structure between Soule Road and Sunriver Nature Park with 5 support piers.

Trail Route Plan

The recommended route starts from the Galloping Goose Regional Trail and ending at the Grant Road Connector was developed to connect the bridge crossing to Sooke's greater trails system, shown on the next page and described in Table 1. Refer to **Drawing L01 – Route Plan** of the drawing set for a full-size drawing.

LEGEND

- Existing/Future Trail Route (Outside Scope of this Project)
- Proposed Future Trail Route (Outside Scope of this Project)
- Proposed Shared Roadway
- Proposed Multi-Use Trail
- Proposed Bridge Crossing
- Existing Park/Recreation Area
- Proposed Pedestrian Crosswalk
- Proposed Directional Sign
- Proposed Shared Roadway Sign
- Recommended Bench/Waste Receptacle Location

NOTES

1. Route Plan based on GIS Mapping data from District of Sooke and is limited by mapping accuracy.
2. Trail routes are shown conceptually. Field location of trails to be completed at time of construction.
3. Location of signs and bench/waste receptacles to be field located at time of construction. Design of signs and bench/waste receptacles to be as per District of Sooke standards.

REFERENCES / SPECIFICATIONS

REV	DATE	DESCRIPTION	DRW	DES	CHK	RVW
02	04/27/12	CLIENT REVIEW	JZ	JZ	DB	DB
01	02/02/12	INTERNAL REVIEW	JZ	JZ	DB	DB

SEAL / PERMIT

PRELIMINARY
(NOT FOR CONSTRUCTION)

CLIENT
DISTRICT OF SOOKE

CONSULTANT
HB LANARC
PLANNING DESIGN SUSTAINABILITY

PROJECT 1114410138/3000/1000
SOOKE RIVER PEDESTRIAN CROSSING

TITLE
ROUTE PLAN

DRAWING No. L01
SHEET No. 1 OF 2

SHEET SIZE ANSI D 25 mm 0

Table 1: Route Plan Description

ID	Location	Trail Type	Length	Recommended Improvements
Start	Galloping Goose Trail	Existing Multi-Use Trail (quarry fines)	n/a	• Directional sign at trail intersection (1)
Section 1	Kirby Road	Shared Roadway	370m	• Directional signs at both ends of Kirby Road (3) • Shared Roadway signs at both ends of Kirby Road (2)
Section 2	Sooke River Road	New Multi-Use Trail	190m	• 4m wide paved multi-use trail • Signalized pedestrian crossing at Kirby Road • Directional signs at Soule Road and Kirby Road (2)
Section 3	Soule Road	Shared Roadway	245m	• Shared Roadway Signs at both ends of Soule Road (2) • Directional sign at end of Soule Road (1) • Bench/waste receptacle
Section 4	Sooke River Pedestrian Bridge	New Pedestrian Bridge	340m	• 3m wide pedestrian bridge • Consideration for a lookout at the river span
Section 5	Park Trail	Upgraded Multi-Use Trail	45m	• Existing trail upgraded to 4m wide paved multi-use trail • Directional Signs at Bridge and at Phillips Road (3) • Bench/waste receptacle
Section 6	Phillips Road	New Multi-Use Trail (Future)	490m	• New multi-use trail and bridge upgrade (*as recommended in the Parks & Trails Master Plan*) • Painted and signed pedestrian crossing at Sunriver Nature Park • Directional signs at Grant Road and Sunriver Nature Park (2)
End	Grant Road Connector	Existing Trails	n/a	• Directional sign at Phillips Road (1)

Cost Estimation

Cost estimation is provided for the proposed route to support funding application and budget planning. Costs estimates are order of magnitude Class C estimates and should be considered within +/- 15% accuracy at the time of this plan. Project costs should be re-evaluated at the onset of implementation. The following table summarizes the overall costs for each trail section.

Table 4.2: Cost Estimate Summary

ID	Description	Estimated Cost
General	Mobilization, Health & Safety	$90,000
Start	Galloping Goose Connection	$950
Section 1	Kirby Road Shared Roadway	$4,750
Section 2	Sooke River Road Multi-Use Trail	$50,750
Section 3	Soule Road Shared Roadway	$2,850
Section 4	Sooke River Pedestrian Bridge	$1,885,850
Section 5	Park Trail	$9,600
Section 6	Phillips Road Multi-Use Trail (Future)*	$87,650
End	Grant Road Connector	$950
Order of Estimate Cost Summary		**$2,045,700**

* Note: The Phillips Road Multi-use Trail is not included in the project total as it is anticipated this is a separate project as recommended in the Parks & Trails Master Plan. (*Recommendation 4 of the Parks & Trails Master Plan is the creation of an off-road, multi-use trail along Phillips Road.)*

Conclusion

The Soule Road Pedestrian Crossing will form an effective link in Sooke's larger pedestrian and cyclist system and will improve the connection between the Galloping Goose Regional Trail and Sooke's Town Centre. This connection will help reduce conflicts between vehicle and non-vehicle traffic along Highway 14 and will support tourism and economic development in the community.

District of Sooke

Sooke River Pedestrian Crossing

Phase 1 Summary

NOTE: *This document is intended for internal use and review only. It has been produced to summarize early observations of the consulting team and does not include consultation and input from regulatory agencies, stakeholders or the public. Consultations during Phase 2 of the project will inform further development of recommendations.*

1.0 INTRODUCTION

The District of Sooke initiated this project to develop a stronger pedestrian and cyclist connection over the Sooke River. Currently, Sooke only has one pedestrian/cyclist crossing point over the river – sidewalks on the existing Sooke River Bridge. It is the intent of this project to identify and study potential new crossings, and determine an appropriate crossing to pursue forward into construction. This project meets Sooke's larger vision of increasing connectivity throughout the community.

This project is being completed in three phases, beginning in August 2010 and concluding in December 2010.

- **Phase 1: Conceptual Design of Eight Crossing Options (August/September)** – The first step undertakes site reconnaissance of eight potential crossing locations. This step includes the development of an assessment matrix to compare each site and generate a short-list of four sites to pursue further.
- **Phase 2: Preliminary Design of Four Crossing Alternatives (October)** – The second phase will investigate in more detail the short-list crossing locations. For each location a site plan, profile and preliminary cost estimate will be developed. Stakeholder and public consultations will be used to review the crossing alternatives, and identify community concerns, ideas and preferences.
- **Phase 3: Detailed Design of Priority Crossing Location (November/December)** – Based on consultations, cost analysis and identification of issues, a preferred site will be selected for detailed design. The package will also be suitable for seeking completing regulatory approvals and funding applications.

This document summarizes Phase 1 of the project and provides recommendation of sites to pursue further in Phase 2.

2.0 EVALUATION OF PRELIMINARY SITES

The first phase evaluated preliminary sites defined as having crossing potential. The project RFP outlined 6 sites for consideration. Further investigation of mapping identified 2 additional sites for consideration. A total of 8 sites were investigated in this phase. See **Map 1: Potential Crossing Sites** for locations.

Staff and the consulting team undertook site visits of each of the proposed sites to complete preliminary evaluations. In addition, mapping tools were utilized to understand the physical, social and cost opportunities and constraints of each site. Observations are summarized in **Figure 1: Site Evaluation Matrix** and in the detailed tables below.

Site 1: Sooke Bridge

Site Description	Improvements to existing bridge crossing to facilitate comfortable cyclist and pedestrian crossings, separated from vehicle traffic. The original bridge, built in 1969 is currently the only crossing over the Sooke River. It supports 2 lanes of vehicle traffic and 1.2m sidewalks on both sides of the road.
Bridge	Bridge widening may be possible at this site by cantilevering a sidewalk beyond the existing structure. Widening may be difficult as the sidewalk on the approach portion of the bridge is already cantilevered, while the sidewalk on the main span across the river is not, and two different designs would be needed. Approximate Crossing Span Length = 120m
Approaches	East: Sooke Road West: Sooke Road
Pros	• Existing bridge structure may diminish the need for an entirely new structure, mitigating costs. • On main commuter route – Sooke Road is high traffic and a key desire line. • Is well connected with the High School, Sports Fields and Town Centre. • Topography is desirable. • Existing Sooke Road ROW could support trail development. • Environmental impact would be low. • The river is under tidal influence which helps mitigate flooding issues.
Cons	• Investing in the only existing Sooke River crossing may be redundant – it does not support alternate emergency routes in and out of town. • Pedestrian/cyclist movements would need to be carefully considered (e.g. it my not be desirable for people to cross over busy Sooke Road to get onto the bridge, only to have to cross back again on the other side). • MOT is not encouraging additional hanging structures on the existing bridge. • Existing traffic volume would complicate construction. • Visually poor. • In the long-term, if the bridge infrastructure needs to be upgraded, trail development could be considered as a component of the larger project.

Site 2: Sooke River Road Park to Phillips Road

Site Description	Connection between Sooke River Road Park and Phillips Road, connecting Phillips Road and Sooke River Road. Sooke River Road Park is significant marsh habitat.
Bridge	Two bridges would likely be needed here; one for the 15m Baker Creek, and a second for the 60m Sooke River. Recommended bridges would be steel or aluminum truss bridge for the 15m span, and either steel truss, suspension, or standard box girder/concrete deck bridge for the larger span. Approximate Crossing Span Length 1 = 15m Approximate Crossing Span Length 2 = 62m
Approaches	East: Wetland area in Sooke River Road Park West: Lowlands in Sooke Flats Campgrounds
Pros	• Aligns with the future Grant Road Route. This route provides a strong connection to both Sooke residential areas and the town centre. • The river is under tidal influence which helps mitigate flooding. • Connects very well with the larger recreational resources in this vicinity (Journey Middle School, Art Morris Park, Golf Course, SEAPARC, Campground, Fred Milne Fields, Edward Milne High School). • Ownership of Sooke River Road Park. • There is a very strong opportunity for interpretive and educational components through the marsh areas. • Visually interesting.
Cons	• The presence of Baker Creek would require two crossings (see above). • Boardwalk approach would need to be utilized through Sooke River Road Park to ensure that sensitive ecosystems are protected, elevating costs. • Consultation with the owners of the campground would be required to determine possible routing and implications to their site. • Possible environmental implications of the proximity to the mouth of Demamiel Creek. • Construction costs would be increased by the need to reduce environmental

	impacts in the marsh areas of Sooke River Road Park.

Site 3: Soule Road to Sunriver Nature Trail Park

Description	Connection from existing Soule Road off Sooke River Road, over the river and into Sunriver Nature Trail Park, connecting through the park to Sunriver Way & Phillips Road intersection. Soule Road is a very quiet, narrow residential road. Existing trails in Sunriver Nature Park support connections.
Bridge	The large span here would require either a suspension bridge or a standard box girder/concrete deck bridge. Approximate Crossing Span Length = 72m
Approaches	East: Soule Road ROW through floodplain West: Sunriver Nature Trail Park
Pros	• Existing 15m road ROW is secured along Soule Road to the River. • Existing park trails may be utilized in Sunriver Nature Trail Park. • The river is under tidal influence which helps mitigate flooding. • Grades are favourable on the west side of the river. • Soule Road is low-volume and could accommodate pedestrians and cyclists. • Minimum property negotiation would be required. • Strong connection to the growing Sunriver Way community. • Potentially a strong connection to the Galloping Goose.
Cons	• Floodplain conditions on the east side of the river would require approximately 105m of boardwalk or filling. Trail construction would need to ensure the channel is not hydraulically constrained. • The narrow (15m) road ROW and Baker Creek would be constraints for filling. • Neighbouring property owners have built structures near the existing ROW. • Steep grades in Sunriver Nature Trail Park would be challenging for cyclists. • Grades at the terminus of Soule Road are steep.

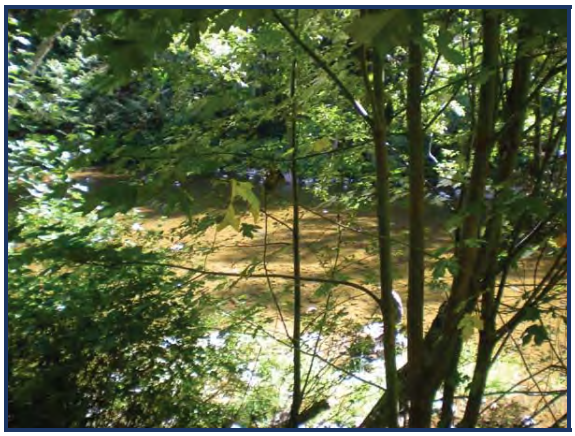
Note: At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

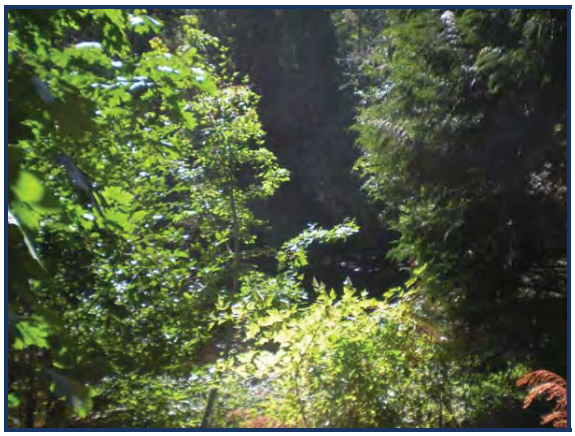
Site 4: Calvert Road to Sunriver Nature Trail Park

Description	Connection from Calvert Road, into Sunriver Nature Trail Park and connecting on to Phillips Road. Calvert Road is a very quiet, narrow residential road.
Bridge	Similar to Site 3, the large span here would require either a suspension bridge or a standard box girder/concrete deck bridge. Approximate Crossing Span Length = 75m
Approaches	East: Private land connection to Calvert Road ROW through floodplain West: Sunriver Nature Trail Park
Pros	• The river is under tidal influence which helps mitigate flooding issues. • Grades are favourable on the west side of the river. • Calvert Road is low-volume and could accommodate pedestrians and cyclists. • Offers direct connectivity to community parks and trails on the west side of the river and a strong connection to the growing Sunriver Way community.
Cons	• Floodplain conditions on the east side of the river would require approximately 210m of boardwalk or filling. Trail construction would need to ensure the channel is not hydraulically constrained. • There is no existing ROW directly from Calvert Road to the river, meaning land negotiations would be required for the east approach. • Calvert Road parallels Sooke River Road for a long distance, reducing the desirability of the connection to the Galloping Goose. • Floodplain adjacent to the river could require bridging/raising which extends the elevated portion of the trail significantly. • Steep grades in Sunriver Nature Trail Park would be challenging for cyclists. • There may be potential archaeological issues.

Note: At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

Site 5: Sooke River Road to Phillips Road (South)





Description	Direct connection from Sooke River Road to Phillips Road at the southern border of Sooke Potholes Provincial Park.
Bridge	This site could be accommodated with steel truss, suspension, or steel box girder/concrete deck bridges. Approximate Crossing Span Length = 45m
Approaches	East: Sooke River Road ROW West: Phillips Road ROW
Pros	• The bridge crossing is relatively narrow when compared with other sites. • Very close proximity to Sooke Potholes Provincial Park. • Existing ROWs negate the need for property negotiation. • This route could form a very effective recreation loop that would support recreation and tourism events (e.g. iron man, triathlon, bike events, etc.). • Visually outstanding.
Cons	• Flooding occurs in this area. Reports and evidence suggest that the water can exceed 5m above the normal high water mark, with large debris flows. Preliminary assumptions are that the bridge may need to be raised 6 to 7m above normal high water to avoid debris during floods. • Grading at Sooke River Road would be challenging – there is relatively little space between the bank and the road. • Quiet residential area along Phillips Road may require additional consultation with homeowners with regard to increased pedestrian traffic adjacent to their properties. • The nearest feasible connection with the Galloping Goose is 1.7km uphill through Sooke Potholes Park. • The site is distant from the Town Centre, facilities and community assets. • Emergency vehicle connection would be very difficult.

Site 6: Sooke Potholes Provincial Park

Description	Connection from the Sooke Potholes Provincial Park parking lot, connecting to Sooke Potholes Park lands on the west side of the River. Trail connection to Phillips Road west of existing residential properties.
Bridge	This site could be accommodated with steel truss, suspension, or steel box girder/concrete deck bridges. Approximate Crossing Span Length = 45m
Approaches	East: Sooke Potholes Provincial Park (parking lot) West: Sooke Potholes Provincial Park
Pros	• The bridge crossing is relatively narrow when compared with other sites. • Both approaches would be within Sooke Potholes Provincial Park. There may be funding opportunities associated with developing within the park. • This route could form a very effective recreation loop that would support recreation and tourism events (e.g. iron man, triathlon, bike events, etc.). • Visually outstanding.
Cons	• Flooding occurs in this area. Reports and evidence suggest that the water comes above Sooke River Road with large debris flows. • The east approach (from the Sooke Potholes parking lot) floods regularly and would be expected to be out of operation during heavy runoff events. The bridge would need to be elevated above roadway height to avoid debris. • The west approach has a rock ridge that complicates access. • The trail connection on the west side would be through private property requiring negotiations. • The nearest feasible connection with the Galloping Goose is 1.2km uphill through Sooke Potholes Park. • Steep terrain to contend with on both sides of the river to achieve connectivity. • The site is distant from the Town Centre, facilities and community assets. • Emergency vehicle connection would be very difficult.

Site 7: Sooke River Road ROW to Phillips Road ROW

Description	Connection between existing Sooke River Road ROW and an existing road ROW that extends east of Phillips Road.
Bridge	This site could be accommodated with steel truss, suspension, or steel box girder/concrete deck bridges. Approximate Crossing Span Length = 46m
Approaches	East: Sooke River Road ROW West: Phillips Road ROW
Pros	• The bridge crossing is relatively narrow when compared with other sites. • Both approaches are within existing Road ROWs, minimizing property negotiations. • The Sooke River Road ROW is approximately 10m above normal high water and does not show evidence of flooding. • This route has emergency crossing potential. • Construction activities would be relatively easy in this location. • Visually interesting.
Cons	• There is little room between Sooke River Road and the river on the east side, significantly complicating the approach. • The west approach would require filling or piling to 4-5m height for 30m to match elevations on the east side at the Sooke River Road. • No roads or trails currently exist within the Phillips Road ROW so approximately 150m of trail/road construction would be required. • It would be desirable to develop a new connection onto the Galloping Goose from this point to facilitate traffic flow. • The site is relatively distant from the town centre and local attractions.

Site 8: BC Hydro ROW

Description	Connection between Sooke River Road and Phillips Road over existing BC Hydro ROW.
Bridge	A clear span bridge is not feasible in this location due to the very large and deep ravine. Approximate Crossing Span Length = 330m
Approaches	East: Sooke River Road West: Phillips Road
Pros	• Flooding would not be a concern. • BC Hydro ROW may facilitate the development of a trail route. • The route connects very well with the Galloping Goose.
Cons	• The river sits within a very wide, deep gully which would require a long, high deck to match grades on either side. • Approximately 250m of additional trail would be required to connect on the west side to Phillips Road. • There would be issues with the hydro wires being in too close proximity to the bridge crossing. • Consultations would be required with BC Hydro and private landowners to determine the feasibility of this route. • The site is relatively distant from the town centre and local attractions. • Visually unattractive.

3.0 RECOMMENDATION

After initial investigation of the 8 potential sites, the consulting team recommends pursuing the following four sites further into **Phase 2: Preliminary Design**.

Site 2: Sooke River Road Park to Phillips Road

This site is recommended for further review because of its tourism, educational and connection values. It is a direct connection through Sooke's recreational hub and could be developed as a commuter route. While the approaches and bridges would involve higher costs due to multiple crossings, trail connections and sensitive ecosystem protection, the values of this site from a social perspective are very high.

Site 3: Soule Road to Sunriver Nature Trail Park

This site is recommended due to its connectivity potential. Publicly-owned property on both sides of the river support route development in this location. The route has high potential for commuter and recreational connections. Existing road and trail infrastructure on both sides of the river will support a trail in this location.

Site 5: Sooke River Road to Phillips Road (South)

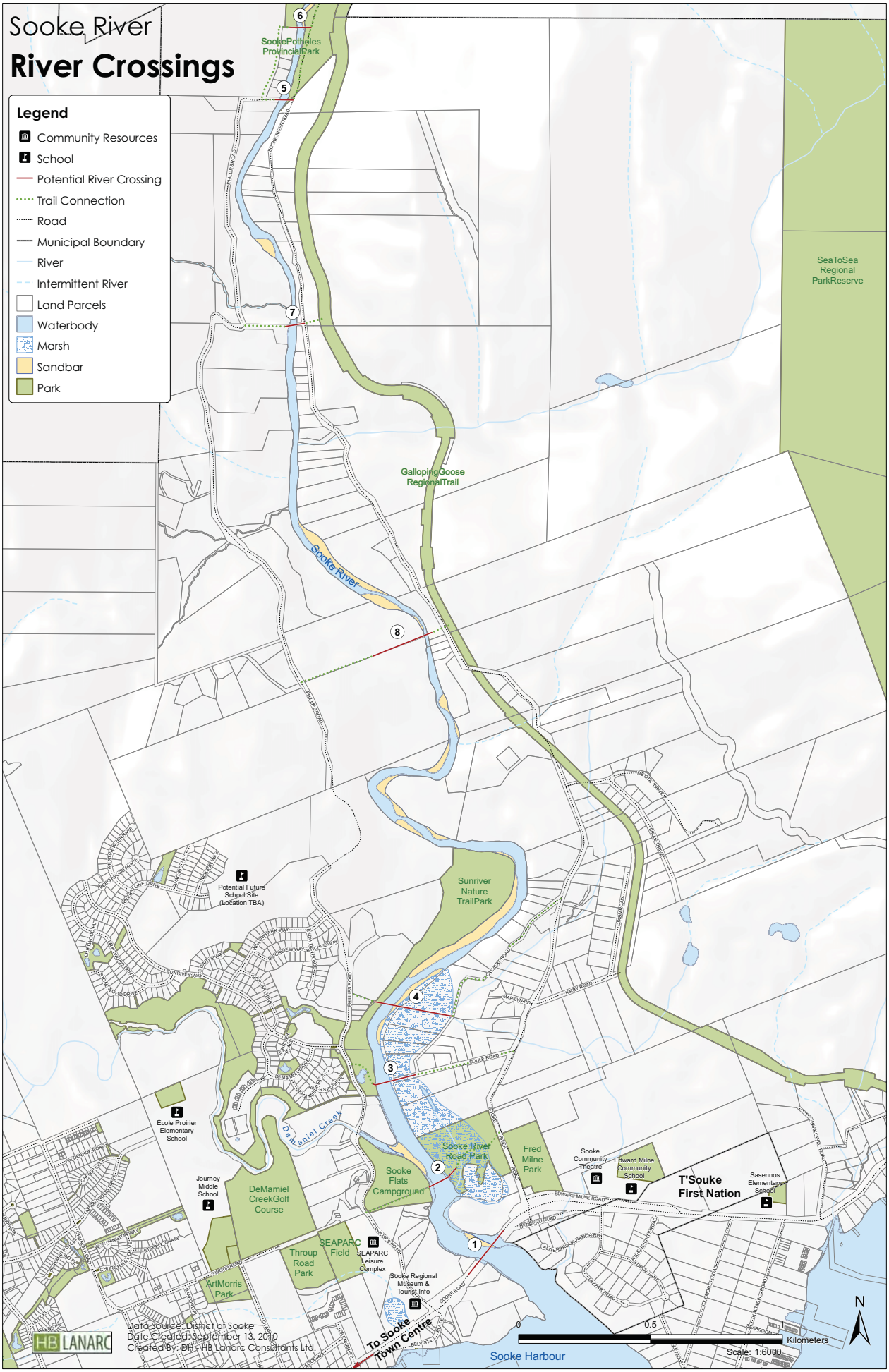
This site provides a narrower crossing between publicly-owned properties. Adjacent roads support trail connections. This route would strengthen the connection between Sooke's urban areas and the Potholes. Tourism opportunities would arise out of the development of a connected recreation loop. Site 5 is selected over the similar Site 6 due to better grades, no private property limitations, a higher Sooke River Road elevation and better construction access.

Site 7: Sooke River Road ROW to Phillips Road ROW

Site 7 is also a narrower bridge crossing that connects though existing road ROWs that provide publicly-owned properties on both sides of the river. This route would involve trail development to complete a connection to Phillips Road. Grades in this area could support an emergency connection, although this site is not as well suited for recreational and tourism assets.

It is recommended that the above four sites are investigated further through preliminary design and the remaining four sites are not pursued further at this time.

Note:
At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.


Sooke River
River Crossings
Legend
Community Resources
School
Potential River Crossing
Trail Connection
Road
Municipal Boundary
River
Intermittent River
Land Parcels
Waterbody
Marsh
Sandbar
Park
SookePotholes ProvincialPark
SeaToSea Regional ParkReserve
Galloping Goose RegionalTrail
Sooke River
Potential Future School Site (Location TBA)
Sunriver Nature TrailPark
École Prairie Elementary School
De Ranlet Creek
Journey Middle School
DeMamiel CreekGolf Course
Sooke Flats Campground
Sooke River Road Park
Fred Milne Park
Sooke Community Theatre
Edward Milne Community School
T'Souke First Nation
Sasennos Elementary School
Throup Road Park
SEAPARC Field
SEAPARC Leisure Complex
ArtMorris Park
Sooke Regional Museum & Tourist Info
To Sooke Town Centre
Sooke Harbour
Data Source: District of Sooke
Date Created: September 13, 2010
Created By: DH - HB Lanarc Consultants Ltd.
HB LANARC
0
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Kilometers
Scale: 1:6000
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	SITE ELEMENT / SITE LOCATION	SITE CONDITIONS	Topography	Potential Archaeological Concerns	Environmental Compatibility	Geotechnical Context	Flooding Concerns	Compatibility with Neighbouing Land Use	Land Status	COMMUNITY CONNECTIVITY	Connection to Downtown (Approx. Distance)	Connection to Galloping Goose Trail (Approx. Distance)	Connection to Community Facilities	Suitability as a Commuter Route Connection	COMMUNITY ASSETS	Educational Opportunities	Visual Experience	Emergency Crossing Potential	Accessibility Potential	Passive Surveillance Opportunities	COST FACTORS	Approximate Primary Crossing Length	Ease of Construction Access	Ease of Maintenance Access	Support from Existing Infrastructure	Potential Servicing Requirements (eg. Lighting)	General Cost - Bridge	General Cost – Approaches	SUMMARY	Site Elements Summary (average outcomes)
1	Sooke Bridge		●	●	●	●	●	●	●		●	◒ 2.2km	◕	●		○	○	○	●	●		◒ 120m	◒	●	●	●	◒	●		Conditions - Very Good Connectivity - Good Assets - Poor Costs - Good
2	Sooke River Rd Park to Sooke Flats Camp-ground		◒	◒	◔	◒	●	◒	◒		●	◒ 1.0km	●	◔		●	●	◒	◒	◕		◒ B1 15m B2 62m	○	◒	○	◒	○	◔		Conditions - Moderate Connectivity - Good Assets -Good Costs - Poor
3	Soule Rd to Sunriver Nature Trail Park		◒	◕	◒	○	◕	◒	◒		◕	◕ 0.9km	●	◕		◕	◒	◒	◒	◔		◒ 72m	◒	◕	◒	◒	◔	◒		Conditions - Moderate Connectivity - Good Assets - Moderate Costs - Moderate
4	Calvert Rd to Sunriver Nature Trail Park		◔	○	◔	○	◕	◒	◔		◒	◔ 1.1km	◕	◒		◕	◒	◔	◒	◔		◒ 75m	○	◔	○	◒	◔	◔		Conditions - Poor Connectivity - Moderate /Poor Assets - Moderate/Poor Costs - Poor
5	Sooke River Rd to Phillips Rd (South)		◒	◕	●	●	○	◒	●		○	◒ 1.7km	◒	○		◕	●	○	○	◒		● 45m	◒	◒	◒	◒	●	●		Conditions - Good Connectivity - Poor Assets - Moderate Costs - Good
6	Sooke Potholes Provincial Park		◒	◕	◒	●	○	◕	◕		○	◒ 1.2km	◒	○		◕	●	○	○	◒		● 45m	◒	◒	◔	◒	●	◒		Conditions - Moderate Connectivity - Poor Assets - Moderate Costs - Moderate
7	Sooke River Rd ROW to Phillips Rd ROW		◕	●	◔	◕	◒	◕	●		◔	◒ 0.1km	◔	○		◔	◕	●	●	◕		● 46m	◕	●	◕	◕	◕	◒		Conditions - Good Connectivity - Poor Assets - Good Costs - Good
8	BC Hydro ROW		○	◒	●	◒	●	●	◒		◔	● 0.1km	◔	○		○	○	○	○	◒		○ 330m	○	○	○	●	○	○		Conditions -Moderate Connectivity - Poor Assets - Very Poor Costs -Very Poor

● = Very Good Conditions ◔ = Good Conditions ◒ = Moderate Conditions ◕ = Poor Conditions ○ = Very Poor Conditions

NOTE: This document has been prepared to summarize early observations by the consulting team and is not intended to provide detailed design advice. Phase 2 of the project will provide further detail.

District of Sooke

Sooke River Pedestrian Crossing

Phase 2 Summary

NOTE: *This document is intended for internal use and review only. It has been produced to summarize input to date and provide information and direction for proceeding. Cost estimate information is provided for review and comparison of options – Phase 3 will refine costs based on Detailed Design.*

1.0 INTRODUCTION

The District of Sooke initiated this project to develop a stronger pedestrian and cyclist connection over the Sooke River. Currently, Sooke only has one pedestrian/cyclist crossing point over the river – narrow sidewalks on the existing Sooke River Bridge. It is the intent of this project to identify and study potential new crossings and determine an appropriate crossing to pursue forward into construction. This project meets Sooke's larger vision of increasing connectivity throughout the community.

This project is being completed in three phases, beginning in August 2010 and concluding in December 2010.

- **Phase 1: Conceptual Design of Eight Crossing Options (August/September)** – The first step undertook site reconnaissance and analysis of eight potential crossing locations. This step generated a short-list of four sites to pursue further.
- **Phase 2: Preliminary Design of Four Crossing Alternatives (October)** – The second phase investigated in more detail the short-list crossing locations. For each location, a site plan, profile and preliminary cost estimate was developed. Stakeholder and public consultations were used to review the crossing alternatives and identify community concerns, ideas and preferences.
- **Phase 3: Detailed Design of Priority Crossing Location (November/December)** – *We are now beginning Phase 3*. Based on consultations, cost analysis and identification of issues, a preferred site will be selected for detailed design. The detailed design package will be suitable for completing regulatory approvals and funding applications.

This document summarizes the four preliminary designs developed and the input received through the stakeholder and public consultations of Phase 2 of the project.

2.0 CONSULTATIONS

Three key consultations were held during this phase:

1. **T'Sou-ke Nation** – The consulting team met with representatives from T'Sou-ke Nation and District of Sooke Council to review the project and four crossing alternatives.
2. **District of Sooke Stakeholders** – The consulting team held a stakeholder session in which key stakeholders were invited to review the four crossing alternatives and discuss the strengths and weaknesses of each alternative. Please see **Appendix A** for a Summary of the input received.
3. **District of Sooke Public** – The consulting team participated in the District of Sooke Fall Public Open House to present the project background and four crossing alternatives to the public. A public survey gathered input on the alternatives and priorities. Please see **Appendix B** for detailed survey results. In addition, the public was invited to provide input directly to the District via email. Please see **Appendix C** for a transcript of input.

2.1 Crossing Considerations

The public survey asked people to consider what they felt should were the most important factors to consider when selecting the final crossing location. The **top 5** responses related to connectivity:

1. Connection to Town Centre (tie)
1. Connection to Galloping Goose (tie)
3. Connection to Community Facilities
4. Suitability as a Commuter Route Connection
5. Emergency Crossing Potential

Additional considerations that were identified as important included:

6. Environmental Compatibility
7. Flooding Concerns (tie)
7. Cost (tie)

3.0 DETAILED DESIGNS

Four sites were selected at the end of phase 1 to be pursued through detailed design. The four selected sites were:

- Site 2: Sooke River Road Park to Phillips Road
- Site 3: Soule Road ROW to Sunriver Nature Park
- Site 5: Sooke River Road to Phillips Road (At Sooke Potholes)
- Site 7: Sooke River Road ROW to Phillips Road ROW

See the attached map at the end of the report for the locations of the four sites.

The following pages provide a summary of the preliminary design for each site including the following information:

1. **Location Map:** The map provides an overview of the approximate crossing location in relation to key community amenities. See **Appendix D** for the Preliminary Design drawings and sections for each site.
2. **Site Images:** Photos provide a visual reference of each site.
3. **River Crossing:** This table provides a breakdown of required items for the River Crossing, including the bridge, approaches and trail linkages to connect with Sooke's transportation network.
4. **Crossing Amenities:** This table provides a breakdown of additional crossing features that should be incorporated into the design such as lighting, site furnishings and site amenities.

Note: At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

5. **Galloping Goose Connection:** This table provides a description of the anticipated main connection route to the Galloping Goose and costs associated with future trail development. It should be noted that cost breakdowns demonstrate ideal scenarios – typically separated multi-use trails. In many cases, it may not be necessary to develop these connections immediately – short-term connections could be supported by existing infrastructure (e.g. roads and sidewalks) with improved trail connections a consideration for the future.
6. **Town Centre Connection:** This table provides a description of the anticipated main connection route to Sooke's Town Centre and costs associated with future trail development. It should be noted that cost breakdowns demonstrate ideal scenarios – typically separated multi-use trails. In many cases, it may not be necessary to develop these connections immediately – short-term connections could be supported by existing infrastructure (e.g. roads and sidewalks) with improved trail connections a consideration for the future.
7. **Cost Summary:** This table provides a summary of the cost estimates for each of the four crossing elements: River Crossing, Crossing Amenities, Galloping Goose Connection and Town Centre Connection.
8. **Key Consultation Points:** Public and Stakeholder consultation helped to identify key strengths and weaknesses of each site. These pros and cons are summarized to be considered during the final site selection. For a complete summary of stakeholder and public comment, please refer to **Appendix A & B.**

Notes:

1. *All estimates provided are for comparison of concepts only. All cost information will be refined based on detailed design.*
2. *Cost estimates are based on comparable design techniques for each site so that they can be easily compared. For example, all bridge designs are based on a 3m cross-section.*

Site 2: Sooke River Road Park to Phillips Road

1. Location Map

2. Site Images

3. River Crossing*

*(*Note: All crossing descriptions start on the East (Galloping Goose) side of the Sooke River.)*

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
New Multi-Use Trail 1	From Sooke River Rd through Sooke River Rd Park to floodplain (Grade Change = ~16m)	200m@8%	$36,000
Boardwalk 1	Through Sooke River Rd Park floodplain	172m	$670,800
Sooke River Bridge	2 Span Bridge with centre pier	104m	$624,000
Boardwalk 2	From Sooke River Bridge through floodplain	75m	$292,500
New Multi-Use Trail 2	From Boardwalk 2 to Phillips Rd (Grade Change = ~10m)	165m@6%	$29,700
	Total Estimate – River Crossing		$1,653,000

4. Crossing Amenities

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Fencing	Where trails are adjacent to private properties to prevent trespass	330m	$49,500
Pullouts/rest stops	Viewpoints, interpretive info, fishing areas, seating areas	3	$135,000
Pedestrian Lighting	1 light per 20m of crossing or trail	36	$180,000
Entry Bollards	2 per entry point	4	$2,400
Furnishings	Benches, waste receptacles, etc.	8	$12,000
	Total Estimate – Crossing Amenities		$378,900

5. Galloping Goose Connection*

*(*Note: All connection descriptions start at the River Crossing.)*

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Sooke River Rd Crossing	Marked pedestrian/cyclist crossing in one location on Sooke River Rd	1	$3,000
Sooke River Rd Connection	New Multi-use Trail along Sooke River Rd from Sooke River Rd Park to Kirby Rd	525m	$94,500
Kirby Rd Connection	Shared Roadway (no change)	360m	$0
Directional Signs	o Sooke River Rd Park @ Sooke River Rd o Kirby Rd /Sooke River Rd o Galloping Goose Trail Entrance (on Kirby Rd) o Galloping Goose Trail Exit	4	$3,600

Total Estimate – Galloping Goose Connection	$101,100

6. Town Centre Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Phillips Rd Crossing	Marked pedestrian/cyclist crossing in one location on Phillips Rd	1	$3,000
Grant Rd Connector Trail	Grant Rd Connector Trail (current project)	510m	As Allocated
Church Rd Connector	Upgrades to Church Rd to provide multi-use trail and/or bike paths and sidewalks from Grant Rd to Sooke Rd	600m	$108,000
Directional Signs	o Phillips Rd/Grant Rd o Grant Rd/Church Rd o Church Rd/Sooke Rd (Town Centre)	3	$2,700
		Total Estimate – Town Centre Connection	$113,700

7. Cost Summary: Site 2

Element	*Estimated Cost*
River Crossing	$1,653,000
Crossing Amenities	$378,900
Galloping Goose Connection	$101,100
Town Centre Connection	$113,700
Total Estimate – All Elements	$2,246,700

8. Key Consultation Points

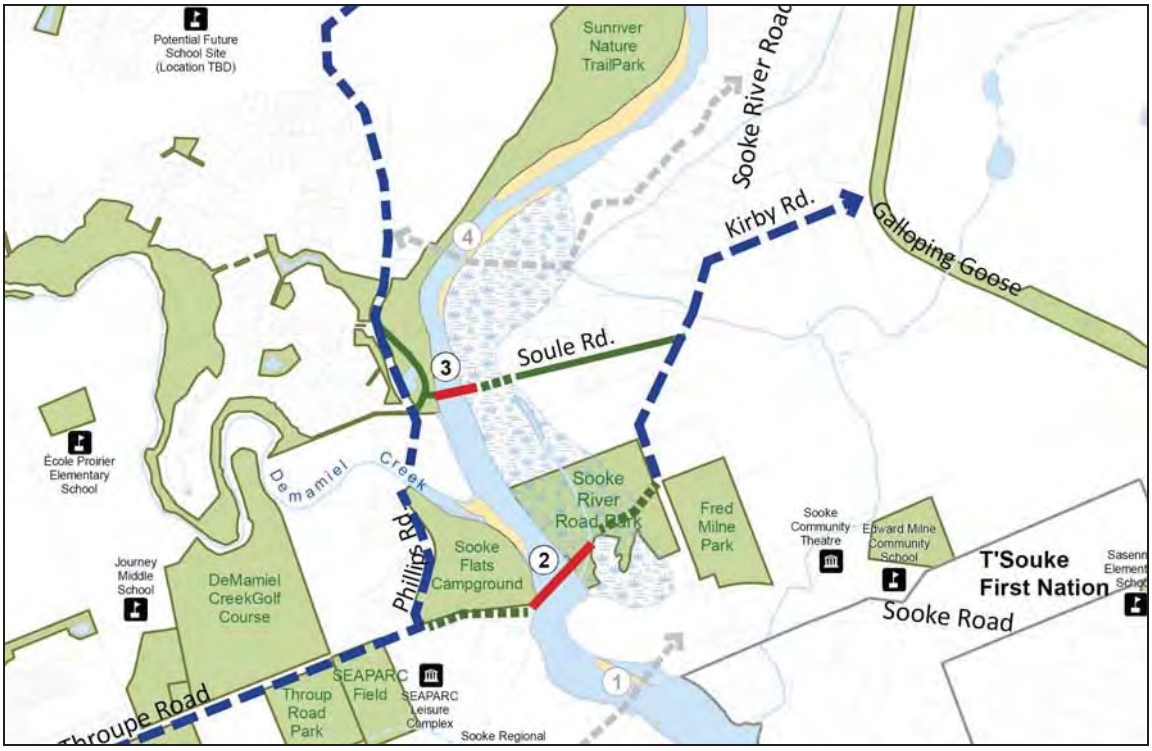
Strengths	o Most Desirable Location: Closest to Town Centre, Galloping Goose, Parks & Facilities o Sooke River Road Park: Utilizes the existing park and ties well with anticipated use (educational and interpretive opportunities) for this park o Visually appealing o Educational opportunities
Weaknesses	o Centre Pier: Not supported by T'Sou-ke Nation, will be an issue for regulatory agencies o Property Ownership: Land is privately-owned on the Phillips Road side of the river; current landowners are not supportive of the crossing at this time o Floodplain: Flooding and large debris is a structural issue o Length of Crossing/Cost: Long span o Environmental Impact: Floodplain and marsh habitats o Construction: Environmental analysis will need to consider how to mitigate and compensate for damage related to construction activities

	o Safety: Traffic volume on Sooke River Road is high and the existing road is narrow o Emergency Crossing Potential: Long spans and boardwalks complicate the provision of extensive vehicle access

Note: Re-routing the bridge crossing to a narrower point in the river could potentially reduce the crossing length to +/- 75m, negating the need for a centre pier. This would require a partnership/agreement with landowners on the west side of the river. Input has suggested that landowners are not currently supportive of a crossing at this location.

Site 3: Soule Road to Sunriver Nature Trail Park

1. Location Map



2. Site Images

Note:
At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

3. River Crossing

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Soule Rd Connection	Shared Roadway (no change)	240m	$0
New Multi-Use Trail 1	From Soule Rd terminus to floodplain (Grade Change = ~14m)	125m@11%	$22,500
Boardwalk 1	From trail to Baker Creek Bridge	7m	$27,300
Baker Creek Bridge	Clear span over Baker Creek	12m	$72,000
Boardwalk 2	From Baker Creek Bridge to Sooke River Bridge	70m	$273,000
Sooke River Bridge	Clear span over Sooke River	72m	$432,000
Boardwalk 3	From Sooke River Bridge through floodplain	30m	$117,000
New Multi-Use Trail 2	From Boardwalk 3 to Sunriver Nature Trails (Grade Change = ~8m)	100m@8%	$18,000
	Total Estimate – River Crossing		$961,800

4. Crossing Amenities

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Fencing	Where trails are adjacent to private properties to prevent trespass	250m	$37,500
Pullouts/rest stops	Viewpoints, interpretive info, seating areas	3	$135,000
Pedestrian Lighting	1 light per 20m of crossing or trail	21	$105,000
Entry Bollards	2 per entry point	4	$2,400
Furnishings	Benches, waste receptacles, etc.	4	$6,000
	Total Estimate – Crossing Amenities		$285,900

5. Galloping Goose Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Sooke River Rd Crossing	Marked pedestrian/cyclist crossing in one location on Sooke River Rd	1	$3,000
Sooke River Rd Connection	New Multi-use Trail along Sooke River Rd ROW	195m	$35,100
Kirby Rd Connection	Shared Roadway (no change)	360m	$0
Directional Signs	o Soule Rd/Sooke River Rd o Kirby Rd/Sooke River Rd o Galloping Goose Trail Entrance (on Kirby)	4	$3,600

	o Galloping Goose Trail Exit		
		Total Estimate – Galloping Goose Connection	$41,700

6. Town Centre Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Trails in Sunriver Nature Park	Upgrade park trails to support cyclists and pedestrians – create trail connections north to Sunriver Way and south to Phillips Rd	200m	$18,000
Phillips Rd Connector	New/expanded multi-use trail along Phillips Road to Grant Road (including Demamial Creek Bridge crossing)	480m	$86,400
Phillips Rd Crossing	Marked pedestrian/cyclist crossing at Grant Rd	1	$3,000
Grant Rd Connector Trail	Grant Rd Connector Trail (current project)	510m	As allocated
Church Rd Connector	Upgrades to Church Rd to provide multi-use trail and/or bike paths and sidewalks from Grant Rd to Sooke Rd	600m	$108,000
Directional Signs	o Sunriver Nature Park o Sunriver Way/Phillips Rd (north) o Sunriver Nature Park/Phillips Rd (south) o Phillips Rd/Grant Rd o Grant Rd/Church Rd o Church Road/Sooke Rd (Town Centre)	6	$5,400
	Total Estimate – Town Centre Connection		$220,800

7. Cost Summary: Site 3

Element	*Estimated Cost*
River Crossing	$961,800
Crossing Amenities	$285,900
Galloping Goose Connection	$41,700
Town Centre Connection	$220,800
Total Estimate – All Elements	$1,510,200

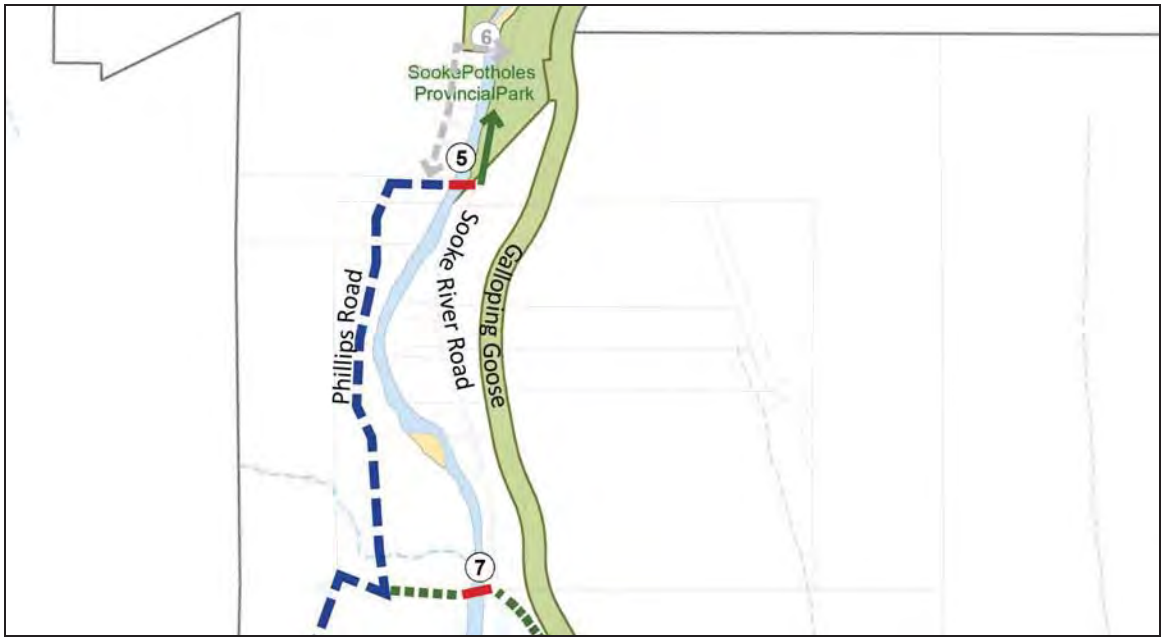
8. Key Consultation Points:

Strengths	o Second Most Desirable Location: Close to Sunriver, moderately close to Town Centre, Galloping Goose, Parks & Facilities o Land Ownership: All on public lands o Visually appealing
Weaknesses	o Floodplain: Flooding and large debris is a structural issue

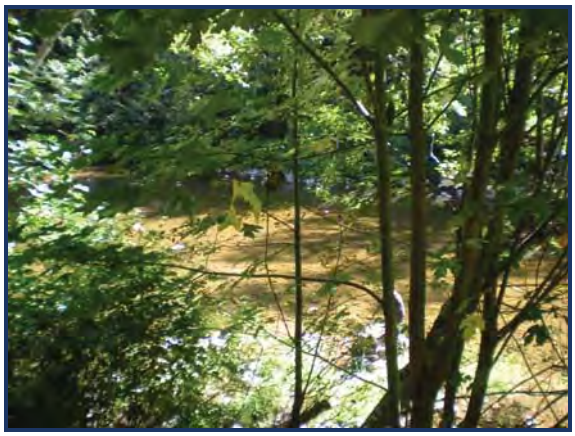
	o Length of Crossing/Cost: Long span o Safety: Traffic on Sooke River Road and Phillips Road is high volume. The Demamial Creek Bridge is a pinch point. o Emergency Crossing Potential: Long spans and boardwalks complicate the provision of vehicle access.

Site 5: Sooke River Road to Phillips Road (At Sooke Potholes)

1. Location Map



2. Site Images



3. River Crossing

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Approach	Apron from Sooke Rd to Bridge	1m	$5,000
Sooke River Bridge	Clear span from Sooke River Rd to Phillips Rd ROW	50m	$270,000
Boardwalk	From Sooke River Bridge to meet existing grade	39m	$152,100
New Multi-Use Trail	From Boardwalk to Phillips Road	10m	$1,800
	Total Estimate – River Crossing		$428,900

4. Crossing Amenities

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Pullouts/rest stops	Viewpoints, interpretive info, benches	1	$45,000
Pedestrian Lighting	1 light per 20m of crossing or trail	5	$25,000
Entry Bollards	2 per entry point	4	$2,400
Furnishings	Benches, waste receptacles, etc.	2	$3,000
	Total Estimate – Crossing Amenities		$75,400

5. Galloping Goose Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Sooke River Road Connection	New Multi-use Trail north along Sooke River Road ROW into Sooke Potholes Park (to parking lot)	300m	$54,000
Park Road	Continue to use Sooke River Road within the park as a Shared Roadway	1,050m	$0
Directional Signs	o Bridge at Sooke River Road o Sooke Potholes Parking Lot o Galloping Goose Trail Exit/Entrance	3	$2,700
	Total Estimate – Galloping Goose Connection		$56,700

6. Town Centre Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Phillips Rd north	Continue to use Phillips Rd as a Shared	950m	$0

	Roadway from River Crossing to Curve (near Site 7)		
Phillips Rd south	New/expanded multi-use trail along Phillips Rd to Grant Rd south of the Curve (including improved Demamial Creek Bridge crossing)	3,950m	$711,000
Phillips Rd Crossing	Marked pedestrian/cyclist crossing at two locations on Phillips Rd (Grant Rd and Sunriver Way)	2	$6,000
Grant Rd Connector Trail	Grant Rd Connector Trail (current project)	510m	As allocated
Church Rd Connector	Upgrades to Church Rd to provide multi-use trail and/or bike paths and sidewalks from Grant Rd to Sooke Rd	600m	$108,000
Directional Signs	o At Crossing o At Phillips Rd curve (near Site 7) o Phillips Rd/Sunriver Way o Phillips Rd/Grant Road o Grant Rd/Church Rd o Church Rd/Sooke Rd (Town Centre)	6	$5,400
		Total Estimate – Town Centre Connection	$830,400

7. Cost Summary

Element	*Estimated Cost*
River Crossing	$428,900
Crossing Amenities	$75,400
Galloping Goose Connection	$56,700
Town Centre Connection	$830,400
Total Estimate – All Elements	$1,391,400

8. Key Consultation Points:

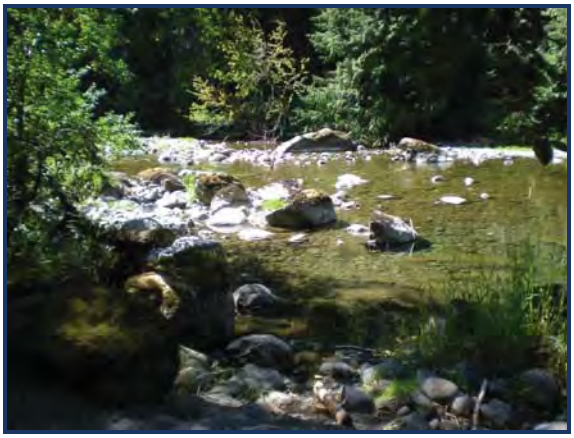
Strengths	o Length of Crossing/Cost: Short span o Rural connection: Connects to potholes, good for tourism, horses, recreational loop o Land Ownership: Public land (road ROWs) on both sides o Flooding: Raised elevation decreases flooding issues o Visually appealing o Emergency Crossing Potential: short span should support vehicle crossing
Weaknesses	o Location: Too far from Town Centre to be appealing to commuters/local traffic o Goose Connection: Relatively weak – long, steep journey through Sooke Potholes Park to reach Goose.

	o Safety: Traffic can be heavy on both Sooke River Road & Phillips Road; The Demamial Creek Bridge is a pinch point o Remote Setting: Could be wildlife interface issues

Site 7: Sooke River Road ROW to Phillips Road ROW

1. Location Map

2. Site Images



3. River Crossing

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Approach	Apron from Sooke Road to Bridge	1m	$5,000
Sooke River Bridge	Clear span from Sooke River Rd to Phillips Rd ROW	50m	$270,000
Boardwalk	From Sooke River Bridge to meet existing grade	62m	$241,800
New Multi-Use Trail	From Boardwalk to Phillips Road (Grade Change = ~4m)	110m@3.5%	$19,800
		Total Estimate – River Crossing	$531,600

4. Crossing Amenities

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Pullouts/rest stops	Viewpoints, interpretive info, benches	1	$45,000
Pedestrian Lighting	1 light per 20m of crossing or trail	11	$55,000
Entry Bollards	2 per entry point	4	$2,400
Furnishings	Benches, waste receptacles, etc.	3	$4,500
		Total Estimate – Crossing Amenities	$106,900

5. Galloping Goose Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Sooke River Rd Connection	New Multi-use Trail and/or Cycling Lanes and Sidewalks south along Sooke River Rd to Existing Goose Trailhead	1,500m	$270,000
Directional Signs	o At Crossing o Galloping Goose Trailhead	2	$1,800
		Total Estimate – Galloping Goose Connection	$271,800

6. Town Centre Connection

Item	*Description*	*Estimated Qty.*	*Estimated Cost*
Phillips Rd south	New/expanded multi-use trail along Phillips Rd to Grant Rd (including improved Demamial Creek Bridge	3,950m	$711,000

	crossing)		
Phillips Rd Crossing	Marked pedestrian/cyclist crossing at two locations on Phillips Rd (Grant Rd and Sunriver Way)	2	$6,000
Grant Rd Connector Trail	Grant Rd Connector Trail (current project)	510m	As allocated
Church Rd Connector	Upgrades to Church Rd to provide multi-use trail and/or bike paths and sidewalks from Grant Rd to Sooke Rd	600m	$108,000
Directional Signs	o Crossing Trailhead/Phillips Road o Phillips Road/Sunriver Way o Phillips Road/Grant Road o Grant Road/Church Road o Church Road/Sooke Road (Town Centre)	5	$4,500
	Total Estimate – Town Centre Connection		$829,500

7. Cost Summary

Element	*Estimated Cost*
River Crossing	$531,600
Crossing Amenities	$106,900
Galloping Goose Connection	$271,800
Town Centre Connection	$829,500
Total Estimate – All Elements	$1,739,800

8. Key Consultation Points:

Strengths	o Length of Crossing/Cost: Short span o Rural connection: Connects to potholes, good for tourism, horses, recreational loop o Land Ownership: Public land (road ROWs) on both sides o Flooding: Raised elevation decreases flooding issues o Visually appealing o Thelypteris nevadensis (Nevada Marsh Fern): short span should support vehicle crossing
Weaknesses	o Location: Too far from Town Centre to be appealing to commuters/local traffic; has no particularly strong link to any amenity – far from Galloping Goose, Potholes and Town Centre o Environmental Sensitivity: Sensitive ecosystems have been identified in the area, including the presence of the red-listed Thelypteris nevadensis (Nevada Marsh Fern) o Goose Connection: Relatively weak – long journey along Sooke River Road to connect to exiting trailhead, although there may be opportunity to work

	with the Charters Creek interpretive centre to complete a public trail connection along the creek to the Galloping Goose. o Safety: Traffic can be heavy on both Sooke River Road & Phillips Road; The Demamial Creek Bridge is a pinch point Remote Setting: Could be wildlife interface issues

4.0 COST COMPARISON OF OPTIONS

The following table provides a side-by-side comparison of costs associated with the elements of each site.

Element	*Site 2*	*Site 3*	*Site 5*	*Site 7*
River Crossing	$1,653,000	$961,800	$428,900	$531,600
Crossing Amenities	$378,900	$285,900	$75,400	$106,900
Galloping Goose Connection	$101,100	$41,700	$56,700	$271,800
Town Centre Connection	$113,700	$220,800	$830,400	$829,500
TOTAL	**$2,246,700**	**$1,510,200**	**$1,391,400**	**$1,739,800**

Several general observations can be made:

- **River Crossing:** Sites 5 and 7 have significantly lower costs to develop the River Crossing components (bridge and approaches) due to shorter spans. All of the river crossing components must be completed as part of this project.
- **Crossing Amenities:** Sites 5 and 7 also have significantly lower costs for Crossing Amenities. This is largely due to the high cost of fencing and lighting for security on the lower, longer crossings. Simple user amenities and safety features should be included as components of the new crossing design. Safety and security were identified as key considerations for all sites.
- **Galloping Goose Connection:** The highest cost connection to the Galloping Goose is Site 7 due to the need to develop a safer cycling/pedestrian route along Sooke River Road. The other sites have relatively similar costs related to linking up with the Goose (Sites 3 & 5 are lowest). It is not essential that this upgraded connection be completed as part of this project – it could be improved at a later date.
- **Town Centre Connection:** Higher costs to connect with the Town Centre are linked to distance, making sites 5 and 7 much more costly. It is not essential that this upgraded connection be completed as part of this project – it could be improved at a later date.

5.0 ADDITIONAL CONSIDERATIONS

Input from stakeholders and members of the public suggested that **Site 1: Existing Sooke River Bridge** may still warrant consideration for pedestrian and cyclist crossing improvements now or in the future. This site was not selected after Phase 1 for the following reasons:

- **Redundancy:** Investing in the only existing Sooke River crossing does not support alternate routes in and out of town.
- **Safety and Circulation:** Pedestrian/cyclist movements would need to be carefully planned for safety. Sooke Road still has narrow portions of road that are not well-suited for use by pedestrians and cyclists. The connection to the Galloping Goose is not ideal.

- **Regulatory Agencies:** MOT is not supportive of additional structures on the existing bridge.
- **Existing Traffic:** Construction would disrupt existing traffic.
- **Visual, Educational and Tourism Experience:** Poor.

However, input from the public and stakeholders suggested that Site 1 warrant further consideration because:

- **Terrain:** Grades are very accommodating for cyclists.
- **Commuter Connection:** It is anticipated the route would be the best connection for commuter cyclists.
- **Town Centre Connection:** It provides the shortest route between the Town Centre and amenities east of the river.
- **Security:** It is on a well-used path of travel, so concerns about vandalism and safety are minimized.

There are three options for considering Site 1:

- Reconsider Site 1 as a potential crossing site for this project.
- Consider Site 1 for future improvements. In the long-term, if the bridge infrastructure needs to be upgraded, trail development could be a component of the larger project.
- Do not consider Site 1 further.

6.0 CONCLUSION

Based on the information gathered during Phase 2 of this process, a Summary of Recommendations document has been prepared for Council review and consideration. Any landowner negotiations required would need to be completed prior to the start of Phase 3 of the project.

Once a crossing site has been confirmed, the consulting team with complete Phase 3 of the process, which includes the preparation of the detailed design package. Key steps this process will be:

- Coordination of necessary geotechnical and survey information
- Review of water level information
- Environmental Site Assessments
- Identification of Necessary Approval Processes
- Identification of Requirements for Funding Applications
- Development of Detailed Design Package

District of Sooke

Sooke River Pedestrian Crossing

Phase 3 Preliminary Design Report

NOTE: *This document is intended for internal use only. It has been produced to summarize preliminary design for a pedestrian crossing over the Sooke River. Information provided is for planning and budgeting purposes. Construction documentation will be required prior to construction.*

TABLE OF CONTENTS

APPENDICES

DRAWINGS – 75% DESIGN

1.0 INTRODUCTION

The District of Sooke initiated this project to develop a stronger pedestrian and cyclist connection over the Sooke River. Currently, the only crossing over the Sooke River is Sooke River Bridge, which is vehicle-oriented with narrow sidewalks and no cyclist provisions. The purpose of this project is to identify and study potential new crossings for cyclists and pedestrians and identify and create a preliminary crossing design for future funding and construction. This project meets Sooke's larger vision of increasing connectivity throughout the community.

1.1 Why is a Pedestrian Crossing Important?

Consultations and public input continue to identify the creation of a pedestrian and cyclist link between the Galloping Goose Regional Trail and Sooke's Centre as a priority:

- The ***District of Sooke Parks & Trails Master Plan*** identifies pedestrian and cyclist linkages as a priority for parks and trails improvements. The creation of a linkage between the Galloping Goose and Sooke's Town Centre was identified as the top parks and trails priority by residents who participated in the planning process.
- Sooke's ***Official Community Plan*** identifies "Providing a trail connection between the Galloping Goose Trail, the Town Centre and Sooke trails," as a Parks and Trails objective.
- The ***Sustainable Development Strategy for the District of Sooke*** recommends exploring the feasibility of constructing a bridge for the exclusive and safe enjoyment of pedestrians and cyclists across the Sooke River, as well as building an extension to the Galloping Goose that routes through Sooke, the downtown and all the way to western Sooke.

A new crossing will enhance Sooke's transportation and recreation networks, increase tourism opportunities and contribute to economic prosperity.

1.2 Project Process

This project was completed in three phases, beginning in August 2010.

- **Phase 1: Preliminary Analysis of Eight Crossing Options** – The first step undertook site reconnaissance, analysis and a comparison evaluation of eight potential crossing locations:
  - Site 1: Sooke Bridge
  - Site 2: Sooke River Road Park to Phillips Road
  - Site 3: Soule Road ROW to Sunriver Nature Park
  - Site 4: Calvert Road to Sunriver Nature Park
  - Site 5: Sooke River Road to Phillips Road (At Sooke Potholes)
  - Site 6: Sooke Potholes Provincial Park (near parking lot)
  - Site 7: Sooke River Road ROW to Phillips Road ROW
  - Site 8: BC Hydro ROW

  See **Appendix A: Overview Map** for a map showing the eight sites identified in this process. Based on preliminary analysis, a short-list of four sites for further study was generated. See ***Phase 1 Summary Report*** for more information.

- **Phase 2: Preliminary Design of Four Crossing Alternatives** – The second phase investigated the following four short-list crossings:
  - Site 2: Sooke River Road Park to Phillips Road
  - Site 3: Soule Road ROW to Sunriver Nature Park
  - Site 5: Sooke River Road to Phillips Road (At Sooke Potholes)
  - Site 7: Sooke River Road ROW to Phillips Road ROW

  For each location, a site plan, profile and preliminary cost estimate was developed. The four sites were presented to the T'Sou-ke Nation, District of Sooke stakeholders and the public for review and evaluation. See ***Phase 2 Summary Report*** for more information.

- **Phase 3: Detailed Design of Priority Crossing Location** – Based on feedback, the District selected **Site 3: Soule Road ROW to Sunriver Nature Park** as the new crossing site. Detailed design for a crossing at this site was completed to provide documents required for regulatory approvals and funding applications. Detailed design includes:
  - An overall route plan for the connection between the Galloping Goose and Grant Road
  - 75% Detailed Design Drawings of the bridge crossing and approaches, sufficient to complete regulatory approvals and funding applications
  - Design recommendations
  - Cost estimation for the proposed design
  - Identification of environmental requirements and referrals and draft Environmental Permit applications
  - Recommended steps for implementation

  Section 3: Priority Crossing Location summarizes the above items.

2.0 CONSULTATIONS

Three consultations were held during this process:

1. **T'Sou-ke Nation** – The consulting team met with representatives from T'Sou-ke Nation and District of Sooke Council on Monday, October 18th, 2010 to review the project and discuss four short-listed crossing alternatives. Feedback was received and considered in the selection of the preferred crossing, as well as the crossing design.
2. **District of Sooke Stakeholders** – The consulting team held a stakeholder session on Tuesday, October 19th, 2010 in which key stakeholders were invited to review the four short-listed crossing alternatives and discuss the strengths and weaknesses of each alternative.
3. **District of Sooke Public** – The consulting team participated in the District of Sooke Fall Public Open House on Thursday, October 21st, 2010 to present the project background and four crossing alternatives to the public. A public survey gathered input on the alternatives and priorities. In addition, the public was invited to provide input directly to the District via email.

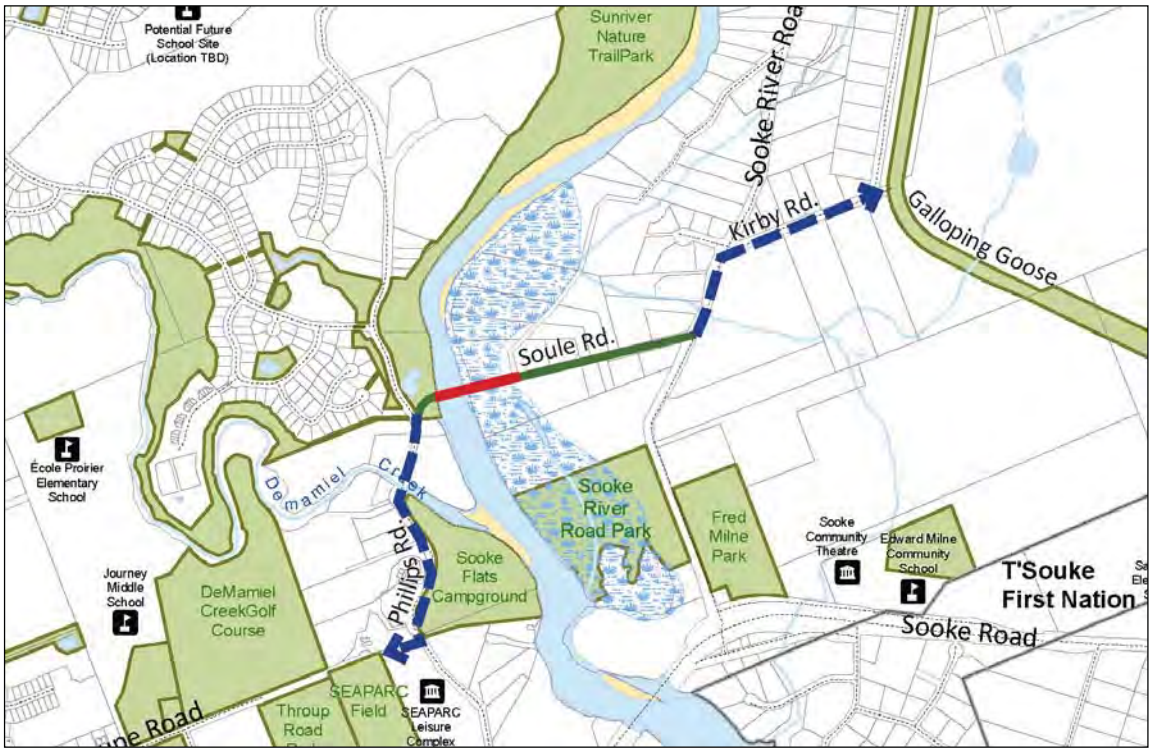
A summary of the input received during these consultations is recorded in the ***Phase 2 Summary Report***.

3.0 PRIORITY CROSSING LOCATION

After consultations and consideration by Council, **Site 3: Soule Road to Sunrvier Nature Park** was selected as the preferred site for preliminary design.

3.1 Site Summary

1. Location Map



2. Site Images

Approach from Soule Road

Approach from Sunriver Nature Park

3. Rationale for Selection

This site was selected as the preferred crossing because:

- The site allows for one of the strongest connections between the Galloping Goose Trail and Town Centre.
- The route will connect with the recently Grant Road multi-use trails.
- Lands on both sides of the river in this location are publicly owned – the Soule Road ROW to the east and Sunriver Nature Park to the west.
- The river is narrow enough for a clear span crossing.
- The crossing is well-positioned relative to growing residential areas.
- The location is near the SEAPARC Leisure Complex, Journey Middle School, Edward Milne Community School and several parklands.
- There is opportunity for interpretation and significant viewpoints.

4. Design Challenges

All sites considered for the crossing have design challenges. For the Soule Road/Sunriver Park site, key challenges include:

- **Approach grades –** Both Soule Road and Sunriver Nature Park have steep banks down to the Sooke River. Bridge approaches are required to manage these grades so that the route can accommodate both pedestrians and cyclists.
- **Floodplain** – A large floodplain is adjacent to the river. Annual flooding of the Sooke River contributes to flooding and debris flow that must be managed through design.
- **Baker Creek** – The creek runs parallel to the Sooke River at the east edge of the floodplain. Because Baker Creek is a watercourse, design requires a clear span crossing.
- **Length of Crossing** – All potential crossing sites at the south end of the Sooke River are relatively long, due to the width of the river.
- **Vehicle Traffic** – Traffic on Sooke River Road and Phillips Road is high volume. The Demamial Creek Bridge is a pinch point, which may be improved through future trail planning and development. (*Recommendation 4 of the Parks & Trails Master Plan is the creation of an off-road, multi-use trail along Phillips Road.)*
- **Emergency Crossing Potential** – The length of the crossing makes emergency vehicle access provision cost-prohibitive. The proposed bridge design allows potential crossing by small motorized vehicles (e.g. ATVs) for emergency access, but larger vehicles are not accommodated.
- **Navigation** – The proposed route will require navigational signage.

Note:
At April 20, 2015 meeting Council MOVED to direct staff to remove Site 3 (Soule Road to Sunriver Nature Park) and Site 4, as options from the Sooke River Pedestrian Crossing report. CARRIED.

3.2 Preliminary Bridge Design Options

At the onset of the preliminary design, three bridge design options and estimated costs were developed and reviewed for the crossing site. The purpose of this step was to investigate potential bridge alternatives and costs to identify the most appropriate bridge type for the crossing. The difference between the three alternatives is the treatment of the crossing over the floodplain. Table 3.1 summarizes the three alternatives.

Table 3.1:Summary of Preliminary Bridge Design Options

Option	Description	Estimated Cost (preliminary)
1	• 72m clear span over Sooke River • 70m boardwalk on steel piles over floodplain • 12.2m clear span over Baker Creek	$1,694,000
2	• 72m clear span over Sooke River • 70m boardwalk on timber piles over floodplain • 12.2m clear span over Baker Creek	$1,256,000
3	• 72m clear span over Sooke River • 70m clear span over floodplain • 12.2m clear span over Baker Creek	$1,310,000

See **Appendix B: Preliminary Bridge Design Estimated Costs** for a breakdown for each option.

3.3 Bridge Design Selection

Based on the preliminary design and costing, Option 3 was selected for detailed design of the bridge. This option was selected due to:

- Moderate cost implications (within 5% of lowest cost option);
- Longevity of steel structural elements (piles and girders) over timber components;
- Reduced risk of debris flow effects and maintenance requirements through use of bridge spans rather than boardwalk;
- Potential to elevate crossing components above 200-year flood level to reduce seasonal flooding impacts; and
- Elimination of piles required for the boardwalk options. Costs for pile driving will be an approximate estimate until geotechnical investigation is complete at the time of construction.

Refer to the enclosed design drawing set for Detailed Design Drawings. These drawings have been created to support budget planning, funding and regulatory approvals. Construction documents will be required at the time of project implementation.

3.4 Route Plan

The proposed route starting from the Galloping Goose Regional Trail is described in **Table 1** below. Refer to **Drawing L01 - Route Plan** of the drawing set additional information.

Table 4.1: Route Plan Description

ID	Location	Trail Type	Length	Recommended Improvements
Start	Galloping Goose Trail	Existing Multi-Use Trail (quarry fines)	n/a	• Directional sign at trail intersection (1)
Section 1	Kirby Road	Shared Roadway	370m	• Directional signs at both ends of Kirby Road (3) • Shared Roadway signs at both ends of Kirby Road (2)
Section 2	Sooke River Road	New Multi-Use Trail	190m	• 4m wide paved multi-use trail • Signalized pedestrian crossing at Kirby Road • Directional signs at Soule Road and Kirby Road (2)
Section 3	Soule Road	Shared Roadway	245m	• Shared Roadway Signs at both ends of Soule Road (2) • Directional sign at end of Soule Road (1)
Section 4	Sooke River Pedestrian Bridge	New Pedestrian Bridge	340m	• 3m wide pedestrian bridge • Consideration for a lookout at the river span
Section 5	Park Trail	Upgraded Multi-Use Trail	45m	• Existing trail upgraded to 4m wide paved multi-use trail • Directional Signs at Bridge and at Phillips Road (3)
Section 6	Phillips Road	New Multi-Use Trail (Future)	490m	• New multi-use trail and bridge upgrade (*as recommended in the Parks & Trails Master Plan*) • Painted and signed pedestrian crossing at Sunriver Nature Park • Directional signs at Grant Road and Sunriver Nature Park (2)
End	Grant Road Connector	Existing Trails	n/a	• Directional sign at Phillips Road (1)

3.5 Cost Estimation

Cost estimation is provided for the proposed route to support funding application and budget planning. Costs estimates are order of magnitude Class C estimates and should be considered within +/- 15% accuracy at the time of this plan. Project costs should be re-evaluated at the onset of implementation. The following table summarizes the overall costs for each trail section. Refer to **Appendix C: Order of Magnitude Cost Estimate** for a cost breakdown.

Table 4.2: Cost Estimate Summary

ID	Description	Estimated Cost
General	Mobilization, Health & Safety	$90,000
Start	Galloping Goose Connection	$950
Section 1	Kirby Road Shared Roadway	$4,750
Section 2	Sooke River Road Multi-Use Trail	$50,750
Section 3	Soule Road Shared Roadway	$2,850
Section 4	Sooke River Pedestrian Bridge	$1,885,850
Section 5	Park Trail	$9,600
Section 6	Phillips Road Multi-Use Trail (Future)*	$87,650
End	Grant Road Connector	$950
Order of Estimate Cost Summary		**$2,045,700**

* Note: The Phillips Road Multi-use Trail is not included in the project total as it is anticipated this is a separate project as recommended in the Parks & Trails Master Plan. (*Recommendation 4 of the Parks & Trails Master Plan is the creation of an off-road, multi-use trail along Phillips Road.)*

3.6 Design Recommendations

3.6.1 Signage

Signage will be an important component of the trail design for trail visibility and safety. Signage that should be provided when the trail is developed and should include:

- **Wayfinding Signs** – Strategic placement of consistent signs along the route, notably at key intersections. It is recommended that Sooke's existing parks signage be adapted.
- **Shared Roadway Signs** – Shared roadways and crosswalks will be important zones to clearly articulate the relationship between vehicles, cyclists and pedestrians.

Wayfinding Sign Example

Share the Road Sign Example

Refer to **Drawing 1: Route Plan** for recommended sign locations.

3.6.2 Approach Grades

Generally the route between the Galloping Goose and Grant Road connector is relatively flat, with the exception of the Sooke River banks. A challenge for all the lower crossing sites, including Site 3, is the trail grades between the Sooke River floodplain and the adjacent banks. At site 3:

- The west bank is a 52% slope at Sunriver Nature Park
- The east bank is a 48% slope at the terminus of Soule Road

Several options including trails, switchbacks, boardwalks and bridges were explored for the crossing approach on each bank. Based on the approach area available, the following recommendations are provided:

- **West Bank** – Given the short distance between the river and the bank, it is recommended that the bridge span be extended to meet top of bank grade in Sunriver Nature Park. This will allow a gentle slope for cyclists and pedestrians and will have minimal cost implications.
- **East Bank** – The east bank connecting at Soule Road is a steep slope. Two options were investigated for the bridge approach on the steep slope:
    - **Option 1: Paved Multi-Use Trail from Soule Road to Bridge –** A paved trail at 15% is created through cut and fill of the existing slope for a span of 110m. While this issue has lower cost, a 15% slope is considered to be prohibitive for many

recreational cyclists and would require special considerations for safety, including signage and possible requirements for cyclist dismount.

- **Option 2: Bridge Approach –** The bridge span is extended to span to Soule Road, minimizing the need for cut and fill and reducing the slope of the approach to below 7%. It was estimated that this option increases the cost of the approach by about $300,000.

After preliminary study of both options it was determined it would be more desirable to use a bridge approach and reduce the approach grade to 6.72% for a distance of 134m. This slope is considered to be both safe and manageable for most cyclists[1].

3.6.3 Furnishings

It is not anticipated that extensive furnishings will be required for the trail connection, as the main use of the trail will be active transportation. It is however, recommended that a limited number of furnishings be considered at key locations including:

- **Benches & Waste Receptacles** – Benches and waste receptacles are recommended for either side of the pedestrian bridge as resting points. Refer to **Drawing 1: Route Plan** for recommended bench and waste receptacle locations. It is recommended that furnishings match standard District of Sooke Parks furnishings.
- **Trail & Bridge Lighting** – In the short-term, it is recommended that low-level pedestrian lighting be considered for the bridge and a multi-use trail connections in Sunriver Nature Park and between Soule Road and the Bridge.
- **Potential Lookout Structure** – A small lookout structure centred over the Sooke River could be considered at the final design stage. This structure would be an opportunity to incorporate seating and possible interpretive information into the crossing.

1 The 1999 Guide to the Development of Bicycle Facilities by the American Association of State Highway and Transportation Officials' (AASHTO) gives the following guidance on grades of paths:

"On some shared use paths, where terrain dictates, designers may need to exceed the 5 percent grade recommended for bicycles for some short sections. As a general guide, the following grade restrictions and grade lengths are suggested:

- *5-6% for up to 240 m (800 ft)*
- *7% for up to 120 m (400 ft)*
- *8% for up to 90 m (300 ft)*
- *9% for up to 60 m (200 ft)*
- *10% for up to 30 m (100 ft)*
- *11+% for up to 15 m (50 ft)"*

3.7 Referrals

The following permits and referrals will be required prior to construction of the pedestrian crossing:

1. **BC Water Act Section 9 Notification** – Because construction of the bridge will occur within a floodplain, a Section 9 Water Act notification is required. For information, new Section 9 applications have a 120-day review period by BCMOE. More expedient review and issue may be possible depending on staffing, but scheduling should consider this maximum review period. See **Appendix D: Draft Water Act Notification Application** for a draft application form. This form will require review and updates at the time of application.
2. **DFO Project Review Application** – Proponents of projects potentially impacting water are required to complete a Project Review Application form to determine if a project warrants further review by the DFO. See **Appendix E: Draft DFO Project Review Application Form** for draft application. This form will require review and updates at the time of application.
3. **Fisheries Act Section 35(2)** – Pending the outcome of the DFO Project Review Application (see #2 above), this project may require Authorization under the Fisheries Act. For information, DFO now require 8-12 months for environmental review and issue of Section 35(2) Authorizations. More expedient review and issue may be possible depending on staffing, but scheduling should consider this maximum review period.
4. **Navigable Waters Permit** – Sooke River is considered to be navigable waters and requires any structure to be reviewed and approved by Transport Canada through the Navigable Waters Protection Act (NWPA). The drawings included in this package are sufficient to support a Navigable Waters Permit application.
5. **Ministry of the Environment Referral** – While the main regulatory on this project is the DFO, it is recommended that the BCMOE be included on issued reports and/or requests for site visits.
6. **Fish Salvage Permit** (if required) – While it is not anticipated that instream works will be required because both stream crossing elements are bridges, permit applications to both DFO and BCMOE may be required for any instream works that are contemplated (e.g. if a temporary access culvert in a fishbearing tributary watercourse such as Baker Creek is required).

3.7.1 References and Guiding Documents

Environmental guiding documents that should be resource material include:

- *Develop With Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia* prepared by the Ministry of Environment. March 2006.
- *Manual for the Control of Erosion and Shallow Slope Movement* prepared by the Ministry of Transportation and Highways – Vancouver Island Highway Project. August 22, 1997.
- *Land Development Guidelines for the Protection of Aquatic Habitat* prepared cooperatively by federal Department of Fisheries and Oceans and BC Ministry of Environment (Lands and Parks). May 1992.

3.7.2 Pre-Construction Environmental Management Plan

Prior to construction, the project will require preparation of a project-specific Environmental Management Plan that addresses environmental risks and mitigation procedures during construction. This plan would provide specific details and direction on environmental protection for the duration of construction including:

- Sediment and erosion control;
- Spill mitigation and remediation;
- Environmental management of the work site; and
- Vegetation management.

4.0 IMPLEMENTATION

4.1 Studies & Planning at Implementation Stage

When the crossing is scheduled for construction, further detailed planning and study will be required to obtain final approvals and complete construction documents. We recommend the following items be considered at the time of project implementation:

- **Aquatic Impact Assessment** – Pending the outcome of the DFO Project Review, the project may require a Section 35(2) Fisheries Act Authorization. If a Section 35 Authorization is required, an aquatic impact assessment may be required to quantify instream impacts (if any) and the associated compensation (if required). This report would be integrated into the Environmental Assessment if an EA is required.
- **Environmental Assessment** – If federal funding is pursued, an Environmental Assessment process as per the Canadian Environmental Assessment Act (CEAA) may be required (which would include both aquatic and terrestrial components).
- **Geotechnical Investigation** – A geotechnical investigation of the site will be required to determine footing depths of the bridge structure. Because this study will require machine site access, it is recommended that this investigation be completed immediately prior or concurrent with bridge construction to minimize site impacts.
- **Contract Documents** – A full set of contract documents including construction drawings and specifications will be required for construction.

As part of this process, a consultation with local Aquatic Plant expert, Dr. Adolf Ceska of Ceska Geobotanical Consulting in Victoria was completed to determine if additional study on aquatic plants in the Sooke River would be required. Dr. Ceska's opinion was that an aquatic plant survey upstream of the existing Sooke River Bridge is not necessary because:

- the bridge location is outside the intertidal zone;
- the Sooke River in this area is not known to have any significant aquatic plant life; and
- it is not be anticipated that a bridge crossing in this location will have significant impacts on aquatic plant life.

4.2 Estimate of Study & Planning Costs

Estimates for additional studies and planning costs related to future implementation of this project are provided below. These costs are estimates only and are provided for planning purposes.

	Study	Estimate
Either/Or →	Aquatic Impact Assessment (if required by DFO)	$4,500
Either/Or →	Environmental Assessment (if project triggers CEAA)	$6,000
	Geotechnical Investigation	$7,500
	Contract Document Preparation	$20,000

Sooke River Pedestrian Crossing

Phase 2 Summary

Appendices

NOTE: *This document is intended for internal use and review only. It has been produced to summarize the feedback received during the consultation process.*

APPENDIX: A STAKEHOLDER CONSULTATIONS

A stakeholder meeting was held **Tuesday, October 19th** to discuss the four potential crossing designs with local stakeholder groups and to receive information and feedback. Attendees from the following groups signed into the event:

- Juan de Fuca Cycling Coalition
- SEAPARC
- Sooke Seniors Society
- Juan de Fuca Community Trails Society
- Sooke Saddle Club
- Sooke News Mirros
- Neighbouring Property Owners

The following comments were recorded at the session.

A.1 Site 2: Sooke River Road Park to Phillips Road

What do you see as the top benefits of this crossing?

Theme	*Recorded Comments*
Location/ Connections	o Close to Hwy 14, as well as accessible to GGT and into Sooke. o The site is closest to current population and will attract highest number of people. o Safety of area - is not remote. (remote = worries about 2 legged and 4 legged problems). o Proximity - closest to schools, EMCS, park and ride. o Best access to City centre, park and ride, seaparc, schools, etc. o Attractive location, close to civilization for safety. o Brings traffic right into park and seaparc area. o Quickest link to downtown. o Most likely to generate greatest use. o Close in is only plus. o Seaparc linkages & trails, proximity to city, potential for tourism, most likely to generate greatest use.
Environmental Values	o Good nature values. o Nature.
Visual Values	o Scenic o Best look at marsh - very good nature observation area in marsh.
Land Ownership	o Sooke owns the land on River Road side - ownership of camp grounds?

What do you see as the top 2 challenges of this crossing?

Theme	*Recorded Comments*
River Flows	o Flood issue in that area; it does happen. o Flooding. o Flooding. o Flooding - this river has raised close to a meter higher in floods 2003 - 2010.
Length of Crossing/Cost	o Would the boardwalks allow horses? Not a good idea, also, for emergency vehicles on a boardwalk? o Money. o Money. o Greatest expense & difficulty in building. o Length of crossing, length of boardwalk - both being potentially too costly. o Also, maintenance issues will prove costly. o Length of span cost. o Long crossing is a problem for horses, not much on the "Sooke side" to attract riders. o Money, length of span, pier. o Shorter span better for horses, will anyone share with horses? o Don't really see any benefits. Span appears longer or close to the span required at Site 1.
Environmental Impacts	o Impacts on flood plain, vegetation and wildlife. o Nature issues. o Troubles getting approvals for center pier. o I believe T'Sou-ke Nation will object to centre pier approach.
Location/ Connection Issues	o Does not invite use further up river. o Emergency vehicles are most important as well as a second exit from Sooke. o The congestion around the soccer field (Fred Milne Park). o Traffic movement around soccer field. o Proximity to Sooke River Road and interface - need for road/trail upgrades.
Topography	o Hill at each end.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

- Look out for high water flooding and potential structural damage from high currents and wood debris.
- Probably the best site if done properly, but one limit is that it doesn't lead into a trail system to the west of the river.
- Would be much better with no Sooke River Road travel, even though it is fairly short. Even a short ride on S.R Road can be dangerous for visitors/novices.
- Still believe site 1 makes far more sense in all aspects.
- Shorter span, convenient location.
- Foot and bike traffic on Sooke River Road is very difficult.
- Horses, surfacing/heights of rail and CRD standard should be considered.

A.2 Site 3: Soule Road to Sunriver Nature Park

What do you see as the top benefits this crossing will provide?

Theme	*Recorded Comments*
Location/ Connections	o Good location from GGT and from Phillips Road. o Still in a relatively safe area (not too remote). o Connection to Sun River subdivision. o Still relatively close to town/school/seaparc centres. o Useful connections to park and town. o Best use for commuting. Lots of housing along Soule, Kirby, and other areas – people could use this crossing to get to town. o Traffic not too bad on Sooke River Road at this time. o Close in, approaches not too bad. o Like proximity – if remote there are safety issues critters/human, CPTED/passive surveillance. o Convenient location.
Land Ownership	o Right of Ways already in place. o It lends itself to a second crossing.
Length of Crossing/Cost	o Less costly, but still not as prudent as site 1. o Shorter span than Site 2.
Emergency Potential	o Potential for emergency town access road.
Environmental Values	o Natural, pretty. o Already disturbed banks. o Gives the marsh for birds and wild life. o Currently disturbed banks.
Visual Values	o Visually pleasing.

What do you see as the top challenges of this crossing?

Theme	*Recorded Comments*
River Flows	o Still potentially too high impact on the floodplain and channel vegetation and wildlife. o Possible flooding.
Potential User Conflicts	o Again, the boardwalk which would not be best for horses or emergency vehicles. Could work, but might conflict with other users. o Moderate altercation with others.
Length of Crossing/Cost	o Still higher construction costs? o Cost WRT the marsh crossing. o Still a fairly long crossing. o Lengths.
Location/	o Lack of trail system on the West side (leads to Phillips Road). o Phillips Road connection.

Connections Issues	o Distances, Phillips Road travel. o Not much on the "Sooke side" to attract riders (horseback). o Presently Sooke River Road is still required to connect to GGT. o Sun River access leads south over poor bridge on Phillips Road.
Environmental Impacts	o The marsh. o Marsh land.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

- Bridge and boardwalks are OK for horses if built same as CRD trestle bridges.
- Would need to be wide enough to allow passing both directions and passage of emergency vehicle.
- Possibly the highest use area for avian wildlife.
- Already park and start of trail system in Sun River.
- Is there a right of way from Soule Road?
- Access to Goose would require upgrade to Kirby.
- Preferred over site 2.
- It's not perfect but could be fixed so it works.
- Preference would be to spend more on the bridge to hold some height to lessen the hills on the approaches.
- If we do it properly the bridge will be expensive but worth it.
- If you cannot do hwy bridge than this is the one.
- I would like to see it for horses as well as people and cyclists.

A.3 Site 5: Sooke River Road to Phillips Road (Near Sooke Potholes)

What do you see as the top benefits this crossing will provide?

Theme	*Recorded Comments*
Location/ Connections	o Clearest access to Potholes in high-use months. o Potential for long term trail connections - reroute North of Phillips Road; connect to Camp Bernard, etc. o Increase access to Potholes at peak time. o Excellent connection for riders who are comfortable in more remote areas. o Maybe will be first choice for horse crowd. o Makes sense for tourist trade. o Trailhead. o Decrease car use on Sooke River Road, increase cars on Phillips road.
Length of Crossing/Cost	o Short bridge. o Doesn't have boardwalk. o Short bridge. o Likely the cheapest choice.
Environmental Values	o Least wildlife and environmental impact.
River Flows	o Might not flood.

What do you see as the top challenges of this crossing?

Theme	*Recorded Comments*
Location/ Connection Issues	o Remote location might be too far for tourists. o Too far from most people, will see limited use. o Not an easy access. o Not convenient for commuters. o Link to town not very good, not much local support. o Not a commuter route. o Too far North. o Too far away for ease of access to town etc. o Parking pressures already at the Potholes parking lot and the Sooke River Road approach to Potholes.
Traffic	o Traffic volumes of Phillips and Sooke River Road. o Current state of Phillips Road. o Heavy traffic at Demamial Creek Bridge. o Extra cars on Phillips to Potholes - during peak times. o Peak season traffic on both roads. o Would increase traffic on Phillips Road. People may park on Phillips and cross the bridge to access Sooke Potholes.
Safety Issues	o Safety issues in remote areas. o Remote. o Wild life, safety. o Wildlife.
Topography	o Topographic restraints – steep hills to connect to GGT. o Topography too steep for bikes.

Do you have any Specific knowledge, ideas or insights you would like to share about this location?

- Terrain to GGT is difficult (steep ground to gain bridge).
- Topography very bad for cycling.
- Very steep grades.
- It has an easy connection with the Goose at Peden Luke Road/Harrison trail.

A.4 Site 7: Sooke River Road ROW to Phillips Road ROW

What do you see as the top benefits this crossing will provide?

Theme	*Recorded Comments*
Length of Crossing/Cost	o Short bridge, but long boardwalk. o Lower cost to complete as a starter span. o One of the cheapest routes. o Parking pressures already at the Potholes parking lot and the Sooke River Road approach to Potholes.
Visual Values	o Beautiful view from bridge.

Environmental Values	o Low environmental impact.
Location/ Connections	o Gets people into a new area. o Will help "stake a claim" to the top end of Phillips road for trail development in the future.

What to you see as the top challenges of this crossing?

Theme	*Recorded Comments*
Location/ Connection Issues	o Too far out for everyone to use and boardwalk. o Far from city centre and will see less use than #2 and #3. o Too far away for easy town access. o Not convenient for commuters. o Not any place interesting nearby. o Access. o Does not link to town and parks. o Distances to centre, only used for tourist and tourists. o Too far North, no access to Sooke.
Topography	o Hills. o Steep incline to Goose. o Topography.
Environmental Impacts	o Very rare red listed plant in area – Thelypteris nevadensis (Nevada Marsh Fern) has been recorded near this site. o Disturbing the River bank.
Traffic Issues	o Not much room on River Road at this point. o Narrow roadways.

Do you have any Specific knowledge, ideas or insights you would like to share about this location?

- Local residents vocal and territorial.
- Bad or no connection with Goose.
- Least suitable.

A.5 Other Comments

- Starr: Any crossing is great, a circular route is preferred.
- Cycling Coalition: current bridge is safer and ideal – further up river the less likely commuters will use it – higher use for recreation. The MOT bridge being eliminated from consideration is "not acceptable".
- Seaparc: Hydro ROW clarification.
- Seniors: Can we build another bridge adjacent to Sooke River Bridge? The majority of Seniors would only use site 1. Very few would access the rest.
- Juan de Fuca Trails Association: Environmental concerns about Site 7, see Aquatex assessment for the Kendraw property a red-listed fern – Thelypteris nevadensis (Nevada Marsh Fern) has been identified in that location.
- The interface between the cars/bikes etc. needs to be minimized.

- Clarify emergency use – is it for ambulances? Cars when the existing bridge is closed? Others?
- Integrate modes of transportation with the Park & Ride.
- Metchosin general store sign – good example of signage at Sooke Road and happy valley.
- For horses: Ideally have mounting blocks at entrance (15"high).
- Signage will be important – code of conduct, what type of uses are appropriate, how to connect to GGT or Town Centre, etc.
- Bollards may be required to keep motorized vehicle use off trail.
- If the bridge/boardwalk is multi-use, it should include pull outs so horses, cyclists, etc. can pull out mid-crossing.
- Whatever choice: to us, priority should be:
    1. useful to Sooke residents
    2. usable by tourists
    3. suitable emergency vehicle access
    4. multi-use, including horses

APPENDIX: B SURVEY RESULTS

On online and hard-copy survey were developed to obtain public feedback on the four potential crossings being considered for the new Sooke River Crossing.

The responses to all questions are recorded here.

B.1 What do you think are the most important factors to consider when selecting the final crossing location? Please check your top three.

Factor	*Response Percent*	*Response Count*
Connection to Town Centre	54.5%	12
Connection to Galloping Goose	54.5%	12
Connection to Community Facilities	40.9%	9
Suitability as a Commuter Route Connection	36.4%	8
Emergency Crossing Potential	31.8%	7
Environmental Compatibility	18.2%	4
Flooding Concerns	13.6%	3
Cost	13.6%	3
Site Topography	9.1%	2
Accessibility Potential	9.1%	2
Compatibility with Neighbouring Land Use	4.5%	1
Land Status & Ownership	4.5%	1
Educational Opportunities	4.5%	1
Visual Experience	4.5%	1
Ease of Maintenance Access	4.5%	1
Potential Archaeological Concerns	0%	0
Geotechnical Context	0%	0
Passive Surveillance Opportunities	0%	0
Ease of Construction Access	0%	0

Other Comments:

- Why can't we save money and direct people traffic across the existing bridge with safer railings on both sides?
- This would negatively affect me and my property. It is not the good people. I am concerned with the hooligans, night and day.
- Proximity to Sooke Road is very important.

B.2 Site 2: Sooke River Road Park to Phillips Road

What do you see as the key benefits of this crossing location for the community?

Theme	*Recorded Comments*
Location/ Connections	o Proximity to downtown core, direct school route, best potential for pedestrian use enables most direct connection between potential event location (Sooke Flats) and Galloping Goose. Most visible connection, good for town optics. o Easy access to downtown, the high school. I have met several groups of cyclists on the Goose coming from Victoria trying to get to their B&B reservation but they are reluctant to cycle on the highway. I live off Woodlands and would love to cycle into town but am also reluctant to ride on the highway. This location is not too far off the main road way but also not on the highway. o Drawing people to the "downtown" core area. o To link the Goose to town. It is the most convenient location. o Close to the Goose, close to the High School, Recreation fields and Seaparc. o Location! A bridge is a connection, thus, check your needs. Also, this has a good connection to the Goose. o Easy access in both directions. o The least amount of back tracking. o Connection to Sportspark and School. o Close to town - close to the trail - best for emergency use. o Closest crossing for maximum amount of people's use. o Greatest number of potential users given access to and from Town Core as well as Sun River, T'Sou-ke Reserve, Schools.
Other	o All around best choice. o Is good idea but is it able to be paroled for safety? Are there lights? o I have property here and it would negatively affect me.

What do you see as the challenges of this crossing location?

Theme	*Recorded Comments*
River Flows	o Crosses a broad floodplain which often accumulates large timber when epic flooding occurs. o Flooding. o Possible flooding. o Possible flooding. o Low lying topography - possible flood area?
Land Ownership	o Would need to coordinate with Sooke Community Association. o Property issues.
Length of Crossing/Cost	o Cost. o Funding? Lengthy crossing. o Very expensive.
Safety	o Vandalism, lighting and maintenance.

Environmental Impacts	o Wetlands.
Other	o Potential to disrupt indigenous food gathering activity. o The river banks are soft. o Swampy land. o None. o None.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

- I have seen the river be very unpredictable like huge stumps coming down.
- Nice open, easy commute.
- My preferred location for the above reasons.

B.3 Site 3: Soule Road to Sunriver Nature Park

What do you see as the key benefits of this crossing location for the community?

Theme	*Recorded Comments*
Location/ Connections	o Connection to existing District trail. o Direct connection to roadway. o My cycling group checked out this crossing last Friday, Oct. 22. It looks fine to us. It is also readily accessible to the town core by riding south on Phillips Road. This location is also good access to the high school and also to the town core. o Still convenient. o Maybe Sunriver. o Very close to the Goose. o Also not much back tracking. Make a bit bigger loop for walking and cycling as one can cross the bridge.
Length of Crossing/Cost	o Probably not the most expensive option.
Visual Values	o Scenic.
Other	o Second choice. o None. o None.

What do you see as the challenges of this crossing location?

Theme	*Recorded Comments*
River Flows	o Crosses broad floodplain. o Over 50 percent on flood plain.
Topography	o Steeper approaches. o There are some bluffs here to deal with?

Location/ Connections	o Less likely to be used regularly. o The little bridge over Demamiel Creek on Phillips Road may need some upgrading. It may not be suitable (wide enough) for car and bike traffic. o How to get from Phillips road into town... road shoulders on Phillips are sketchy, especially at the corner with Sooke Rd. o Will not be used any more for above mentioned.
Length of Crossing/Cost	o Too costly. o Lots of money.
Safety Issues	o Maintenance, vandalism.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

- Go down and watch when river is in flood mode.
- I go to Phillips road side of the river every summer. It's so quiet and lots of wildlife and easier to find your own spot, not like the potholes.

B.4 Site 5: Sooke River Road to Phillips Road (Near Sooke Potholes)

What do you see as the key benefits of this crossing location for the community?

Theme	*Recorded Comments*
Location/ Connections	o Will be used by Potholes park users. o Tourist amenity which complements an existing one. o Makes full use of existing District trails. o A link in more fire prone areas. o Easier access. o A larger loop - great for locals but not for people coming from Victoria so much. o Great for hiking. o You have the access already close to the Goose, close to the Potholes, short crossing for an alternate emergency vehicle route access. o Close to the potholes park.
Length of Crossing/Cost	o Short span, not very expensive and could be a steel bridge meaning less maintenance. o We also checked out this site. It would be a short bridge and so cheaper to build.
Emergency Crossing Potential	o Easiest to build as emergency access.
Visual Values	o Could be very scenic.
Other	o Potential to work more directly with Parks with regards to maintenance.

What do you see as the challenges of this crossing location?

Theme	*Recorded Comments*
Location/ Connections	o Least potential for regular use by citizens. A more seasonally-oriented crossing. o This location is too far from the town core for use by tourists trying to get to town and also for Sooke commuters. I am concerned that this crossing would not get enough use to justify the cost even though it is probably the least expensive to build. o So far up Phillips – less user friendly. o Too far from town. o Out of the way more for emergency vehicles (e.g. more trees could be down across the road) if a major emergency and the bridge is out. o Too far out and back for cyclists from Victoria to bother going 'up Sooke'. o Too far for emergency vehicles. o Too far to be used as commuting option.
Safety Issues	o Vandalism, lighting.
River Flows	o Flooding.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

o I think the Site 2 or 3 would be a better fit for the majority of users.

B.5 Site 7: Sooke River Road ROW to Phillips Road ROW

What do you see as the key benefits of this crossing location for the community?

Theme	*Recorded Comments*
Location/ Connections	o Makes for a nice loop for cyclists. o Closer to town than Site 5. o Better than #5. o Great for hiking.
Length of Crossing/Cost	o Short span, potential for emergency access and steel bridge. o Also a short span so probably less expensive to build.
Topography	o Easiest approach to the river (ie. not as steep and mostly cleared and surveyed).
Visual Values	o Makes full use of the most scenic part of the GG (ie. trestles).
Emergency Access Potential	o Very practical for emergency access.
Other	o Potential to work with Hydro with regards to maintenance.

What do you see as the challenges of this crossing location?

Theme	*Recorded Comments*
Location/ Connections	o Not as pedestrian friendly. Too far from town and too far from Potholes to be used by those on foot much. o Need to build additional trail to connect the Goose and Phillips Road. o I think this location is too far from the town core to be of regular use by tourists and Sooke residents. o Again out and back too far but would create a lovely loop route for locals. o Too far! o Too far to be used as commuting option.
Visual Values	o Not as scenic as Potholes.
Safety Issues	o Flooding, vandalism, lighting.

Do you have any specific knowledge, ideas or insights you would like to share about this location?

None.

B.6 General Comments

- I look forward to using the new crossing wherever it is. I think the addition of this crossing will enhance the use of the Galloping Goose trail for Sooke residents and also for tourists making it easier for them to experience our amenities in the town core.
- This is not a priority.... this is a luxury that Sooke taxpayers cannot afford.... This has never been high demand issue for the residents of Sooke. What Sooke residents want if they talk about a second crossing... is an alternate traffic route for cars... This is not and should not be a priority for council. Get focused and quit legacy building.
- The connection with Throup makes the most sense.
- Is this priority? Where is the medical building? I do no shopping in Sooke. Where are some decent stores? What about correcting the road a bit? The crosses don't lie.
- I hope that it is built in the next few years so that I will still be able to bike. Sooke Road is not bike friendly so connection to the Goose would be great. I live in the Sun River so am hoping for a connection lower on Phillips than #5.
- Great idea!!! Good work!
- The further away from Sooke Road the less it will be used. Use the existing bridge on Sooke Road.
- I'm all for it.

APPENDIX: C OTHER INPUT

Input for the project was also received via email and other sources of information. This information is included in the appendices to record all information received during this process.

Email Received 20 October 2010 – Juan de Fuca Trails Society

I was out this afternoon looking at the possible bridge sites on the Sooke River Rd side. Site 7 near 2990 Sooke River Rd is where I took this photo of the very rare Thelypteris nevadensis (Nevada Marsh Fern) on July 16 2007 at that Site. It is a provincially red-listed species.

An environmental assessment has been completed on the adjacent Kendrew property on Phillips Rd by Wm Patrick Lucey, Aqua-Tex Scientific Consulting LTD. It would be useful information if this site is pursued.

Email Received 23 October 2010 – JDF Cycling Coalition

I do believe that there are still some options worth exploring for using the existing bridge. The advantage of using this location is certainly compelling in many aspects as you understand; Improved safety for existing pedestrian, cycle and mobility scooter traffic, natural flow of traffic due to existing infrastructure and location of Park N Ride, EMCS school, Sports fields, local T'Souke Reserve and other residential areas.

The question is the engineering options and cost. Also the one thing this crossing does not address is the alternate emergency crossing, that Is why I believe the solution lies in two separate crossings.

As far as ideas for the bridge. Let me run by a few suggestions and then you can decide if they are feasible or not, (I have copied this email to Alan Galambos who is the Regional Bridge Manager for MOTI).

- A parallel pedestrian/ cycle crossing that would use it's own pilings for support in line with the existing bridge, possibly attached for additional stability.
- The cantilevered option for the walkway.
- And here is another possibility; What about moving the existing guardrail and putting it on the inside of the sidewalk next to the traffic. Then all that would have to be added to the sidewalk would be a narrow band of cement or grating to make it a bit wider with a pedestrian railing on the outside. It could even be left same width with a few pull-outs to accommodate bikes, buggies etc for passing each other. It seems that part of the bridge structure could be used for widening the walkway with a bit of imagination, particularly by the main span.

It would be ideal to have a walkway on both sides of the bridge for safer flow of traffic and to avoid people having to do multiple crossings of the highway, however if need be a single path on the North side could be made to work if proper pathways were designed on either side of the bridge with appropriate signage and the walkway was made wider to accommodate 2-way traffic. Eventually when the Grant Rd Connector gets built, most of the traffic would likely be staying on the North side anyways.

I am sure when your engineering and planning minds work together you will possibly come up with an even better solution or a creative way to make this work on a reasonable budget.

Allan, it would be appreciated if you could comment on your views from the standpoint of MOTI. I realize we are dealing with multiple jurisdictions, (MOTI, Sooke District, & CRD), but by working together we might be able to increase our funding options.

Thanks everyone for taking these ideas into consideration, and I look forward to hearing your feedback and ideas!

MOTI Response – 25 October 2010

Thank you for the email and the telephone discussion. The Ministry of Transportation and Infrastructure does support cycling and attempts to accommodate wherever possible within its projects. However, in this case, with reference to the changes you propose on the Sooke River Bridge 0396, I do not feel it is possible at this time and explain below.

I will treat your options proposed in the order they are presented:

1. Parallel pedestrian/cycle crossing, possibly attached to the Sooke River 0396 structure
    i. The Sooke River Bridge 0396 was built in 1967, to standards which did not have the seismic requirements for bridges designed today. The bridge has not been seismically upgraded. The parallel pedestrian/cycle crossing would have to be designed to current seismic standards. Attachment of the pedestrian/cycle crossing to the Sooke River Bridge would not be recommended as the Sooke River Bridge could potentially damage the pedestrian/cycle bridge during an earthquake rather than help its stability.
    ii. The construction of a stand-alone pedestrian/cycle structure is a good option but would have to be located a sufficient distance from the Sooke River bridge to accommodate future widening needs for the structure and to ensure safety in the event of movement of the MoTI structure in an earthquake.
2. Cantilevered Option for the Walkway - Moving the existing guardrail and putting it on the inside of the sidewalk next to the traffic, Adding Narrow Band of Sidewalk or Grating on the Outside.
    i. A guardrail moved to the inside of the sidewalk would become the primary system for restraining vehicles. This movement of the guardrail would be considered a rehabilitation of the structure and would necessitate design to current standards. The guardrail design requirements have increased substantially in recent codes, requiring that the rails restrain larger forces and therefore stronger components, stronger connections from the posts to the deck, and, in some cases stronger decks to support the post connections.
    ii. The addition of a wider sidewalk to the structure, especially if it were to standards required for mixed pedestrian/cycle traffic, would substantially increase the loading on the structure as the sidewalk must be able to accommodate pedestrians filling the entire sidewalk. This additional loading would likely require strengthening of the cantilevered portion of the deck and quite possibly the substructure (girders, etc.).

This would be considered a retrofit of the structure and would trigger the need for a seismic retrofit of the entire structure.

I agree with your statement that "the solution lies in two separate crossings". Please let me know if you have further questions.

JDF Cycling Coalition Response – 25 October 2010

Thank you very much for taking the time to explain the challenges of using the existing bridge from a technical point of view. This gives us a better idea of what we are dealing with. I appreciate your quick response.

It seems to me that the old bridge might need to have a major overhaul for various reasons, and this will not be a technical challenge but one of political will and cooperation!

I am wondering if all the parties involved ; MOTI, CRD, District of Sooke, T'Sou-ke Nation, our MLA and MP for the region as well as the consultants involved with the Bridge Crossing proposals (HB Lanarc) and the consultants from the CRD Ped & Cycling Master Plan(Alta Planning) have actually sat together to talk about the future plans of this area? It seems that rather than having several different agencies working on their own plans we might be able to pool resources (expertise and financial) to come up with the best short term and most importantly, long term solution to everyone's needs. Maybe this has been done already? I am not aware of it, other than the CRD and District of Sooke collaborating with the HB Lanarc proposals.

I still feel strongly that we need to have a **safe** crossing of the river for pedestrians and cyclists that is at, or very close to the existing bridge in order for it to be effective and as useful for the highest number of people. The decision needs to take into account the possible future redirection of Hwy 14 traffic and change of traffic patterns being planned by the District of Sooke, and the requirement for an alternate emergency crossing of the river.

I am looking forward to moving ahead with this project and finding the best solution. The Juan de Fuca Cycling Coalition is certainly supporting this endeavour and will help in any way that it can.

MOTI Update – 26 October 2010

I apologize for partially incorrect information transmitted to you yesterday. I have been informed this morning that 0396 Sooke River Bridge has been seismically upgraded. The remainder of the information on the structure, however, remains valid. Thank you.

Email received 01 November, 2010

- Soule Rd access: By far the best of the 4 options. A short stretch on Phillips Rd and easy back-street ride to/from downtown Sooke.
- Two up-river options: Too far from downtown; would be OK for tourists/long-distance riders, but both are a long way from the centre of Sooke and amenities and involve quite a distance on Phillips Rd.
- Beside existing bridge: Quite a jog down from GG trail to the bridge and then a so-so ride into downtown Sooke. Basically the same as current route, with added costs.

My husband and I are in our 50s, living on Ludlow Rd just up from the GG trail. We bought our house 6 years ago, with trail access as a strong factor. We want to bike into Sooke for

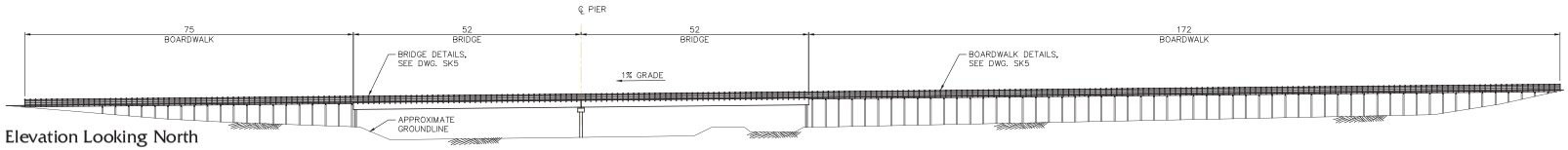
leisure/errands and stay on the GG trail as much as possible. I'm part of a large, regular bike group that includes Sooke realtors, longboat participants and B&B owners; we regularly head into Metchosin or up to the potholes along the GG trail. With the new trail connector, we would be able to bike as a group from Ludlow or the soccer fields to downtown Sooke, with coffee-shop/retail destinations--all good for local business.

Please count our votes for the Soule Rd connector. Many thanks to you and staff for thorough evaluation of these options and presentation for public input.

APPENDIX: D PRELIMINARY CROSSING CONCEPTS

Preliminary Crossing Concept Site 2: Sooke River Road Park to Phillips Road

Plan 1:500



Elevation Looking North
1:500

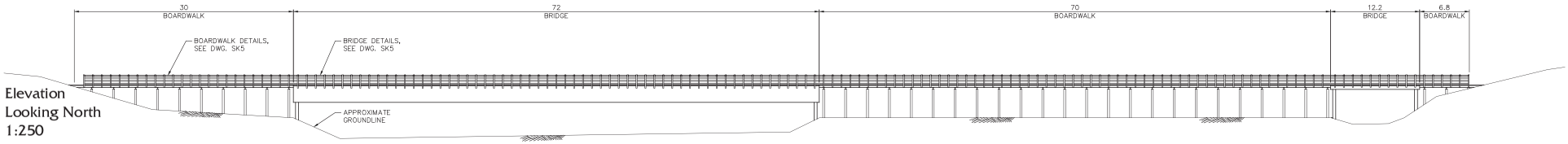
Notes:
1. All dimensions are in metres.
2. Conceptual drawings are for planning and review purposes only. Information shown on these plans are subject to further consultation and design development.

SOOKE RIVER PEDESTRIAN CROSSING

District of Sooke

Preliminary Crossing Concept Site 3: Soule Road to Sunriver Nature Trail Park

Plan 1:250



Elevation
Looking North
1:250

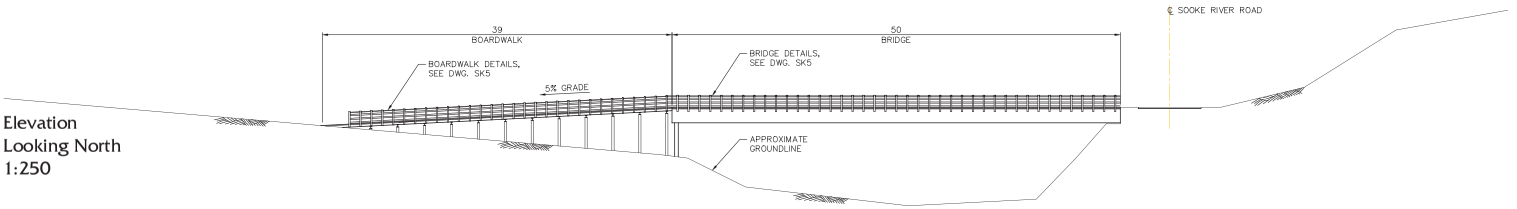
Notes:
1. All dimensions are in metres.
2. Conceptual drawings are for planning and review purposes only. Information shown on these plans are subject to further consultation and design development.

SOOKE RIVER PEDESTRIAN CROSSING

District of Sooke

Preliminary Crossing Concept Site 5: Sooke River Road to Phillips Road (near Sooke Potholes)

Plan 1:250



Elevation
Looking North
1:250

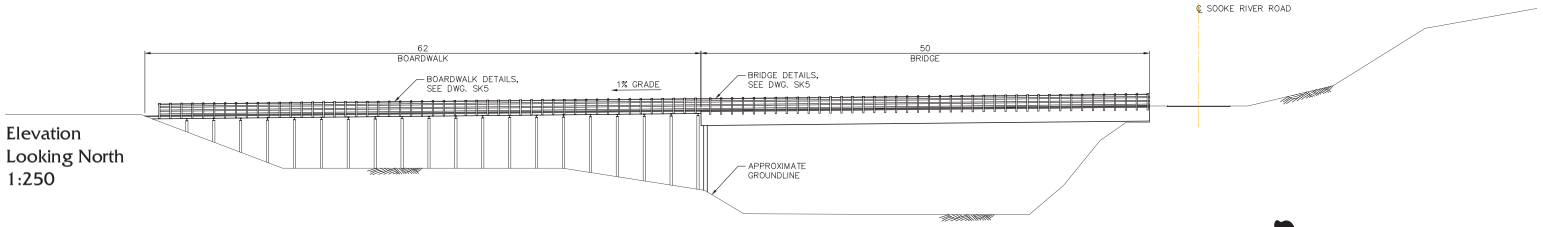
Notes:
1. All dimensions are in metres.
2. Conceptual drawings are for planning and review purposes only. Information shown on these plans are subject to further consultation and design development.

SOOKE RIVER PEDESTRIAN CROSSING

District of Sooke

Preliminary Crossing Concept Site 7: Sooke River Road ROW to Phillips Road ROW

Plan 1:250



Elevation
Looking North
1:250

Notes:
1. All dimensions are in metres.
2. Conceptual drawings are for planning and review purposes only. Information shown on these plans are subject to further consultation and design development.

SOOKE RIVER PEDESTRIAN CROSSING

District of Sooke

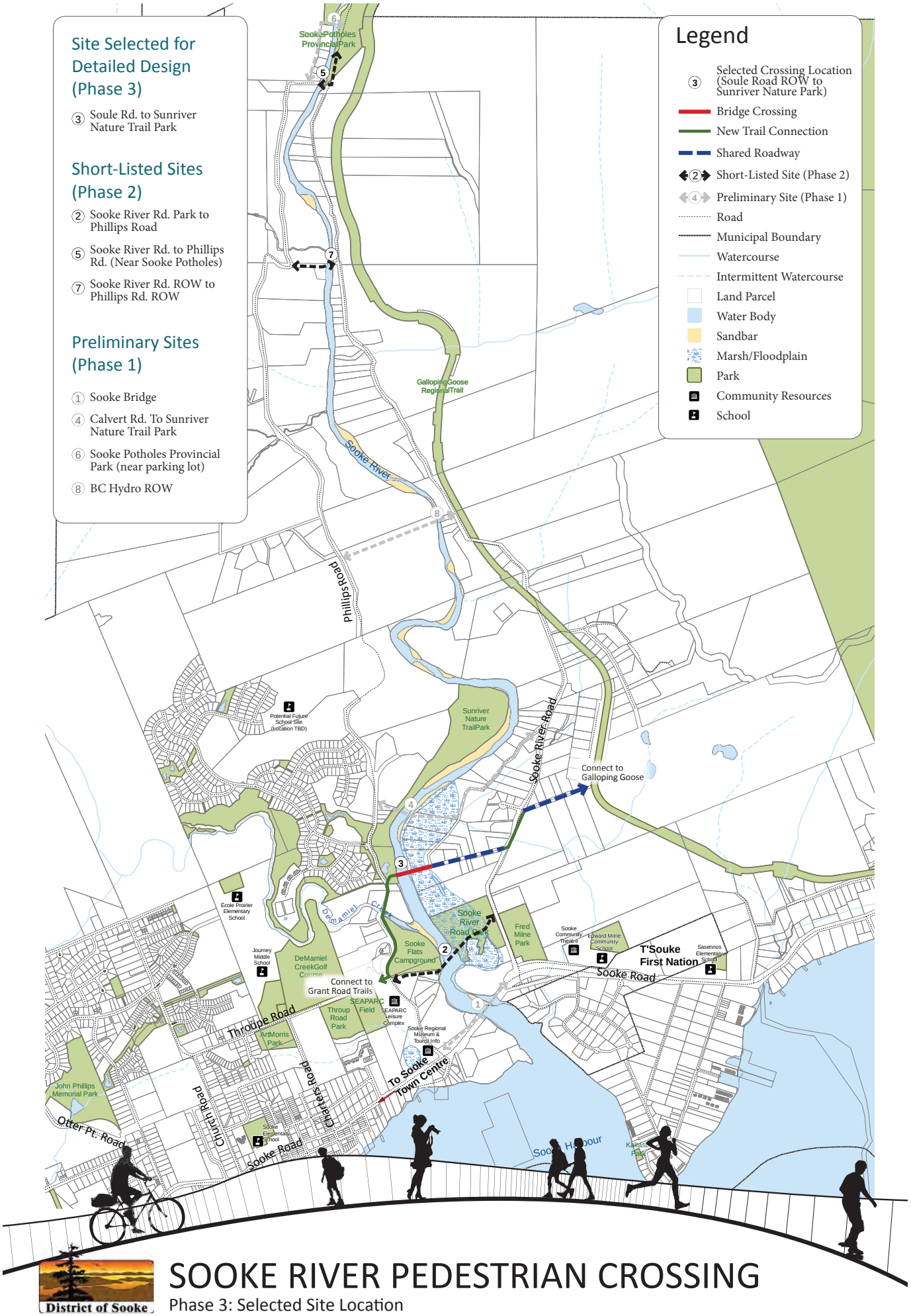
Sooke River Pedestrian Crossing

Phase 3 Preliminary Design Report

Appendices

NOTE: *This document is intended for internal use and review only.*

APPENDIX A: OVERVIEW MAP



SOOKE RIVER PEDESTRIAN CROSSING

Phase 3: Selected Site Location

District of Sooke

APPENDIX B: PRELIMINARY BRIDGE DESIGN ESTIMATED COSTS

APPENDIX C: ORDER OF MAGNITUDE COST ESTIMATE

SOOKE RIVER PEDESTRIAN CROSSING				
				DATE: April 2012
ORDER OF MAGNITUDE COST SUMMARY		HB Lanarc-Golder & Herold Engineering Ltd.		
ITEM	UNIT	QUANTITY	UNIT-COST	TOTALS
General				
Mobilization (including Health & Safety)	lump sum	1	$80,000.00	$80,000.00
Quality Control	lump sum	1	$10,000.00	$10,000.00
SUBTOTAL, General				**$90,000.00**
Start: Galloping Goose Connection				
Park Directional Sign installed w/ metal post and concrete base	each	1	$950.00	$950.00
SUBTOTAL, Start: Galloping Goose Connection				**$950.00**
Section 1: Kirby Road Shared Roadway				
Park Directional Sign installed w/ metal post and concrete base	each	3	$950.00	$2,850.00
Shared Roadway Sign installed w/ metal post and concrete base	each	2	$950.00	$1,900.00
SUBTOTAL, Section 1: Kirby Road Shared Roadway				**$4,750.00**
Section 2: Sooke River Road Multi-Use Trail				
Multi-use Paved Trail (4m asphalt) w/ crushed granular base	l.m.	190	$175.00	$33,250.00
Push Button Signalized Cycle Crossing	each	1	$15,600.00	$15,600.00
Park Directional Sign installed w/ metal post and concrete base	each	2	$950.00	$1,900.00
SUBTOTAL, Section 2: Sooke River Road Multi-Use Trail				**$50,750.00**
Section 3: Soule Road Shared Roadway				
Park Directional Sign installed w/ metal post and concrete base	each	1	$950.00	$950.00
Shared Roadway Sign installed w/ metal post and concrete base	each	2	$950.00	$1,900.00
SUBTOTAL, Section 3: Soule Road Shared Roadway				**$2,850.00**
Section 4: Sooke River Pedestrian Bridge				
New Pedestrian Bridge Structure, including approaches (340m)	l.sum	1	$1,838,250.00	$1,838,250.00
Electrical Supply	lump sum	1	$2,500.00	$2,500.00
LED Handrail Lighting (Integrated with handrail, one side, 2.54m O.C.)	each	134	$ 150.00	$20,100.00
Potential Mid-Span Lookout Structure	l.sum	1	$ 25,000.00	$25,000.00
SUBTOTAL, Section 4: Bridge Crossing				**$1,885,850.00**
Section 5: Park Trail				
Park Directional Sign installed w/ metal post and concrete base	each	3	$950.00	$2,850.00
Multi-use Paved Trail Upgrade (4m asphalt) w/ crushed granular base	l.m.	45	$150.00	$6,750.00
SUBTOTAL, Section 5: Park Trail				**$9,600.00**

Section 6: Phillips Road Multi-use Trail (Future)*				
Park Directional Sign installed w/ metal post and concrete base	each	2	$950.00	$1,900.00
Multi-use Paved Trail (4m asphalt) w/ crushed granular base	l.m.	490	$175.00	$85,750.00
Push Button Signalized Cycle Crossing	each	1	$15,600.00	$15,600.00
SUBTOTAL, Section 6: Phillips Road Multi-Use Trail				**$87,650.00**
** Note: The Phillips Road Multi-use Trail is not included in the project total as it is anticipated this is a separate project as recommended in the Parks & Trails Master Plan*				
End: Grant Road Connector				
Park Directional Sign installed w/ metal post and concrete base	each	1	$950.00	$950.00
SUBTOTAL, End: Grant Road Connector				**$950.00**
ORDER of ESTIMATE COST SUMMARY (Note: Accuracy is +/-15%). Taxes are not included				**$2,045,700.00**
Note: Cost summary is based on historical cost data. Actual costs vary depending on industry labour and material availability.				
Quantities based on Sooke River Pedestrian Crossing Drawings Dated 2012/04/11 and 2012/04/27.				
Issued for budgeting and funding purpopses only.				

APPENDIX D: DRAFT WATER ACT NOTIFICATION APPLICATION

Approval Application or Notification for Changes In and About a Stream Under Section 9 of the *Water Act* and Part 7 of the Water Act Regulations

*Incomplete or inaccurate forms do not constitute **Notification** & will not be accepted.*
Proceeding with works after submission of an incomplete or inaccurate form would be a violation of the Water Regulation

☐ **APPROVAL APPLICATION** ✓ **NOTIFICATION[1] (see USERS' GUIDE)**

1. Applicant Information

Name: District of Sooke		
Address: 2205 Otter Point Road		
City: Sooke	Province: BC	Postal code: V9Z 1J2
Phone: (250) 642-1634	e-mail: info@sooke.ca	

2. Location of Works

Street Address of Works (or nearest town): East – approx. 2039 Phillips Road; West – approx. 2249 Sooke River Road		
Stream Name: Sooke River		Flows Into: Sooke Harbour
Location on Stream: Approximately 400m upstream of the Sooke Road Bridge		
Reference Landmarks: Sooke River, Sooke Road, Phillips Road		Amount of disturbance in m^2: ~160 (to be confirmed)
Multiple Sites: YES / NO: NO		Number of sites: 1
Latitude: ~48d 23m 29s	Longitude: ~123d 42m 30s	Elevation: 40m (to be confirmed)
Legal description of property where work is proposed: to be completed.		

Note: Latitude/longitude coordinates at approximate mid-span of Sooke River crossing.

3. Drawing, Plan and Site Map

1. Attach drawing showing lot boundaries, location of buildings and of proposed works, stream direction and flow.
2. Attach a key map at an appropriate scale showing the location of the site.
3. Attach engineering drawings (may be required for works identified with [E] under **Requires Approval** section below).

4. Proposed Timing for Work

Start (day/month/year): XX / XX / XXXX	Finish (day/month/year): YY / YY / YYYY

FOR OFFICE USE ONLY

Date Received:	Water File Number:
	Client Number:
	Application Number:
	Amount Received:
	Receipt Number:

5. Type of Works

Requires Approval:

- ☐ Bank Erosion Protection [E]
- ☐ Bridge Installation/maintenance/removal (other than clear span) [E]
- ☐ Stream Diversion [QP] Diversion berm structure plan required
- ☐ Large Debris Removal – by machine [QP] plan required
- ☐ Gravel Removal [QP]
- ☐ Other: Provide details in space below

*Provide culvert dimensions:

Length:

Width:

Diameter:

_____

[E] Professional Engineer may be required
[QP] Qualified Professional may be required

Requires Notification:

- ☐ Installation*/maintenance/removal of road crossing **culvert** (*follow Forest Practices Code Stream Crossing Guidebook)
- ✓ Construction/maintenance/removal of a **clear span bridge**
- ☐ Construction/maintenance of a **pipeline crossing**
- ☐ Construction/maintenance/removal of a **pier or wharf**
- ☐ Cutting of **annual vegetation** in a stream channel
- ☐ Repair/maintenance of existing **dike** or **erosion protection works**
- ☐ Construction/maintenance of **storm water outfalls**
- ☐ Control of **Eurasian Watermilfoil** or other **aquatic vegetation**
- ☐ Construction/maintenance of **ice bridge, winter ford or snowfall**
- ☐ Maintenance of minor and routine nature by a public utility
- ☐ Removal of a **beaver dam** (As authorized under the Wildlife Act)
- ☐ Small debris removal – by hand
- ☐ Construction of a **temporary ford**
- ☐ Construction of a **temporary diversion** around a worksite

The following require Notification <u>and</u> may only be undertaken by the Crown in right of either Canada or British Columbia, or their Agents:

Federal/Provincial

- ☐ Construction/maintenance/removal of a flow or water level **measuring device**
- ☐ Construction/removal of a **fish fence** or **screen**, **fish or game guard**
- ☐ Restoration/maintenance of **fish habitat**

The following require Notification <u>and</u> may only be undertaken by the Crown in right of either British Columbia, or a Municipality, or their Agents:

Provincial/Municipal

- ☐ Restoration/maintenance of a **stream channel**
- ☐ Clearing of an obstruction from a bridge or culvert during a flood emergency[1]
- ☐ Construction or placement of **erosion protection works or flood protection** works during a flood emergency[2]

[1] Some activities fitting the description for Notification may be reviewed by Ministry/Agency staff, who may decide that an Approval is required

[2] Must be completed under direction of the Crown. No notification is required prior to undertaking works, but a description of changes must be submitted to a habitat officer within 72 hours of the change

[QP] QP means a professional who through suitable education, experience, accreditation and knowledge may be reasonably relied on to provide advice within their area of expertise.

Detailed Description of Work to be Performed (continue on next page):

Total area disturbed by proposed works (all sites): <u>160m^2</u>

Anticipated instream impacts are as follows:

1) 100m^2 Sooke R bridge, 2) 50m^2 boardwalk footings, 3) 10m^2 Baker Ck abutments.

The District or Sooke proposes to construct a pedestrian bridge crossing of the Sooke River. The crossing will provide a secondary access across the Sooke River and trail connection between Sooke & Galloping Goose Regional Park Trail. The project will include (1) 72m, clear span Sooke River crossing, (2) 70m of elevated boardwalk across left bank floodplain areas to reduce environmental impact, and (3) 12.2m clear span bridge crossing of Baker Ck.

Detailed Description of Work to be Performed, continued (attach a separate document if more space is required):

Construction will employ and implement the following:

1. Complete instream work during Reduced Risk Timing Window,
2. Follow environmental protection and water management measures described in Project specific Environmental Management Plan and related Best Practices,
3. As-required environmental monitoring during sensitive works,
3. Recognition of risks associated with extreme weather conditions,
4. Minimize floodplain disturbance to what is absolutely required to complete work including limiting site access to project corridor,
5. Follow guidelines regarding use cast-in-place concrete as it relates to impacts on water quality.

6. Land Ownership

Please check one of the following:

✓ The applicant is the owner of the property.

☐ The property is Crown land. Tenure/licence number:

☐ The property is owned by the following Landowner (i.e. Landowner is different from applicant):

Landowner's Name:		
Address:		
City:	Province:	Postal code:
Phone:	e-mail:	

Do you have the Landowner's written approval to enter the land(s) to complete the works? ☐ Yes ☐ No

Note: a) Ownership of all parcels of land on which the proposed works will occur must be identified, b) do not attach the written approval with the application, but keep it for your files as you may be asked to produce it during an inspection or audit.

7. Who is doing the Work?

Contact information for company designing and supervising construction of the work (if different from applicant)**:**

Company Name: Herold Engineering Ltd.		
Contact Name: Mike Herold	Professional Affiliation: P.Eng.	
Address: 3701 Shenton Road		
City: Nanaimo	Province: BC	Postal Code: V9T 2H1
Phone: (250) 751-8558	e-mail: mail@heroldengineering.com	

Contact information for company undertaking the construction (if different from applicant):

Company Name: To Be Determined		
Contact Name:		
Address:		
City:	Province:	Postal Code:
Phone:	e-mail:	

8. Statement of Intent

By submitting this application form, I declare that the information contained on this form is complete and accurate information. I have read, understood and will meet the requirements to construct works and changes in and about a stream in accordance with Section 9 of the *Water Act* and Part 7 Water Act Regulations including, for Notifications, **Terms and Conditions** as specified by a Habitat Officer of the Ministry of Environment.

Signed: _____ Application Date: XX / XX / XXXX
day/month/year

9. Submission Instructions

Send the completed form along with the following attachments to the local office in which the proposed works are located. Addresses for local offices are listed on the instruction sheet. **Please note that the Approval application fee of $130 is non-refundable.** If the proposed works require an Approval, prior to proceeding further with this application please ensure that this project will be able to proceed under the Federal *Fisheries Act.*

✓ Sketch plan (mandatory)

✓ Key location map (mandatory)

✓ Engineering drawing (mandatory for works requiring approval noted with ^{E})

☐ For works requiring an Approval, a cheque or money order for $130 payable to: Minister of Finance. The fee is non-refundable.

10. Responsibilities

You are required to comply with all applicable federal, provincial and municipal laws and regulations. If you anticipate that the planned work may result in harmful alteration, disruption or destruction of fish habitat you should send a copy of your completed Notification/Approval Application directly to the nearest office of Fisheries and Oceans Canada. Review and comment by DFO may necessitate changes to the proposed works.

Has a copy of this notification/approval application been sent to Fisheries and Oceans Canada (check one)?
YES ✓ NO ☐

If YES, indicate the DFO office that the notification/approval application has been sent (for DFO offices, see Users' Guide):
4250 Commerce Circle, Victoria, BC V8Z 4M2

APPENDIX E: DRAFT DFO PROJECT REVIEW APPLICATION FORM

PROJECT REVIEW APPLICATION FORM

Fisheries and Oceans Canada
Pacific Region

FOR DFO OFFICE USE ONLY
DFO Receive Date:
DFO Sub-Area Office:
Path #:
ADM:

To determine whether you should complete this form, follow the steps on DFO's Working Near Water website (www.pac.dfo-mpo.gc.ca/habitat/index-eng.htm). For instructions on how to complete and submit this form, refer to Directions for Project Review Application Form (www.pac.dfo-mpo.gc.ca/habitat/steps/praf/guide-eng.htm). Forms will not be processed until a complete application has been received. Note that it is your responsibility to understand and comply with other jurisdictions and regulations applicable to your project.

Application Form Type (check one):

1. ○ **Notification to DFO**
   ◉ **Request for Project Review**
   Have you attached "Additional Information to Support a Project Review"? ◉ Yes ○ No
   ○ **Request for a *Fisheries Act* Authorization?**
   Have you attached "Additional Information for a Fisheries Act Authorization"? ○ Yes ○ No
   Submission of this form serves as a Subsection 58(1) Schedule VI Fishery (General) Regulations

2. **Project Title:** Sooke River Pedestrian Crossing

Project Summary

3. Is this a "Building Canada" federally funded infrastructure project? ○ Yes ◉ No
   Is the work or undertaking proposed in response to an emergency as defined by DFO? ○ Yes ◉ No
   Does the project:
   - *Have any components within 30 m of the high water mark of a watercourse or water body?* ◉ Yes ○ No
   - *Require removal of vegetation within 30 m of the high water mark of a watercourse or water body?* ◉ Yes ○ No
   - *Have downstream impacts on water quality or water quantity?* ○ Yes ◉ No

   Does the project involve in-water works (below the high water mark)? ◉ Yes ○ No

Contact Information for Proponent, Contractor and Consultant

4. Name of proponent: District of Sooke
   Contact name: Elizabeth Nelson
   Mailing address: 2205 Otter Point Road
   City/Town: Sooke
   Province/Territory: BC
   Postal code: V9Z 1J2
   Tel no.: (250) 642-1634
   Fax no.: (250) 642-0541
   Email: enelson@sooke.ca

Is the Proponent the primary contact for this project? ◉ Yes ○ No

If no, please enter information for the primary contact in the space below:

Select type of additional contact: ○ Contractor ◉ Consultant

Name of contractor/consultant: HB Lanarc
Contact name: Jana Zelinski
Mailing address: 320-256 Wallace Street
City/Town: Nanaimo
Province/Territory: BC
Postal code: V9R 5B3
Tel no.: (250) 754-5651
Fax no.: (250) 754-1990
Email: jana.zelenski@hblanarc.ca

Location of Proposed Development

5 DFO sub-area: South Coast

Name of nearest community: Sooke

Municipality or District: Sooke Province/Territory: BC

Address or legal description:

Name of watershed: Sooke River

Name of watercourse(s) or water body(ies) likely to be affected: Sooke River

Map coordinates of the proposed development:

Latitude	123d42m19s	*N*	**or**	*UTM zone*	;	*Easting*	*Northing*
Longitude	48d23m19s	*W*					

6 Brief directions to access the proposed project site: *(limit of 240 characters)*

Left Bank accessed from Sooke River Road through Sooke River Road Park opposite the sports field (2249 Sooke River Rd)
Right Bank accessed from Phillips Road at Sooke Flats (2039 Phillips Road)

Other Permitting Processes

7 **For projects proposed in British Columbia:**

Have you made a submission under BC Water Act? ○ Yes ◉ No

If yes, please indicate the type and provide the file number:

- ○ Section 9 Notification - Tracking #:
- ○ Section 9 Approval - Water File #:
- ○ Water License - Water File #:

Does the British Columbia Riparian Areas Regulation apply to this project? ○ Yes ◉ No

If yes, are you requesting a variance? File #: ○ Yes No

For projects proposed in Yukon:

Have you submitted a project application to Yukon Environmental and Socio-Economic Assessment Board? ○ Yes ◉ No

If yes, please provide the YESAB project number:

Description of the Aquatic Environment

8 **What is the type of watercourse or water body that you plan to work in or near?**

Freshwater:	☐ Stream	☐ Lake	☐ Wetland
	☑ River mainstem	☐ Pond	
	☑ Active floodplain	☐ Reservoir	
Coastal and Marine:	☐ Exposed coastline	☐ Cove	☐ Mud flat
	☐ Salt marsh	☐ Bay	☐ Beach
Other:	☐ Estuary		

Description of the Aquatic Environment *(continued)*

9 **Briefly describe the biological and physical characteristics of the proposed project site.** *(limit of 800 characters)*
(Channel width, type and flow, tides, water depth, substrate type and density, aquatic and riparian vegetation type and density)

Channel width - 70m
Type - riffle/run/tidal
Left Floodplain - ~200m
Left bank tributary - Baker Ck
Sooke R depth - unknown at this time (summer low flow appears <3m at thalweg)
Sooke R substrate - primarily small/large gravel and cobble
Baker Ck - sand and small gravel (likely no spawning capabilities because of tidal influence and substrate characteristics)
Fish - coho, chinook and chum, cutthroat, rainbow, steelhead
Aquatic vegetation - floodplain inventory to be initiated
Riparian-shrub species at Sooke R banks. Upland left bank conifer and deciduous species. Right bank clear of overhanging vegetation (existing commercial campground)

10 **Include representative photos of affected area and clearly mark the location of proposed activities.**

Have you attached photos? ◉ Yes ○ No

11 **For freshwater, what fish species are known to be present at or near your project?**

☑ Salmon (anadromous only) ☑ Other

12 **Are any aquatic species likely present at the project site that are:**

Listed under the federal Species at Risk Act?	○ Yes	◉ No	○ Uncertain
Red or blue listed fish species under the British Columbia Wildlife Act?	○ Yes	◉ No	○ Uncertain
Listed under the Yukon Wildlife Act?	○ Yes	◉ No	○ Uncertain

If yes, list the species:

Description of the Proposed Development

13 **With which industry is your project associated?**

☐ Agriculture	☐ Industrial/commercial	☐ Power generation
☐ Aquaculture	☐ Military/security	☐ Private residential
☐ Commercial fishing	☐ Mining	☐ Transportation
☐ Conservation/restoration	☐ Oil and gas	☐ Urban and rural development
☐ Forestry		
☑ Other: municipal		

Description of the Proposed Development *(continued)*

14 What are you planning to do? Briefly describe all the project components you are proposing in or near water.
(limit of 400 characters)

Have you considered and incorporated all options for redesigning and relocating your project to avoid negative impacts to fish and fish habitat? ◉ Yes ○ No

If yes, include in description.

The project scope provides secondary access across the Sooke River and trail connection between Sooke & Galloping Goose Regional Park Trail. The project will include (1) 72m, 2-span Sooke R. crossing, (2) 70m of elevated boardwalk across left bank floodplain areas to reduce environmental impact, (3) 12.2m clearspan bridge crossing of Baker Ck, and (4) new connecting trails.

15 How are you planning to do it? Briefly describe the construction materials, methods and equipment that you plan to use.
(limit of 400 characters)

Have you considered and incorporated all best practices and mitigation measures recommended in relevant guidelines to avoid negative impacts to fish and fish habitat? ◉ Yes ○ No

If yes, include a description in 21

This project is currently in the detailed design phase. Regardless, construction will incorporate environmental best practices including compliance with an Environmental Management Plan completed specifically for this project, adoption of guidelines including Develop with Care and Land Development Guidelines. Sensitive works will be overseen by a qualified Environmental Monitor.

16 Include a site plan (figure/drawing) showing all project components in and near water.

Are details attached? ◉ Yes ○ No

17 Implementation schedule and proposed project timing: YYYY/MM/DD YYYY/MM/DD

What is the start and end date for the proposed project: *to*

What is the schedule of all proposed work activities? *(limit of 200 characters)*

18 Will you follow the appropriate Timing Windows for all activities below the High Water mark?

◉ Yes ○ No

If no, why not? *(limit of 140 characters)*

Description of the Proposed Development *(continued)*

19 **Indicate the extent of the area (in square metres) that your project will affect in and/or near water.** Identify if areas would be temporarily and/or permanently affected. *(limit of 200 characters)*

Permanent estimate
1) 100m2 Sooke R bridge, 2) 50m2 boardwalk footings, 3) 10m2 Baker Ck abutments.
Temporal estimate
1) instream 25m2 for pier construction, 2) 1400m2 left bank boardwalk/site access

20 **Will you be withdrawing or discharging water?** ○ Yes ◉ No

If so, identify your water source and describe the volume and rates. *(limit of 200 characters)*

Description of the Proposed Fish and Fish Habitat Protection Measures

21 **Outline all the measures and practices that you will apply to avoid and/or minimize impacts to the aquatic environment.** *(limit of 800 characters)*

1. Complete instream work during Reduced Risk Timing Window
2. Follow environmental protection and water management measures described in EMP and BMP's
3. As-required environmental monitoring during sensitive works
3. Recognition of risks associated with extreme weather conditions
4. Minimize floodplain disturbance to what is absolutely required to complete work including limiting site access to project corridor
5. Follow guidelines regarding use cast-in-place concrete as it relates to impacts on water quality

22 I, _____ (print name) certify that the information given on this form is to the best of my knowledge correct and completed.

_____
Date (YYYY/MM/DD)

Information about the above-noted proposed work or undertaking is collected by DFO under the authority of the *Fisheries Act* for the purpose of administering the fish habitat protection provisions of the *Fisheries Act*. Personal information will be protected under the provisions of the *Privacy Act* and will be stored in the Personal Information Bank number DFO-CSI-605. Under the provisions of the *Privacy Act*, individuals have a right to, and on request shall be given access to any personal information about them contained in a personal information bank. Instructions for obtaining personal information are contained in the Government of Canada's Info Source publications available at www.infosource.gc.ca or in Government of Canada offices. Information other than "personal" information may be accessible or protected as required by the provision of the *Access to Information Act*.