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**TO:** Regional Parks and Trails Select Committee    **MEETING:** February 5, 2019

**FROM:** Renée Lussier  
Parks Planner

**SUBJECT:** Little Qualicum River Regional Park Bridge Replacement Detailed Design and Class B Costing

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## **RECOMMENDATIONS**

1. That the Little Qualicum River Regional Park Bridge Replacement proceed to Tender in February 2020 for construction in 2020.
2. That the 2020-2024 Financial Plan include \$839,910 in the 2020 year for completion of the LQRRP Bridge Replacement.

## **SUMMARY**

The Regional District acquired the Little Qualicum River property in 1999 as parkland dedication from the Qualicum River Estates subdivision process. The acquisition also included a haul bridge across the river. Ozero Sand & Gravel, through affiliation with Wicklow West Holdings, controlled and maintained the bridge and the gravel road from Corcan Road to Melrose Place, by way of Easement over the bridge. After the haul bridge was damaged, it was returned to the Regional District, and the Easement was eliminated.

The bridge at Little Qualicum River Regional Park (LQRRP) was removed due to safety concerns in 2017. A need for a restored crossing to address recreational access, environmental concerns, and emergency access prompted the Board in July 2017 to include the design and construction of a new bridge in the Five-Year Regional Parks Capital Plan. The proposed Detailed Design and Class B Costing for a new crossing was completed by Herold Engineering in the winter of 2018. The cost to construct a dual steel girder and cast-in-place concrete deck bridge is \$839,910 (projected for a 2020 construction start). The 2019-2023 preliminary Five-Year Financial Plan has \$750,000 identified in 2020 for bridge construction in the Regional Parks Capital Budget. This amount will need to be increased to \$839,910 for the 2020 year when the 2020-2024 Financial Plan is produced.

## **BACKGROUND**

The LQRRP is a 44 hectare (108.5 acre) riparian corridor property located in Electoral Area F. It protects 2.7 km of valuable riparian margin along the middle reaches of the river.

The Regional District acquired the Little Qualicum River property in 1999 as parkland dedication from the Qualicum River Estates subdivision process. The Park is bordered by private residential lands, private development lands (Wicklow West Holdings), the Little Qualicum Falls Provincial Park to the south, and Island Timberlands property to the northeast. Meadowood

Community Park also adjoins the LQRRP along Galvin Place (Attachment 1). The acquisition also included a haul bridge across the river.

On the east side of the river, the gravel road passes through Island Timberlands land and Crown land before abutting Melrose Place. On the west side, the road is steep and winding eventually ending at Corcan Road.

The old bridge was used, controlled, and maintained for gravel extraction operations, by way of Easement over the bridge. Ozero Sand & Gravel, through affiliation with Wicklow West Holdings, controlled and maintained the bridge and the gravel road from Corcan Road to Melrose Place. The old bridge had become damaged, was returned to the Regional District, and the Easement was eliminated. There are two gates located at the end of Corcan Road and near the old gravel pit on the east side of the river that remain closed and locked. The gates do not prevent ATV traffic from entering the park along the gravel road.

The LQRRP bridge was reviewed by a structural consultant in December 2014 and options to repair it, upgrade it, or replace it were explored and costed. Based on the consultant report, the Board approved upgrading the bridge for pedestrian, cyclist, service vehicle and emergency use (but not seismic upgrades). A Tender was issued to upgrade the bridge; however, as the bridge had sustained more damage than anticipated, the bids received were in excess of what the full replacement cost would be. The Tender was cancelled and in July 2017 the Board issued a resolution to remove the bridge due to safety concerns. With the need to have a restored crossing, the Board issued the following resolution in July 2017 (17-386):

*It was moved and seconded that the design and construction of a new bridge for the Little Qualicum River Regional Park be considered for inclusion in the 5-year Regional Parks Capital Plan.*

A restored crossing would address recreational access, environmental concerns, and emergency access around the Little Qualicum River.

### **Recreational Access**

Without a crossing over the river, pedestrians, cyclists, and equestrians are not able to access both sides of LQRRP, therefore, limiting the recreational value of this park. There are popular swimming spots downstream of the proposed bridge location. If these swimming spots increase in popularity and development of a day use area becomes a high priority in the community, it would be beneficial to have the bridge in place for pedestrian access and service vehicle use.

There is a high use of ATVs in this area. While ATVs are not permitted in RDN Parks and Trails, the LQRRP management plan speaks to future Board consideration for a unique allowance for ATV use of this bridge for access to Crown Lands to the south where licenced ATV use is permitted. One issue with this is the indirect granting of ATV access onto the adjacent private lands. Further discussions with the adjacent land owners will need to be undertaken prior to ATV access being granted. In addition, the RDN's Park Use Regulation Bylaw is currently being reviewed in 2019 as part of a larger update that will include consideration of licenced ATV use on LQRRP's primary service road to access adjacent Crown Lands.

## **Environmental Concerns**

The Little Qualicum River includes salmon spawning channels, sensitive riparian habitat, and steep slopes. Without a bridge in place, ATVs are crossing through the river disturbing the spawning channels and eroding the river's banks. By providing a safe crossing with a new bridge, the environmental impact on the river will be reduced and the adjacent sensitive habitats will be better protected.

## **Emergency Access**

The Corcan/Meadowood neighbourhood was identified in the 2018 Operational plan as a priority area requiring evacuation route planning. Efficient and safe evacuation routes are needed for the movement of people, livestock, animals and personal property from an area of imminent or actual threat to an area of safety. RDN Emergency Services has consulted with the first responder agencies in the area (BC Wildfire, BC Ambulance, Arrowsmith SAR, and Dashwood Fire Department) and has confirmed that the proposed bridge will meet the vehicle specification requirements for response to the area.

The construction of a bridge over the Little Qualicum River could provide an alternative access route for emergency response. However, the road is in poor condition and would require significant upgrades and yearly maintenance prior to it becoming a viable evacuation route.

## **Bridge Design & General Construction Timeline**

An RFP was issued by RDN Parks on June 11, 2018 and closed July 13, 2018. The intent of the process was to engage a consulting team that would lead the entire project from start to finish, proceeding only with Phase 1 of the work in 2018. Phases of the project include:

- Phase 1 – Preliminary and Detailed Design. *Includes Class B Costing.*
- Phase 2 – Tender Documents and Tender Administration.
- Phase 3 - Construction Services. *Includes Contract Administration and project close-out documentation.*

In the fall of 2018, Herold Engineering was awarded the project and began work on Phase 1.

Attachment 2 is the Detailed Design drawing package for the LQRRP Bridge. It is a 36.2 m, dual steel girder and cast-in-place concrete deck bridge design. It meets the current CSA Bridge Code and BC Ministry of Transportation and Infrastructure standards for low volume roads. It is a clear-span structure. The bridge is intended to primarily accommodate maintenance/service vehicles and emergency vehicles up to 30,000 kg but will also need to accommodate standard vehicles, pedestrians, cyclists, equestrians, and ATVs.

The general construction timeline for a bridge of this size is six to eight months. A common schedule would be April-June for document submittals and reviews as well as material sourcing and fabrication of the components. On site work is normally done from July to October, with in-stream work generally limited to mid-July to mid-September. Tenders are typically issued between November and February to meet this construction timeline.

## ALTERNATIVES

1. That the Little Qualicum River Regional Park Bridge Replacement proceed to Tender in February 2020 for construction in 2020.
2. That the 2020-2024 Financial Plan include \$839,910 in the 2020 year for completion of the LQRRP Bridge Replacement.
3. That alternative direction be provided.

## FINANCIAL IMPLICATIONS

The amount of the Class B Costing is \$839,910 for construction. Attachment 3 provides further cost detail. This cost includes provisions for Engineering and Project Management services, General Contractor fees, licensing and permitting costs, as well as a construction contingency of 20%. An additional cost for road repair to accommodate construction vehicles has been included in the bridge construction budget. The Class B Costing assumes a construction start in 2020. Should the construction start in a subsequent year, 8% per year should be added to the cost projection.

The 2019-2023 preliminary Five-Year Financial Plan has \$750,000 identified in 2020 for bridge construction in the Regional Parks Capital Budget. This amount will need to be increased to \$839,910 for 2020 year when the 2020-2024 Financial Plan is produced.

Maintenance and life-cycle management have been considered and bridge replacement has been estimated at 50 years, with no major repairs required for 30 years (See Table 1). These costs will be included in the 2020 Regional Parks Operations Budget.

LQRRP Bridge Operations Budget – Table 1

<i>Item</i>	<i>Frequency</i>	<i>Annual Cost</i>
Periodic inspections by staff	monthly	30 hrs
Periodic inspections by an engineer	every 3 yrs	\$600.00
Maintenance budget @ 1% construction cost • Bank erosion repair • Guardrail maintenance • Signage updates, replacement • Pothole maintenance	annually	\$5,287.40
Bridge replacement budget, 50 years	annually	\$10,574.80
TOTAL		\$16,462.20 plus 30 hrs staff time

Consultant fees were budgeted at \$125,000 for the bridge design. Of that total, \$73,296 was used to complete Phase 1 leaving \$51,704 to complete tender documents and to administer the tender.

## STRATEGIC PLAN IMPLICATIONS

The proposed bridge for LQRRP addresses the recreational, environmental, and emergency services needs of the Regional District in the following ways:

Focus On Service And Organizational Excellence - We Recognize Community Mobility And Recreational Amenities As Core Services

Focus On The Environment- We Will Have A Strong Focus On Protecting And Enhancing Our Environment In All Decisions

Focus On The Environment- We Will Prepare For And Mitigate The Impact Of Environmental Events

Focus On Service And Organizational Excellence - We View Our Emergency Services As Core Elements Of Community Safety



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January 15, 2019

Reviewed by:

- W. Marshall, Manager, Parks Services
- J. Bradburne, Director of Finance
- T. Osborne, General Manager, Recreation and Parks
- P. Carlyle, Chief Administrative Officer

Attachments

1. LQRRP Context Map
2. LQRRP Bridge Replacement Detailed Design drawings
3. Class B Costing