REQUEST FOR PROPOSALS

FOR

DESIGN & ENGINEERING SERVICES FOR FLOOD RECOVERY WORKS – LAKESHORE DRIVE NORTH, PEACH ORCHARD BEACH, ROTARY BEACH, GARTRELL PATHWAY & POWELL BEACH

RFP #: RFP-2018-20

ISSUED ON: November 15, 2018

CLOSING DATE AND TIME: December 6, 2018 at 2pm Local Time

Summary, Contents & Instructions:

Summary:

Through this Request for Proposals, the District of Summerland invites Proposals for the supply of design, engineering and construction administration services for flood recovery works at five (5) locations with in the District: Lakeshore Drive North, Peach Orchard Beach, Rotary Beach, James & Mary Gartrell Pathway and Powell Beach.

This RFP document sets-out: the details of the Services required; the process for submission, evaluation and award of the Contract; the terms and conditions of the Contract; plus forms which outline the information a Respondent to this RFP should submit in their Proposal.

Contents:

This Request for Proposals (the "RFP") is organized into the following parts:

- Part A: The Services – full details of the services required
  Additional information available for reference is as follows:
  - Exhibit A: Area Locations Map
  - Exhibit B: Lakeshore Drive N. – 2017 Flood Site Evaluation dated May 15, 2018
  - Exhibit C: Foreshore Assessment Post 2017 Flood (rev. 1) dated August 23, 2018
  - Exhibit D: Powell Beach Park Management Plan dated August 8, 2018
- Part B: The RFP Process – the process for submissions, evaluation and award of the Contract
- Part C: The Contract – the Contract the District will enter into with the Consultant
- Part D: Submission Forms – the forms a Respondent should submit in their Proposal

Instructions:

Whenever you see the following symbol and box throughout this document, this box is providing instructions to a Respondent on what this section means and/or what a Respondent must do:

Example:

	Whenever you see this box throughout the RFP document, the text is providing instructions or information on what this section means and/or what a Respondent must do.

Part A: The Services

This Part A provides details on the Services required by the District of Summerland. Respondents should ensure they are fully capable of providing all of the services and deliverables outlined, as this section will form the scope of work (referred to as the "Services") in the final Contract.

1. Overview:

In the summer of 2017, flooding of Okanagan Lake resulted in infrastructure damage in various locations along the lakeshore within the District of Summerland, which affected Lakeshore Drive North, Peach Orchard Beach, Rotary Beach, James & Mary Gartrell Pathway and Powell Beach.

In the fall of 2017, the District hired consultants to complete a damage assessment along the lakeshore. In 2018, a further assessment of Lakeshore Drive North and a post flood foreshore assessment where completed. All three of these reports are provided in the Exhibits attached hereto.

These reports have enabled the District to access provincial Disaster Financial Assistance funding in order to complete the repairs in 2019.

As a result of these reports and received grant funding, the District now seeks to hire a consultant team, to complete the following work for each of the 5 locations:

- Detailed design and engineering for roadway and pathway repairs including enhancements to erosion protection as required as well as geotechnical and environmental considerations.
- Obtain environmental permitting as required for the proposed works in and near water bodies.
- Production of technical requirements, specifications, drawings and a schedule of quantities, suitable for use in a construction tender process (MMCD). Note: tender process to be run and managed by the District.
- Provision of technical support to the tender process, if, as and when required.
- Provision of Contract Administration services for the MMCD construction works.

The selected consultant team should have identified experience in civil construction, geotechnical, and working in and near water bodies. Since this project is being partly funded through the Disaster Financial Assistance program by the Province of BC, the selected consultant should be familiar with these processes and be prepared to ensure the recovery plan is followed and tracked appropriately to meet guidelines and program requirements.

2. Services Schedule:

The Consultant shall provide the Services in accordance with the following timeline: (note: this timeline shall apply for all 5 areas described under section 3.)

Services Item	Required Dates
Commence Detailed Design & Engineering	December 11, 2018
Complete all Detailed Design & Engineering, with all design drawings and specifications submitted as Issued for Tender	March 1, 2018
Tender process to occur (Invitation to Tender Process Managed by the District)	March 7 to March 28, 2019
Construction Works commence (Construction performed by Others)	Early April through to October 31, 2019, with limited work in public beach areas during July and August. Due to Section 11 requirements, it is anticipated that physical construction works related improvements in or near a waterbody may be restricted to specific timeframes.

3. Services Required (Scope of Work):

3.1. Service & Deliverables

For each Area of work identified in section 3.2 (referred to herein as the "Area" or "Areas") the Consultant shall perform the following services and deliverables:

a) **Environmental Sub-consultant** – the Consultant is required to contract an Environmental Sub-consultant to complete the BC Water Sustainability Act Section 11 applications as well as develop an environmental plan and monitoring for physical works. The Consultant will be responsible for ensuring the Environmental Sub-consultant is provided with all information required to support the section 11 applications to the province.

b) **Preliminary Design** – The Consultant shall produce a preliminary design for the works, which shall also determine DFA eligible costs in comparison with any improvements required that are above and beyond the recovery to a pre-flood condition.

c) **Detailed Class 'A' Cost Estimate**– The Consultant shall produce a class A cost estimate in order to estimate costs for the works and verify DFA eligible costs.

d) **Detailed Design** – The Consultant shall complete all detailed design and engineering, including drawings, specifications, details and a schedule of quantities as an issued for tender ready package. Completion of the detailed design shall be based on the District approved preliminary design and detailed class 'A' cost estimate.

e) **Tender Support** – The Consultant will provide technical support to the tender process (the tender and contracting process will be managed by the District). The Consultant's tender support will include attendance at one proponent's site meeting, along with answering of any questions raised, plus the provision of answers to any technical questions raised during the tender process. Following close of tenders, the Consultant shall perform a review of the documentation submitted by the lowest compliant bid, to

ensure the technical details submitted, and schedule of quantities are in order and meet requirements for the project.

f) **Contract Administration**: The Consultant will perform the role of "Contract Administrator" / "Consultant" under the MMCD construction contract. This shall include the performance of these roles as defined in MMCD, which shall include; day-to-day contract administration; issuance of field memorandums, contemplated change orders, change orders; and payment certification. The District will supply a staff resource to be available to discuss with the Contract Administrator implementation issues that might arise during the work.

3.2. Areas of Work

a) Area 1 – Lakeshore Drive North

(Site 1 as summarized in Exhibit C) - Roadway shoulder eroded and concrete barriers undermined from wave action. Emergency riprap placed under emergency works is likely inadequate.

Recovery works to include reconstruction of road asphalt and base materials, restoration of gravel shoulder, installation of concrete barriers, removal of existing riprap, repair of embankment slope and placement of appropriately sized riprap. See Exhibit B for additional details on the proposed recovery works.

b) Area 2 – Peach Orchard Beach

(Sites 3 and 4 as summarized in Exhibit C) - Asphalt pathway damaged from scour causing sections to collapsed, and others to be undermined. The lower-elevation sections of path were below water and lost base materials and settled unevenly. Chain-link fence along the lower-elevation section has fallen, and the post foundation is exposed due to material washing away. Riprap was placed under the emergency works to be reviewed and may require some localized repairs.

Recovery works to include reconstruction of asphalt pathway and base materials, repair of embankment slope and placement of erosion protection where recommended. Option for erosion may included repair of existing timber wall or placement of appropriately sized riprap but alternatives may be required pending environmental review.

c) Area 3 – Rotary Beach

(Sites 6 and 7 as summarized in Exhibit C) - Pathway along the beach has been washed away from waves on high water. Behind the Racquet Club, beach materials scoured up to the edge of the pathway, leaving the pathway vulnerable to damage, and a steep edge unsafe for pedestrians. There are sinkholes in the centre of the pathway, likely due to high groundwater.

Recovery works to include reconstruction of asphalt pathway and base materials, repair of embankment slope and placement of erosion protection where recommended. Option for erosion may included appropriately sized riprap but alternatives may be required pending environmental review.

Area 4 – James & Mary Gartrell Pathway

(Site 10 as summarized in Exhibit C) – Boardwalk section was been displaced off foundations, but has since been repaired. Sandy-gravel and woody debris is covering the pathway from deposition from waves during high water.
Recovery works to include reconstruction of granular pathway, repair of embankment slope and placement of erosion protection where recommended. Option for erosion may included appropriately sized riprap but alternatives may be required pending environmental review.

d) Area 5 – Powell Beach Park
(Site 13 as summarized in Exhibit C) – Sections of asphalt pathway were eroded and washed out from waves during high water in 2017, and sections of the asphalt parking lot and pathway were damaged from machinery installing tiger dams.
Recovery works to include reconstruction of asphalt pathway and parking lot areas as per the Powell Beach Park Management Plan in Exhibit D.

4. Required Objectives / Performance Standards:

Given the nature of this project and the requirement from the Disaster Financial Assistance program, the Consultant must meet the following performance standards:

- Milestone dates and schedule as identified in this scope of work.
- Regular in-person monthly meetings to review overall progress and schedule
- Regular weekly communication by email or phone to provide updates.

5. Deliverables:

For each Area, the Consultant shall deliver the required project documents as identified below:

- Design Drawings:
  - Arch D (36”x24”) landscape
  - Digital Format AutoCAD DWG File and PDF
  - 1 Hard Copy Prints of final drawings
  - Georeferenced to UTM Zone 11, NAD83

- Cost Estimates, Schedule of Quantities / Values , Drawings, Specification and Details issued for Tender:
  - Microsoft Office – 2016 Word and Excel Compatibility
  - Arch D (36”x24”) landscape
  - Digital Format AutoCAD DWG File and PDF
  - 1 Hard Copy Prints of final drawings
  - Georeferenced to UTM Zone 11, NAD83

- As-Built Drawings:
  - Arch D (36”x24”) landscape
  - Digital Format AutoCAD DWG File and PDF

- Georeferenced to UTM Zone 11, NAD83
- Inclusive of survey data.

6. Disclosures by the District:

The issuance of a construction contract as a result of this RFP is subject to final funding approval of the recovery plan by the provincial Disaster Financial Assistance Program.

The Consultant must retain the services of an environmental consultant to prepare Water Sustainability Act Section 11 Applications for Notifications or Approvals and will develop an environmental plan and monitoring for physical works.

7. Budget:

The District will not be disclosing its budget for the Services as part of this RFP process. Respondent's proposed pricing is to be based on the Services and deliverables required, plus other information provided as part of the RFP.

Part B: The RFP Process

This Part B details the terms and conditions of how this RFP process will be run by the District, and how the Consultant will be selected. Respondents to this RFP must ensure they follow all the terms detailed below. Failure to follow the terms of this Part B may result in a Proposal being rejected.

1. Key Details:

1.1. RFP Contact Person:

The point of contact at the District of Summerland for any queries or questions related to this RFP is:

- Kris Johnson, P.Eng. – Director of Works and Utilities
- Email: kjohnson@summerland.ca

All questions regarding this RFP must be submitted prior to the Deadline for Questions detailed under Section 1.2 of this Part B. Questions received after the Deadline for Questions will be addressed if time permits. The Respondent is solely responsible for seeking any clarification required regarding this RFP, and the District shall not be held responsible for any misunderstanding by the Respondent.

1.2. Timetable:

This RFP process will run to the following timetable. This timetable may be amended at the District's discretion through the issuance of an addendum to this RFP.

Event:	**Date:**
Issue Date of this RFP	November 15, 2018
Deadline for Questions	November 29, 2018
Last Day for Issue of Addenda	November 30, 2018
RFP Closing Date and Time:	December 6, 2018 at 2:00 PM Local Time
Contract Execution Date (estimated)	December 11, 2018

1.3. Site Meeting Details:

No site / proponent's meeting will be held for this RFP. However, Respondent's are encouraged to attend all five areas prior to submitting a proposal.

1.4. Submission of Proposals (Address, Date & Time, Format):

Proposals to this RFP should be submitted in accordance with the following:

- **Closing Location:** Proposals must be submitted at:
  District of Summerland Municipal Hall
  PO Box 159, 13211 Henry Ave
  Summerland, BC V0H 1Z0
  Attn: Kris Johnson, P.Eng.

- **RFP Closing Date and Time:** Proposals must be received no later than the Closing Date and Time detailed in section 1.2 above.
- **Proposal Format:** One paper original, together with one paper copy and one electronic copy (on USB drive, in PDF format), in a sealed envelope containing all the information required in the forms listed under Part D – Submission Forms. The envelope should be clearly marked with the name and address of the Respondent, as well as the words "RFP-2018-20 - Design & Engineering Services for Flood Recovery Works".

It is the Respondent's sole responsibility to ensure that the Proposal is received before the RFP Closing Date and Time. Proposals sent by facsimile or email will not be accepted.

2. Definitions Used in this RFP:

The following are definitions used in this RFP document. Whenever one of the following terms is used with a capitalized first letter, the term shall have the meaning as set out in this section.

2.1. "Addenda" or "Addendum" means additional information or amendments to this RFP, issued by the District in accordance with Section 5 of this Part B.
2.2. "District" means the District of Summerland
2.3. "Contract" means the written agreement resulting from this RFP, executed between the District and the successful Respondent to this RFP.
2.4. "Consultant" means the successful Respondent to this RFP who enters into a Contract with the District.
2.5. "Closing Date and Time" means the date and time that Proposals to this RFP must be received by in accordance with Section 1.2 of this Part B.
2.6. "Must" or "Mandatory" means a requirement that must be met in order for a Proposal to receive consideration.
2.7. "Proposal" means a Proposal submitted by a Respondent in response to this RFP.
2.8. "Respondent" means a person or entity that submits a Proposal to this RFP.
2.9. "RFP" means this Request For Proposals # RFP-2018-20, including all Parts A to D.
2.10. "Section" means the numbered section of the referenced part of this RFP.
2.11. "Services" means the Services which the District seeks to be provided by the Consultant, as outlined in Part A.
2.12. "SubConsultant" means a person, partnership, firm or corporation that the Respondent proposes to contract with to deliver part of the Services, in a subordinate relationship to the Respondent.

3. Amendment of a Proposal by Respondent:

A Respondent may amend a Proposal at any time up until the RFP Closing Date and Time. Amendments must be submitted in the same way as the original Proposal, as detailed in Section 1.3 of this Part B. Amendments to a Proposal must be clearly labelled as such, must contain the RFP reference number and title, and the full legal name and legal address of the Respondent. Amendments must clearly detail which part(s) of the Proposal is being amended or replaced.

4. Revocation of a Proposal by Respondent:

A Respondent may withdraw a Proposal that is already submitted at any time throughout the RFP process, including after the Closing Date and Time.

5. Addenda Issued by District:

This RFP may only be amended by way of an Addendum issued in accordance with this Section. At any time up until the Closing Date and Time, the District may issue an Addendum in order to amend, clarify, or answer questions to this RFP. Each Addendum will be issued at the same location and in the same manner as this RFP document (at https://www.summerland.ca/business-economy/bid-opportunities). Each Addendum will form an integral part of this RFP. Respondents are solely responsible for checking for Addenda up until the Closing Date and Time. If the District deems it necessary to issue an Addendum after the Last Day for Issue of Addenda, as detailed in Section 1.2 of this Part B, then the District may extend the Closing Date and Time in order to provide Respondents with more time to complete their Proposal.

Proposals should confirm receipt of all Addenda in Appendix A – Certification Form of their Proposal.

6. Evaluation of Proposals & Award of Contract:

The District will conduct the evaluation of Proposals and selection of a successful Respondent in accordance with the process detailed in this Section. Evaluation of Proposals will be by an evaluation committee which will include key District employees, and may include the District's external Purchasing Consultant. The District's intent is to enter into a Contract with the Respondent who has met all mandatory criteria and minimum scores, and who has the highest overall ranking based on this evaluation process.

6.1. Mandatory Criteria:

Proposals not clearly demonstrating that they meet the following mandatory criteria will be excluded from further consideration in the evaluation process.

Mandatory Criteria:	
1	The Proposal must be received by the Closing Date and Time, in accordance with the requirements of Section 1.4
2	The Proposal must include the following completed form: • Appendix A – Certification Form

6.2. Scored Criteria:

Proposals that meet all of the Mandatory Criteria will be further assessed against the following scored criteria.

Scored Criteria	**Weighting**	**Minimum Score** (Out of 100)
Total Lump Sum Contract Price (based on Appendix B submission)	50%	NA
Suitability of Method, Team & Schedule (based on Appendix C submission)	20%	50
Suitability of Experience (based on Appendix D submission)	20%	50
Suitability of SubConsultants (based on Appendix E submission)	5%	50
Suitability / Ease of Accepting Exceptions to Contract (based on Appendix F submission)	5%	50

Proposals that do not meet the minimum score within a scored criterion will not be evaluated further.

6.3. Scoring Method:

The following method will be used to score the scored criteria:

- **Total Lump Sum Contract Price**: Total Lump Sum Contract Price will be scored relative to other Respondents' Total Lump Sum Contract Prices using the following formula:
  - *Lowest Total Lump Sum Contract Price ÷ Respondent's Total Lump Sum Contract Price × Weighting = Score*

  Notes:
  ** Total Lump Sum Contract Price will be the sum of the Total Lump Sum Prices for Areas 1, 2, 3, 4 and 5 combined.*

  *** The District may, at is sole discretion, deduct up to 5 points from the weighted score for Total Lump Contract Price, if the evaluation committee considers the Respondent's proposed Hourly Rates under '*Reimbursable Unit Rate Prices for Contract Administration' *to be excessively high. In such a case, the same method of determining what is 'excessively high' will be applied to all Respondents equally.*

- Other Criteria: All other criterion (except Total Lump Sum Contract Price) will be scored by the evaluation committee out of 100, which will then be multiplied by the Weighting factor to provide a weighted score.

6.4. Clarifications & Remedy Period:

Notwithstanding the requirements for mandatory criteria and scored criteria detailed in this Section 6, the District will allow the following remedies and clarifications at its sole discretion:

- Remedy for missing Mandatory Criteria: If the District finds that a Proposal fails to meet all of the mandatory requirements detailed in Section 6.1, then the District may provide written notification to a Respondent which identifies the requirements not met and provides the Respondent with 5 calendar days to remedy and supply the requirements. The 5 calendar days shall commence upon notification by the District to the Respondent. This option to remedy missing requirements shall not apply to Proposals not received by the Closing Date and Time.
- Clarification of Proposals: During evaluation of the scored criteria, the District may at its sole option, request further details or clarification from the Respondent and/or third parties, on aspects of a Proposal by way of a written request for clarification. The written request shall clearly state the required clarification and time limit to supply the information requested. Following receipt of the clarification information, the District may use this information to reassess and/or re-score the Proposal according to the scored criteria.

6.5. Ranking of Respondents:

Following completion of the evaluation against the scored criteria, the weighted scores for each Proposal will be added together, and Proposals will be ranked according to their total weighted scores. The Respondent with the highest-ranked Proposal will be invited to conclude a Contract with the District. In the event that two or more Proposals have an equal total weighted-scored, then the Respondent with the Lowest Total Lump Sum Contract Price will be invited to conclude a Contract with the District.

6.6. Conclusion and Execution of a Contract

Neither the Respondent nor the District will be legally bound to provide or purchase the Services until the execution of a written Contract. Following an invitation to the Respondent, by the District, to conclude a Contract, the parties shall enter into discussions which may include:

- Clarification or amendment to the scope of work, plus any resulting price adjustments, based on items submitted in the Proposal.
- Amendments to the terms and conditions of the Contract (Part C), based on items submitted in the Proposal.

The District shall seek to execute a Contract within 10 days of issuing an invitation to the Respondent to conclude a Contract. If the parties cannot execute a Contract within this time-period, the District may discontinue the process with the Respondent that has the highest-ranked Proposal, and then invite the Respondent with the next-highest-ranked Proposal to conclude a Contract. The District may then continue this process until a Contract is executed, or there are no further Respondents, or the District elects to cancel the RFP process entirely. For clarity, the District may discontinue discussions with a Respondent if at any time the District is of the view that it will not be able to conclude a Contract with that Respondent.

7. Other Terms & Conditions of this RFP Process:

The following terms and conditions shall also apply to this RFP:

7.1. Proposals in English:

All Proposals are to be in the English language only.

7.2. Only One Entity as Respondent:

The District will accept Proposals where more than one organization or individual is proposed to deliver the Services, so long as the Proposal identifies only one entity that will be the lead entity and will be the Respondent with the sole responsibility to deliver the Contract if executed. The District will only enter into a Contract with that one Respondent. Any other entity involved in delivering the Service should be listed as a SubConsultant. The Respondent may include the SubConsultant and its resources as per of the Proposal and the District will accept this, as presented in the Proposal, in order to perform the evaluation. All SubConsultants to be used in the Service must be clearly identified in the Proposal.

7.3. Proposals to Contain All Content in Prescribed Forms:

All information that Respondents wish to be evaluated must be contained within the submitted Proposal. Proposals should not reference external content in other documents or websites. The District may not consider any information which is not submitted within the Proposal or within the pre-prescribed forms set-out in this RFP.

7.4. References and Experience:

In evaluating a Respondent's experience, as per the scored criteria, the District may consider information provided by the Respondent's clients on the projects submitted in the Proposal, and may also consider the District's own experience with the Respondent.

7.5. RFP Scope of Work is an Estimate Only:

While the District has made every effort to ensure the accuracy of the Services described in this RFP, the District makes no guarantees as to the accuracy of the information provided. Any quantities or measurements provided are estimates only and are provided to describe the general nature and scale of the Services. Respondents must obtain all information they deem necessary, including verification of quantities or measurements in order to complete a Proposal.

7.6. Respondent's Expenses:

Respondents are solely responsible for their own expenses in participating in this RFP process, including costs in preparing a Proposal and for subsequent finalizations of an agreement with the District, if required. The District will not be liable to any Respondent for any claims, whether for costs, expenses, damages or losses incurred by the Respondent in preparing its Proposal, loss of anticipated profit in connection with any final Contract, or any matter whatsoever.

7.7. Retention of Proposals and FOIPPA:

All Proposals submitted to the District will not be returned and will be retained in accordance with the Freedom of Information and Protection of Privacy Act ("FOIPPA"). Respondents should note that in accordance with the provisions of FOIPPA, certain details of this RFP and any executed Contract may be made public, including the Consultant's Name and total Contract price. Respondents should identify with their Proposal any information which is

supplied in confidence , however, Respondents should be aware of and review the District's obligations under FOIPPA and the District's limited ability to refuse to disclose third party information pursuant to section 21 of FOIPPA.

7.8. Notification and Feedback to Unsuccessful Respondents:

At any time up until or after the execution of a written Contract with the Consultant, the District may notify unsuccessful Respondents in writing that they have not been selected to conclude a Contract. Unsuccessful Respondents may then request a feedback email or telephone call with the District in order to obtain feedback on how their Proposal faired in the evaluation. Such requests for feedback must be made within 30 days of notification of the RFP results to the unsuccessful Respondent. Details of feedback provided will be at the District's sole discretion in order to protect the confidentiality of other Respondents and the District's commercial interest.

7.9. Conflict of Interest:

All Respondents must disclose an actual or potential conflict of interest, as set-out in Appendix A – Certification Form. The District may, at its sole discretion, disqualify any Respondent from this RFP process, if it determines that the Respondent's conduct, situation, relationship (including relationships of the Respondent's employees and District employees) create or could be perceived to create a conflict of interest.

The District may rescind or terminate a Contract entered into if it subsequently determines that the Respondent failed to declare an actual or potential conflict of interest during this RFP process, as required under Appendix A – Certification Form.

7.10. Confidentiality:

All information provided to Respondents by the District as part of this RFP process is the sole property of the District and must not be disclosed further without the written permission of the District.

7.11. No Contract A, No Claims, and Limitation of Damages:

This RFP process is not intended to create and shall not form a legally binding irrevocable bid process, commonly referred to as a 'Contract A' based bid process. No contractual obligations whatsoever shall arise between the District and any Respondent upon the submission of a Proposal in response to this RFP. For extra clarity, both the Respondent and the District are free to cancel their participation in this RFP process at any time up until the execution of a written Contract for the Services.

Neither the Respondent nor the District shall have the right to make any claims of damages against the other related to this RFP or execution of a Contract as a result of this RFP. Notwithstanding this Section 7.11, the Respondent agrees that it will not claim any damages, for whatever reason, relating to this RFP process, in excess of an amount equivalent to the reasonable costs incurred by the Respondent in preparing its Proposal, and the Respondent, by submitting its Proposal, waives any claim for loss of profits if no Contract is made with the Respondent.

7.12. Right to Cancel RFP:

Although the District fully intends to conclude a Contract as a result of this RFP, the District may at its sole discretion, cancel or amend this RFP process at any time without any liability to any Respondent.

7.13. Governing Law and Trade Agreements:

This RFP is governed by the laws of the Province of British Columbia and any other agreements which exist between the Province of British Columbia and other jurisdictions.

Part C: The Contract

This Part C details the Contract terms and conditions that the District will enter into with the Consultant(s) at the conclusion of the process outlined in Section 6.6 of Part B. Respondents are not required to complete any details in this Part C, but should review the Contract and note any exceptions as required in Part D, Appendix F (Exceptions to Contract Form)

The District and the successful Respondent(s) shall enter into a Contract for the Services using the following terms and conditions:

AGREEMENT FOR CONSULTING SERVICES

BETWEEN: **DISTRICT OF SUMMERLAND**
PO Box 159, 13211 Henry Ave
Summerland, BC. V0H 1Z0
(the "District")

AND: **COMPANY**
_____
_____

(the "Consultant")

GIVEN THAT the District wishes to engage the Consultant to provide certain services to the District and the Consultant wishes to contract with the District to provide such services to the District, THIS AGREEMENT is evidence that in consideration of the promises exchanged below, and other good and valuable consideration, (the receipt and sufficiency each party acknowledges), the District and the Consultant agree as follows:

1. Definitions

In this Agreement, in addition to the words defined above,

(a) "Consultant's Proposal" means the Consultant's written proposal to the District for performance of the Services, dated _____, a copy of which is attached.

(b) "District Representative" means Kris Johnson, P.Eng., Director of Works and Utilities or such other person as the District may appoint in writing.

(c) "Governmental Approvals" means any licenses, permits, consents, authorizations, certificates, operating certificates and other approvals of any kind from any Governmental Authority that are required for or in connection with the performance of the Services.

(d) "Governmental Authority" means any federal, provincial, local or other government or governmental agency, authority, board, bureau or commission.

(e) "Personnel" means any individuals identified by name in the Consultant's Proposal and any individuals employed or otherwise engaged by the Consultant to perform the Services with the prior consent of the District;

(f) "RFP" means the Request for Proposals for the services issued by the District dated_____.

(g) "Services" means the services and work described in the RFP, including all acts, services and work necessary to achieve the objectives set out in the RFP.

(h) "Specifications" means the specifications, scope of work and other requirements for the Services set out in the RFP.

(i) "Standards" means any and all laws, enactments, bylaws, statutes, regulations, rules, orders, permits, licenses, codes, building codes, professional standards and specifications (including Canadian Standards Association standards) applicable to the provision of the Services, as they are in force from time to time or in the latest current version, as the case may be.

2. Consultant Services

The Consultant shall perform the Services and shall do so in accordance with the Specifications, all Standards and the terms of this Agreement.

The Consultant shall:

(a) supply all labour, machinery, equipment, tools, supplies, material, labour and other services and things necessary to perform the Services in accordance with this Agreement;

(b) obtain, maintain in good standing and comply with the terms of all Governmental Approvals;

(c) perform promptly and safely all of its obligations under this Agreement;

(d) be just and faithful in the performance of its obligations under this Agreement, in its dealings with the public and in its dealings with the District and the District Representative;

(e) promptly pay amounts owing to the District under this Agreement when due; and

(f) pay all costs and expenses whatsoever associated with performing the Services and its other obligations under this Agreement.

3. Project Scope Modifications

The Consultant is advised that the District may modify elements of the project scope where these modifications are in the best interests of the District. This may include deletion of certain tasks/deliverables, and/or cancellation of the project. The District will ensure the Consultant is paid all eligible fees for works completed to the date of any proposed modification. Where unanticipated delays occur (for any reason) that impact (delay) aspects of the Consultant's work program, the Consultant shall not seek compensation for said delays. Further, no additional works shall be undertaken in relation to this assignment without the prior written approval of District staff.

4. Term

This Agreement shall commence on _____ and expire on completion of the Services which is to be no later than _____.

5. Consultant Personnel

The Consultant will perform the Services using only the Personnel named in the Consultant's Proposal, unless otherwise approved in writing by the District Representative.

6. Warranty as to Quality of Services

The Consultant represents and warrants to the District that the Consultant and the Personnel have the education, training, skill, experience and resources necessary to perform the Services in accordance with this Agreement and the Consultant acknowledges and agrees that the District has entered into this Agreement relying on the representations and warranties in this section.

7. Remuneration & Reimbursement

The District shall pay the Consultant for the performance of the Services as follows:

The Lump Sum Prices and Reimbursable Unit Rates for Services performed, as detailed in the RFP and Consultant's Proposal.

8. Taxes

The District shall be responsible for paying any goods and services taxes with respect to the provision of the services to the District.

9. Invoices & Payment

Not more than once each month, the Consultant may deliver an invoice to the District, in respect of the immediately preceding month, setting out the Lump Sum Prices or Reimbursable Unit Prices claimed for Services completed/performed in that preceding month, in accordance with the RFP and Consultant's Proposal. The District shall, to the extent the District is satisfied the prices are for Services satisfactorily completed/performed by the Consultant, pay the Consultant the prices claimed in any invoice delivered in accordance with this section, within 30 days after delivery of such invoice to the District.

10. Hold Back or Set Off

Notwithstanding the invoicing process detailed in clause 9, the District may hold back payment or set off against payment if, in the opinion of the District acting reasonably, the Consultant has failed to comply with any requirements of the Contract, including adherence to the agreed milestones and schedule for the Services.

11. District's Representative

The District appoints the District Representative as the only person authorized by the District to communicate with the Consultant in respect of this Agreement. The District shall not be bound to

the Consultant by communication from any person other than the District Representative or their delegate.

12. Indemnity

The Consultant shall indemnify, and save harmless, the District, and its elected and appointed officials, employees, Consultants and agents, from and against all claims, losses, damages, costs, expenses (including legal fees and disbursements), liabilities, actions and proceedings, suffered, made, incurred, sustained, brought, prosecuted, threatened to be brought or prosecuted, in any manner caused by, based upon, occasioned by or attributable to, any willful or negligent act or omission, or other actionable wrong, on the part of the Consultant, its employees, subconsultants or agents, connected with the performance or breach of this Agreement by the Consultant. The Consultant's obligations under this section shall survive the expiry or earlier termination of this Agreement

13. Workers Compensation

The Consultant shall, at all times, in providing the Services and otherwise performing its obligations under this Agreement, comply with the *Workers Compensation Act* (British Columbia) and all regulations and orders from time to time in force thereunder, including the Occupational Health and Safety Regulation, and, upon request from the District, provide evidence of any required registration under that Act and evidence of compliance with any requirement under that Act to make any payments or pay assessments.

14. Insurance Requirements

The Consultant shall obtain and maintain during the currency of this Agreement commercial general liability insurance providing coverage for death, bodily injury, property loss and damage and all other losses arising out of or in connection with the provision of the Services in an amount not less than $2,000,000.00 per occurrence, or in such a greater amount as may be required by the District Representative from time to time, acting reasonably.

The Consultant shall cause all policies of insurance required to be taken out by it under this Agreement to be with insurance companies satisfactory to the District and to:

(a) name the District as additional insured

(b) include that the District is protected notwithstanding any act, neglect or misrepresentation by the Consultant which might otherwise result in the avoidance of a claim and that such policies are not affected or invalidated by any act, omission or negligence of any third party which is not within the knowledge or control of the insureds;

(c) be issued by an insurance company entitled to carry on the business of insurance under the laws of British Columbia;

(d) be primary and non-contributing with respect to any policies carried by the District and shall provide that any coverage carried by the District is in excess coverage;

(e) not be cancelled or materially changed without the insurer providing the District with 30 days written notice stating when such cancellation or change is to be effective;

(f) be maintained for a period of 12 months per occurrence;

(g) not include a deductible greater than $5,000.00 per occurrence;

(h) include a cross liability clause; and

(i) be on other terms acceptable to the District Representative, acting reasonably.

15. Errors & Omissions Insurance

The Consultant shall, at the Consultant's expense, establish and maintain a minimum of $5,000,000 professional errors and omissions insurance, with a maximum deductible of $100,000.

The Consultant accepts responsibility for the acts and omissions of all Sub-Consultants it may engage in rendering the Service on the Project.

The Consultant's professional errors and omissions insurance shall remain in force for the life of the Project and for twenty-four (24) months after substantial completion of the construction of the project which the Services are for.

16. Insurance Certificates

The Consultant shall provide the District with certificates of insurance confirming the placement and maintenance of the insurance, promptly after a request to do so from time to time by the District.

17. District May Insure

If the Consultant fails to insure as required, the District may effect the insurance in the name and at the expense of the Consultant and the Consultant shall promptly repay the District all costs incurred by the District in doing so. For clarity, the District has no obligation to effect such insurance.

18. Termination at District's Discretion

The District may, in its sole discretion and without reason, terminate this Agreement upon notice to the Consultant. If the District terminates this Agreement under this section, the Consultant shall be entitled to be paid for all Services satisfactorily performed by the Consultant up to the date of such termination in accordance with this Agreement. The Consultant is not entitled to, and irrevocably waives and releases the District from any and all claims for, any damages or compensation for costs incurred, loss of profit or loss of opportunity, directly or indirectly arising out of termination of this Agreement.

19. Termination for Default

The District may terminate all or any part of, the Services by giving notice of termination to the Consultant, which is effective upon delivery of the notice, if:

(a) the Consultant breaches this Agreement and the Consultant has not cured the breach, within five days after notice of the breach is given to the Consultant by the District; or

(b) the Consultant becomes bankrupt or insolvent, a receiving order is made against the Consultant, an assignment is made for the benefit of its creditors, an order is made or

resolution passed for the winding up or dissolution of the Consultant, or the Consultant takes the benefit of any enactment relating to bankrupt or insolvent debtors.

Without limiting any other right or remedy available to the District, if the District terminates part or all of the Services under this section, the District may arrange, upon such terms and conditions and in such manner as the District considers appropriate, for performance of all or any part of the Services remaining to be completed, and the Consultant shall be liable to the District for any expenses reasonably and necessarily incurred by the District in engaging the services of another person to perform those Services (including the amount by which the fees, disbursements and other costs payable by the District exceed those that would have been payable to the Consultant for completion of the Services under this Agreement). The District may set off against, and withhold from amounts due to the Consultant, such amounts as the District estimates shall be required to cover the District's costs of correcting any breaches of the Consultant's obligations under this Agreement and to be incurred by the District to complete all or any part of the Services.

20. Records

The Consultant:

(a) shall keep proper accounts and records of its performance of the Services, including invoices, receipts and vouchers, which shall at all reasonable times be open to audit and inspection by the District, which may make copies and take extracts from the accounts and records;

(b) shall keep reasonably detailed records of performance of the Services, which shall at all reasonable times be open to inspection by the District, which may make copies and take extracts from the records;

(c) shall afford facilities and access to accounts and records for audit and inspection by the District and shall furnish the District with such information as the District may from time to time require regarding those documents; and

(d) shall preserve, and keep available for audit and inspection, all records described in this section for at least two years after completion of the Services, expiry of this Agreement or termination of this Agreement, whichever applies.

21. Copyright & Intellectual Property

The Consultant irrevocably grants to the District the unrestricted license for the District to use and make copies of for the District's purposes and activities any work whatsoever generated by or on behalf of the Consultant in performing the Services in which copyright may exist. Without limiting the foregoing, the Consultant irrevocably grants to the District the unrestricted license for the District to use for the District's purposes and activities all technical information and intellectual property, including inventions, conceived or developed, or first actually reduced to practice, in performing the Services. For clarity, the licenses granted by this section shall survive the expiry or earlier termination of this Agreement.

22. Agreement for Services

This is an agreement for the performance of services and the Consultant is engaged under this Agreement as an independent Consultant for the sole purpose of providing the Services. This Agreement does not create a joint venture or partnership. Neither the Consultant nor any of its

employees or Consultants is engaged by the District as an agent of the District or has any authority to bind the District in any way whatsoever.

23. Withholding Taxes

The Consultant will be pay and remit, and otherwise be responsible for, all withholding taxes, income taxes, Canada Pension Plan contributions, employment insurance deductions and any other deductions required by the applicable provincial or federal statutes for the Consultant and any of its employees. The Consultant agrees to indemnify and hold harmless the District should the District be required to pay any remittances described above.

24. Assignment

The Consultant shall not assign this Agreement or the benefit hereof without the prior written consent of the District, at its sole discretion.

25. Time of the Essence

Time is of the essence of this Agreement.

26. Alternative Rights & Remedies

Exercise by a party to this Agreement of any right or remedy of that party, whether granted in or under this Agreement or at law or equity, does not limit or affect any other right or remedy of any kind, whatever its source, that the party may have against the other party and does not affect the right of the party exercising the right or remedy to exercise other rights or remedies against the other party.

27. Notice

Any notice, direction, demand, approval, certificate or waiver which may be or is required to be given under this Agreement shall be in writing and delivered personally or by courier or sent by fax or e-mail, addressed as follows:

(a) To the District:
District of Summerland
PO Box 159, 13211 Henry Ave
Summerland, BC. V0H 1Z0
Attention: Jeremy Denegar
E-mail Address: corporateofficer@summerland.ca

(b) To the Consultant:

_____

E-mail Address: _____

Attention: _____

or to such other address or e-mail address of which notice has been given as provided in this section.

Any notice, direction, demand, approval or waiver delivered is to be considered given on the next business day after it is dispatched for delivery. Any notice, direction, demand, approval or waiver sent by fax or e-mail is to be considered given on the day it is sent, if that day is a business day and if that day is not a business day, it is to be considered given on the next business day after the date it is sent. In this section, business day means a day other than a Saturday, Sunday or B.C. statutory holiday.

28. Interpretation & Governing Law

In this Agreement

(a) reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
(b) reference to a particular numbered section or Schedule is a reference to the correspondingly numbered section or Schedule of this Agreement;
(c) the word "enactment" has the meaning given to it in the *Interpretation Act* (British Columbia) on the reference date of this Agreement;
(d) reference to any enactment is a reference to that enactment as amended, unless otherwise expressly provided;
(e) reference to a month is a reference to a calendar month; and
(f) section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement.

This Agreement is governed by, and is to be interpreted according to, the laws of British Columbia.

29. Binding on Successors

This Agreement enures to the benefit of and is binding upon the parties and their respective successors, trustees, administrators and receivers, despite any rule of law or equity to the contrary.

30. Entire Agreement

This Agreement is the entire agreement between the parties and it terminates and supersedes all previous communications, representations, warranties, covenants and agreements, whether verbal or written, between the parties with respect to the subject matter of this Agreement.

31. Waiver

Waiver of any default by either party shall be express and in writing to be effective, and a waiver of a particular default does not waive any other default.

As evidence of their agreement to be bound by this Agreement, the parties have executed this Agreement below, on the respective dates written below.

DISTRICT OF SUMMERLAND:

by its authorized signatories:

_____

Mayor:

_____

Clerk:

_____

Date:

CONSULTANT:

by its authorized signatories:

_____

Name:

_____

Name:

_____

Date:

Part D: Submission Forms

	This Part D contains forms detailing the information that should be included in a Proposal, as detailed under Section 6 of Part B.

Part D Contents:

This Part D contains the following forms:

- Appendix A – Certification Form
- Appendix B – Pricing Form
- Appendix C – Methodology, Schedule and Team Form
- Appendix D – Experience Form
- Appendix E – SubConsultants Form
- Appendix F – Exceptions to Contract Form

APPENDIX A – CERTIFICATION FORM

	Respondents must complete all details requested in this Appendix A – Certification Form and include this completed form in the Proposal, as detailed under Section 6.1 (Mandatory Criteria) of Part B. No changes to this form must be made, except for completing the requested information in the spaces provided.

1. Respondent Details:

Full Legal Name of Respondent:	
Other "DBA" Names the Respondent Uses:	
Registered Address:	
Respondent Contact Person Name & Title:	
Contact Person Phone No.:	
Contact Person Email:	

2. Certification & Acknowledgement of RFP Process:

By signing this Appendix A – Certification Form, we the Respondent, certify and acknowledge the following:

a. We have carefully read and examined this RFP document, including all Parts and Appendices, and have conducted such other investigations as were prudent and reasonable in preparing this Proposal. We are able to provide the Services detailed in Part A for the pricing submitted in this Proposal.
b. We certify that the statements made in this Proposal are true and submitted in good faith.
c. We acknowledge that the RFP process will be governed by the terms and conditions set out in Part B, and it is explicitly understood that this RFP process does not form a legally binding irrevocable bid process, commonly referred to as a 'Contract A' based bid process, and that no contractual obligations shall arise between the District and us, the Respondent, until and unless we execute a written Contract with the District, and further that both the Respondent and the District are free to cancel their participation in this RFP process at any time up until the execution of a written Contract.
d. We certify that in relation to this RFP process, we have not engaged in any conduct which would constitute a conflict of interest and we understand that a conflict of interest would include the following situations:
    i. The Respondent has an unfair advantage or engages in conduct which may give it an unfair advantage;
    ii. The Respondent has had access to confidential information of the District which is not available to other Respondents to this RFP.

iii. The Respondent has influence over an employee of the District who is a decision-maker involved in this RFP process, which could reasonably be perceived as giving the Respondent an unfair advantage or preferential treatment.

3. Confirmation of Addenda Received:

We confirm receipt of the following addenda that were issued by the District up until the Closing Date and Time:

Addendum #	Issued On Date:

4. Certification Signature:

The Respondent hereby certifies that the above statements are true and that the individual signing below has the authority to bind the Respondent:

_____
Signature of Respondent Representative

_____
Name of Respondent Representative

_____
Title of Respondent Representative

_____
Date

APPENDIX B – PRICING FORM

	Respondents must complete the requested pricing in all tables in this Appendix B – Pricing Form and include the completed form in the Proposal, as detailed under Section 6.2 (Scored Criteria) of Part B. No changes to this form must be made, except for completing the requested information in the spaces provided. In addition to completing this Pricing Form, Respondent should also provide a task fee schedule breakdown, as detailed under section 7 of this this Appendix B.

1. Pricing Basis:

Pricing entered into the tables of sections 2 to 6 below, shall be on the following basis:

a. All Prices are in Canadian funds, are inclusive of all applicable duties and taxes including any PST, but not the GST which shall be itemized separately where indicated.
b. Two types of prices are requested in this Appendix B:
    I. Lump Sum Prices: are for work elements which are reasonably well-defined. Lump Sum Prices shall be all-inclusive and include for all labour, materials, supplies, travel, mileage, expenses, disbursements, overheads and profit, insurance, mobilization/demobilization, and all other costs and fees necessary to deliver the Services outlined.
    II. Reimbursable Unit Rate Prices: are for the Contract Administration work element which has an unknown quantity of work at this time. Hourly Rates shall include for all labour time for that person, including all overheads, insurance and other costs for the individual. The rate for expenses shall apply to all expenses, mileage and disbursements and other costs.
c. Prices shall be firm for the entire Contract term.

2. Area 1 – Lakeshore Drive North:

The following remuneration shall be required for Area 1 (as detailed in Part A):

a) Lump Sum Prices: The following Lump Sum Prices shall be the required remuneration covering all Services for Area 1, except for Contract Administration:

Area 1 Service Element	**Lump Sum Price**
Environmental Sub-consultant	$
Preliminary Design	$
Detailed Design	$
Class A Cost Estimate	$
Tender Support	$
Other Costs (please specify if any):	$
AREA 1 TOTAL LUMP SUM PRICE:	**$**
GST:	$

b) Reimbursable Unit Rate Prices for Contract Administration:
Hourly Rates:

Individual:	Individual's Name:	Individual's Title / Position	Hourly Rate (excl. GST)
Contract Administrator / Consultant:			$
Inspector / CA Support:			$
Other (please specify if any):			$

Expenses:

All Expenses charged at cost + _____ %

3. Area 2 – Peach Orchard Beach:

The following remuneration shall be required for Area 2 (as detailed in Part A):

a) Lump Sum Prices: The following Lump Sum Prices shall be the required remuneration covering all Services for Area 2, except for Contract Administration:

Area 2 - Service Element	**Lump Sum Price**
Environmental Sub-consultant	$
Preliminary Design	$
Detailed Design	$
Class A Cost Estimate	$
Tender Support	$
Other Costs (please specify if any):	$
AREA 2 TOTAL LUMP SUM PRICE:	**$**
GST:	$

b) Reimbursable Unit Rate Prices for Contract Administration:
Hourly Rates:

Individual:	Individual's Name:	Individual's Title / Position	Hourly Rate (excl. GST)
Contract Administrator / Consultant:			$
Inspector / CA Support:			$
Other (please specify if any):			$

Expenses:

All Expenses charged at cost + _____ %

4. Area 3 – Rotary Beach:

The following remuneration shall be required for Area 3 (as detailed in Part A):

a) Lump Sum Prices: The following Lump Sum Prices shall be the required remuneration covering all Services for Area 3, except for Contract Administration:

Area 3 Service Element	**Lump Sum Price**
Environmental Sub-consultant	$
Preliminary Design	$
Detailed Design	$
Class A Cost Estimate	$
Tender Support	$
Other Costs (please specify if any):	$
AREA 3 TOTAL LUMP SUM PRICE:	**$**
GST:	$

b) Reimbursable Unit Rate Prices for Contract Administration:
Hourly Rates:

Individual:	Individual's Name:	Individual's Title / Position	Hourly Rate (excl. GST)
Contract Administrator / Consultant:			$
Inspector / CA Support:			$
Other (please specify if any):			$

Expenses:

All Expenses charged at cost + _____ %

5. Area 4 – James and Mary Gartrell Pathway:

The following remuneration shall be required for Area 4 (as detailed in Part A):

a) Lump Sum Prices: The following Lump Sum Prices shall be the required remuneration covering all Services for Area 4, except for Contract Administration:

Area 4 Service Element	**Lump Sum Price**
Environmental Sub-consultant	$
Preliminary Design	$
Detailed Design	$
Class A Cost Estimate	$
Tender Support	$
Other Costs (please specify if any):	$
AREA 4 TOTAL LUMP SUM PRICE:	**$**
GST:	$

b) Reimbursable Unit Rate Prices for Contract Administration:
Hourly Rates:

Individual:	Individual's Name:	Individual's Title / Position	Hourly Rate (excl. GST)
Contract Administrator / Consultant:			$
Inspector / CA Support:			$
Other (please specify if any):			$

Expenses:

All Expenses charged at cost + _____ %

6. Area 5 – Powell Beach:

The following remuneration shall be required for Area 5 (as detailed in Part A):

a) Lump Sum Prices: The following Lump Sum Prices shall be the required remuneration covering all Services for Area 5, except for Contract Administration:

Area 5 Service Element	**Lump Sum Price**
Environmental Sub-consultant	$
Preliminary Design	$
Detailed Design	$
Class A Cost Estimate	$
Tender Support	$
Other Costs (please specify if any):	$
AREA 5 TOTAL LUMP SUM PRICE:	**$**
GST:	$

b) Reimbursable Unit Rate Prices for Contract Administration:
Hourly Rates:

Individual:	Individual's Name:	Individual's Title / Position	Hourly Rate (excl. GST)
Contract Administrator / Consultant:			$
Inspector / CA Support:			$
Other (please specify if any):			$

Expenses:

All Expenses charged at cost + _____ %

7. Task Fee Schedule Breakdown

Proposals should include a Task Fee Schedule Breakdown provided with this Appendix B. This Task Fee Schedule Breakdown can be in a format of the Respondent's choosing, but should detail the following in order for the District to be able to evaluate the level of effort included as per the Scored Criteria (section 6.2 of Part B).

Task Fee Schedule Breakdown should provide the following detail:

- Detail of personnel, hours and the hourly rates included in the Total Lump Sum Price for each Area (i.e. all Services except Reimbursable Rate Work for Contract Administration), as per the requirements identified in Part A – the Services, and sections 2 to 6 of this Appendix B.
- Detail of all expenses and disbursements included in the Total Lump Sum Price for each Area (i.e. all Services except Reimbursable Rate Work for Contract Administration), as per the requirements identified in Part A – the Services, and sections 2 to 6 of this Appendix B.
- The total of the Task Fee Schedule Breakdown for the Services must match the Total Lump Sum Contract Price for each Area submitted in sections 2 to 6 of this Appendix B.

8. Payment Terms:

For Lump Sum Price work, the Consultant shall submit an invoice for the Lump Sum Price for each work element, following completion of each Work element.

For Reimbursable Unit Rate work, the Consultant shall submit invoices monthly, for hours worked and expenses incurred during the previous month.

The District shall pay all undisputed portions of invoices within 30 calendar days of receipt of invoice.

APPENDIX C – METHODOLOGY, TEAM AND SCHEDULE FORM

Proposals should include, in a format of your choice, the details requested in this Appendix C – Methodology, Team & Schedule Form, as detailed under Section 6.2 (Scored Criteria) of Part B. This section of your Proposal must be labelled as "Appendix C – Methodology, Team & Schedule Form".

Evaluation Factors:

Factors to be considered during the evaluation in assessing suitability of methodology, team and schedule will include:

- Quality and suitability of the approach, method, work and deliverables proposed in order to meet the scope of work requirements detailed in Part A.
- Demonstration that the Respondent understands the work required and factors to be considered during the Services;
- Experience and expertise of the proposed team;
- Ease of working with the proposed team considering the setup and ease of meeting;
- Suitability of the schedule proposed; plus
- Level of effort and hours proposed for the Services (as per the Task Fee Schedule submitted under Appendix B).

1. Methodology:

Please provide, on a separate sheet and in a format of your choosing, details of the steps, approach, methodology, work and deliverables your company and sub-consultants (if applicable) propose in order to deliver the Services, objectives and content detailed in Part A. Details on innovative ideas or other value-add approaches should also be provided.

2. Team:

Please provide, in a format similar to the table below, details of the team members from your company, and from Sub-Consultants (if applicable), that will deliver the Services outlined in Part A. Please also attach a resume for each named team member which provides an overview of their education and experience relevant to delivering the Service.

Team Member Name:	Position:	Employee or Sub-Consultant:

3. Schedule:

For the Services detailed in Part A, please provide a schedule, preferably in a gantt chart format, which details the following for key milestones, deliverables and activities:

a. Start and Completion dates
b. Work activity sequence/breakdown, showing predecessors / successors
c. # of work days

APPENDIX D – EXPERIENCE FORM

Proposals should include, in a format of your choice, the details requested in this Appendix D – Experience Form, as detailed under Section 6.2 (Scored Criteria) of Part B. Respondents should provide details on 3 projects completed in the last 5 years which are the most relevant and similar to the Services. Respondents should note that the District may contact the client to provide a reference on the experience listed (including amending scoring in the evaluation based on the client's feedback).

Evaluation Factors:
Factors to be considered during the evaluation in assessing suitability of experience will include:

- Suitability of experience with similar work and projects;
- Feedback from Client references, if the District chooses to contact references; and
- The District's own experience.

Project Experience #1

Client Name:	
Project Name:	
Reference Contact Name & Email:	
Date Respondent Started Work on Project:	
Date Respondent Finished Work on Project:	
Brief Description of Project and Services Respondent Performed:	
Value of Respondent Contract on this Project (excluding GST):	

Project Experience #2

Client Name:	
Project Name:	
Reference Contact Name & Email:	
Date Respondent Started Work on Project:	
Date Respondent Finished Work on Project:	
Brief Description of Project and Services Respondent Performed:	
Value of Respondent Contract on this Project (excluding GST):	

Project Experience #3

Client Name:	
Project Name:	
Reference Contact Name & Email:	
Date Respondent Started Work on Project:	
Date Respondent Finished Work on Project:	
Brief Description of Project and Services Respondent Performed:	
Value of Respondent Contract on this Project (excluding GST):	

APPENDIX E – SUBCONSULTANTS FORM

	Proposals should include, in a format of your choice, the details requested in this Appendix E– SubConsultants Form, as detailed under Section 6.2 (Scored Criteria) of Part B. This section of your Proposal must be labelled as "Appendix E – SubConsultants Form". Respondents should note that any SubConsultant which is not named in the Appendix E submission cannot be used in delivering the Service. Evaluation Factors: Factors to be considered during the evaluation in assessing suitability of subconsultants will include: • Suitability of the named SubConsultants; and • Suitability of the amount of the Services to be performed by SubConsultants.

Part of Services to be Performed	Legal Name of SubConsultant

APPENDIX F – EXCEPTIONS TO CONTRACT FORM

Respondents must complete all details requested in this Appendix F – Exceptions to Contract Form and include this completed form in the Proposal, as detailed under Section 6.2 (Scored Criteria) of Part B. No changes to this form must be made, except for completing the requested information in the spaces provided.

Evaluation Factors:
Factors to be considered during the evaluation in assessing the response to this Appendix will include:

- Ease for the District in accepting any proposed exceptions to the terms and conditions.

1. Statement on Exceptions to Contract:

Please check either statement A or statement B below:

STATEMENT A:

☐ We have read the Contract in Part C and confirm we have no exceptions to the terms and conditions detailed, should we be selected as the Consultant.

We further understand that by selecting Statement A, the District will be relying on this statement in the RFP evaluation, and there will be no further opportunity to make changes to the terms and conditions in Part C should we be selected as the highest-ranked respondent.

STATEMENT B:

☐ We have read the Contract in Part C and we have the following exceptions to the terms and conditions detailed, should we be selected as the Consultant:

(please detail specific exceptions, including clause # and wording change required, in space below):

Exhibit A: Area Location Maps

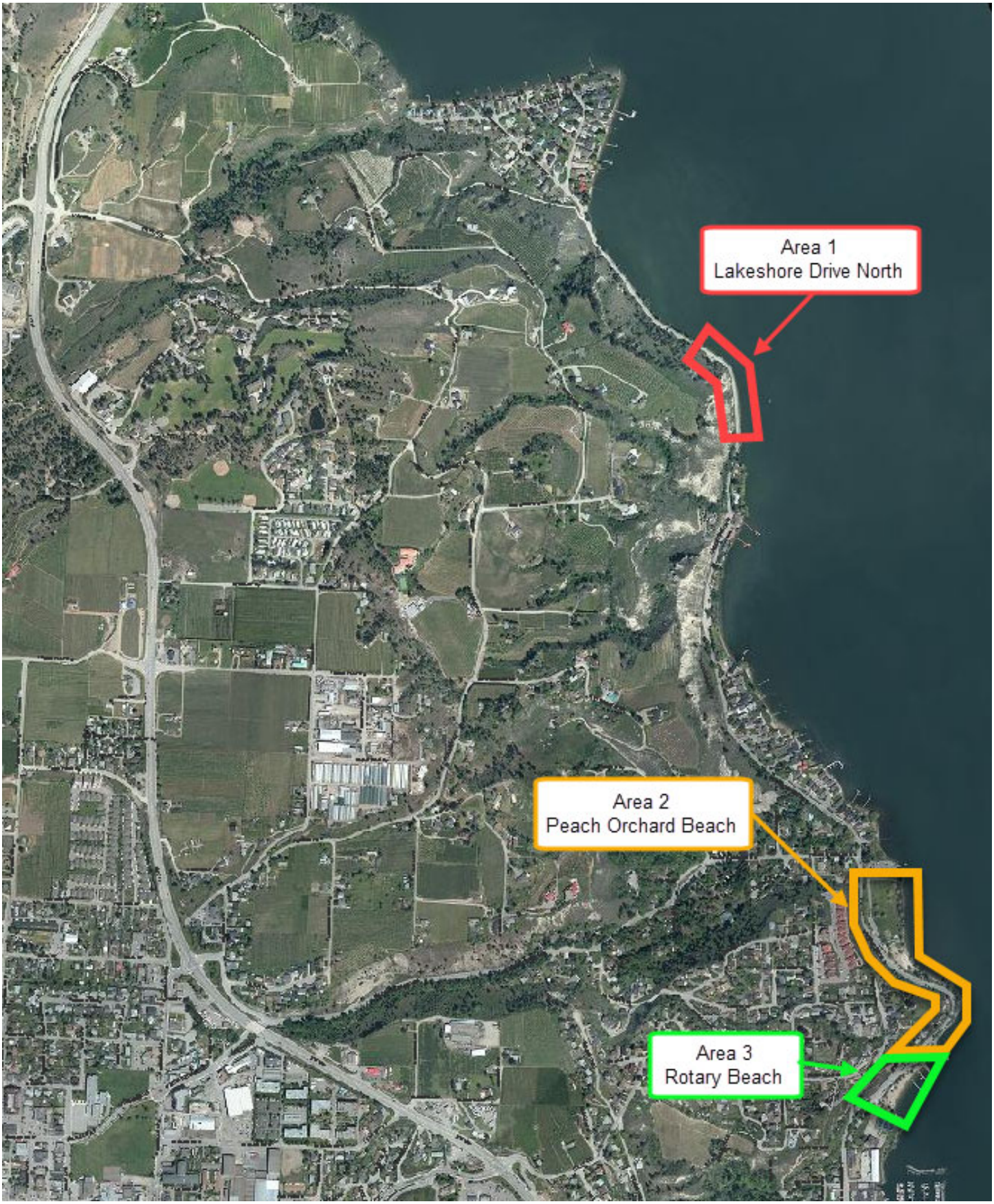
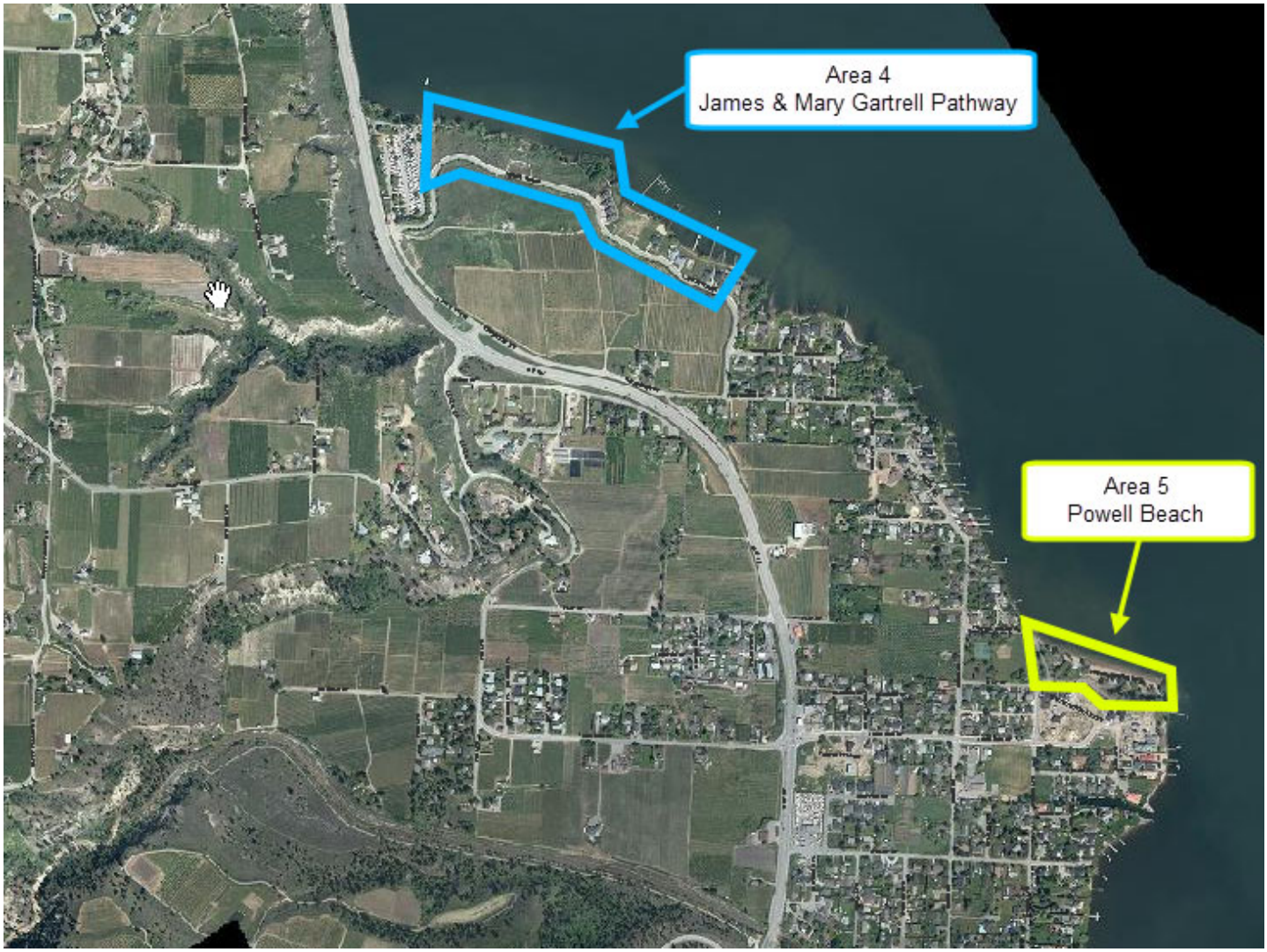


Exhibit A: Area Location Maps



MEMORANDUM

Date:	May 15, 2018
To:	Kris Johnson, P.Eng. – Director of Works and Utilities
cc:	Donalda Ritchie, BSc – Urban Systems Ltd.
From:	Sheldon Gull, AScT
File:	0872.0065.03 - R
Subject:	District of Summerland – Lakeshore Drive N. – 2017 Flood Site Evaluation

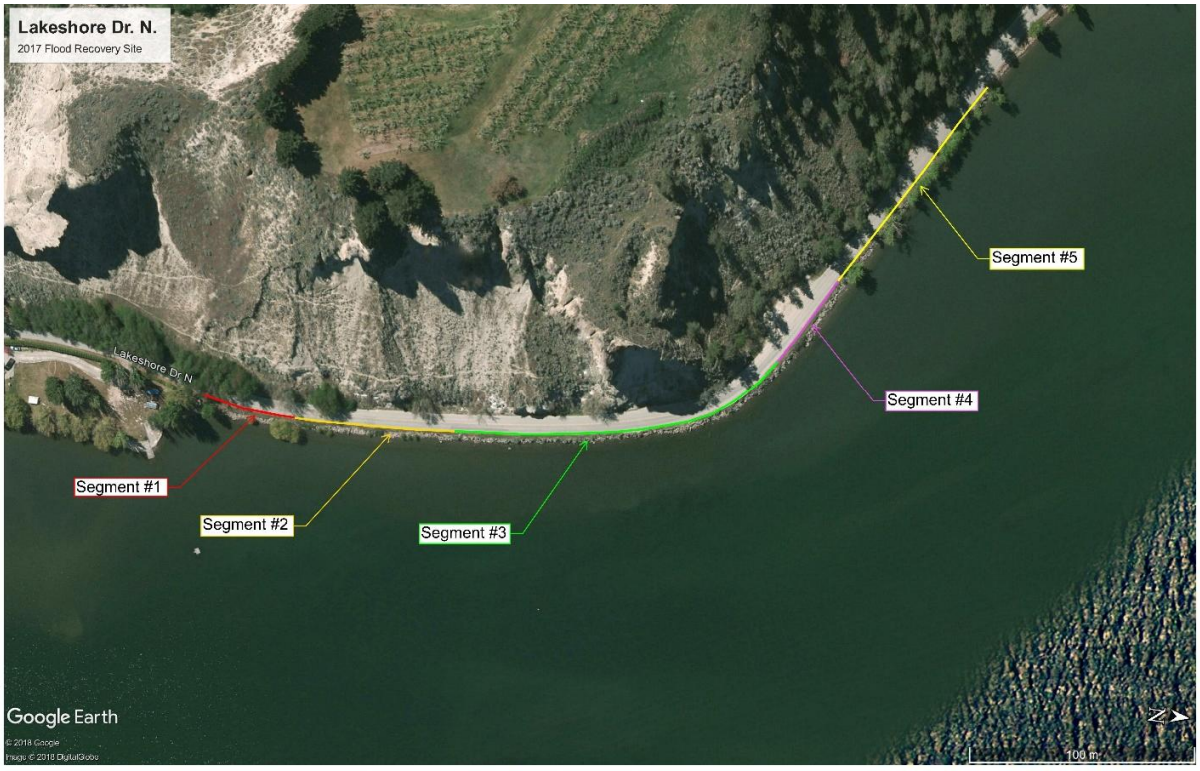
Dear Mr. Johnson

On March 23, 2018, Urban Systems conducted a site review of the subject site located on Lakeshore Drive North, approximately 1,200m north of the intersection of Lakeshore Drive North and Peach Orchard Road in Summerland, BC. The intent of this site review was to provide post-flood evaluation of the shoreline and resultant damage caused from the 2017 flooding along Okanagan Lake and throughout the Okanagan Valley.

Generally, within the extent of our evaluation area, the site can be dissected into five segments with somewhat differing characteristics or observed issues. Figure 1.1 provides a general site location map and Figure 1.2 illustrates the five distinct segments that this report evaluates.

Figure 1.1 – Location Map

Figure 1.2 – Site Map



SEGMENT #1

Segment #1 is the closest site to the south and begins just north of an existing stone and mortar shoreline wall that protects a private residence to the south. Segment #1 is approximately 41m in length and generally consists of embankments slopes ranging in slope from the majority 1.5:1 to as steep as 1:1. The existing road shoulder is approximately 2m wide and is protected from surface erosion with well-established grasses and low-lying vegetation. There is evidence that some riprap was pre-existing (prior to 2017 floods) along the embankment. The riprap is angular and reasonably keyed in however it is mostly undersized (< Class 10). There are several juvenile and mature willow trees along this segment that provide some insight as to pre-flood condition of the embankment area along this segment. Trunk bases are vertical with little to no curvature usually indicative of slope instability or past slope failure.

Photo 1.1: Segment #1 – Looking North (Historical Image)

Photo 1.2: Segment #1 – Looking South from North End of Segment

During the 2017 flood event, the high lake level combined with significant wind and wave action caused significant scouring of the embankment slope and undercutting of the road shoulder. This same condition has likely led to saturation of the underlying road structure gravels along the lakeside edge, creating subsequent road structure failures and longitudinal pavement cracking. Between June 6-8, 2017, the District placed additional angular riprap along the road embankment in an effort to mitigate some of the damage occurring from wave damage. The riprap was placed in response to the emergency and planning was limited in reaction to further pending wind storms. The riprap ranges in classification with some being between Class 25 and Class 10 and the majority being < Class 10 in size. Urban Systems understands that the source locations for material were limited due to demand at the time of placement. Additionally, due to high water levels at the time, proper placement and keying-in of riprap was not possible. The inability to properly place the riprap resulted in a relatively ineffective barrier to promote slope stability and protect road infrastructure.

Photo 1.3: Segment #1 – Looking North from South End of Segment

Photo 1.4: Segment #1 – Looking North – Asphalt and Road Structure Failure

RECOMMENDED STRATEGY

The following measures can be applied to this segment to address recovery efforts necessary due to the 2017 flood events or as enhancements to protect against future damage to the site under similar conditions:

RECOVERY	***ENHANCEMENT***
• *Remove 2017 riprap and repair embankment slope to 1:5:1 minimum slope* • *Place larger riprap (Class 25 or larger) and key riprap into slope embankment.* • *Remove localized asphalt failure and road structure gravels. Compact road subgrade to 97% Modified Proctor Density. Replace with suitable compacted road subbase and base gravels and re-pave using 50mm lift of Hot-mix asphalt.*	• Add additional riprap to top of embankment to protect shoulder against scour and undercutting

SEGMENT #2

Segment #2 begins directly north of Segment #1 and is approximately 71m in length. Segment #2 generally consists of embankments ranging in slope from 1:1 to 1.5:1. The existing road shoulder is approximately 1m wide and is protected from surface erosion with well-established grasses. There is evidence that some riprap was pre-existing (prior to 2017 floods) along the embankment. The riprap is angular and loosely keyed in although it is difficult to discern how far up the embankment the existing riprap extends. The existing riprap varies in size between Class 10 and Class 25 with occasional larger boulders and chunks of recycled concrete scattered throughout.

Photo 1.5: Segment #2 – Looking North (Historical Image)

Photo 1.6: Segment #2 – Looking South

During the 2017 flood event, the high lake level combined with significant wind and wave action caused significant scouring of the embankment slope and undercutting of the road shoulder. This same condition has likely led to saturation of the underlying road structure gravels along the lakeside edge, creating subsequent road structure failures and longitudinal pavement cracking. It appears the District placed additional angular riprap along the road embankment in an effort to mitigate some of the damage occurring from 2017 flood and wind storms. The riprap ranges in classification with some being between Class 25 and Class 10 and the majority being < Class 10 in size. Similar to Segment #1, the District placed emergency riprap between June 6-8, 2017 but was unable to place it strategically or properly key it in due to high lake levels and pending wind storms. As noted in Segment #1, this emergency riprap created a relatively ineffective barrier against additional slope embankment and road infrastructure damage caused by severe wind and wave action.

Photo 1.7: Segment #2 – Looking North

Photo 1.8: Segment #2 – Looking North – Asphalt and Road Structure Failure

RECOMMENDED STRATEGY

The following measures can be applied to this segment to address recovery efforts necessary due to the 2017 flood events or as enhancements to protect against future damage to the site under similar conditions:

RECOVERY	***ENHANCEMENT***
• *Remove 2017 riprap and repair embankment slope to 1:5:1 minimum slope* • *Place larger riprap (Class 25 or larger) and key riprap into slope embankment.* • *Remove asphalt and road structure gravels to lane center for entire length of Segment. Compact road subgrade to 97% Modified Proctor Density. Replace with suitable compacted road subbase and base gravels and re-pave using 50mm lift of Hot-mix asphalt.* • *Re-grade and restore road shoulder as need to convey drainage away from roadway*	• Add additional riprap to top of embankment to protect shoulder against scour and undercutting

SEGMENT #3

Segment #3 begins directly north of Segment #2 and is approximately 151m in length. Segment #3 is located on a radius curve to the left (northbound direction) which creates significant exposure to the lake and predominant wave action. The segment area generally consists of steep embankments, approximately 1.5:1 in slope and protected with large riprap and recycled concrete slabs ranging in size from Class 25 to Class 50. There is evidence that some riprap was pre-existing (prior to 2017 floods) along the embankment although it is difficult to discern how far up the embankment the pre-existing riprap extends. The existing riprap varies in size between Class 25 and Class 50. The existing road shoulder is approximately 0.5m to 1m and widens further where concrete roadside barrier has been placed. There is evidence of temporary flood recovery work including reshaping and compaction of shoulder gravels along this segment. Further permanent works are required to ensure slope and road infrastructure stability.

Photo 1.9: Segment #3 – Looking North – Embankment Slope

During the 2017 flood event, the high lake level combined with severe wind storms and wave action caused significant scouring of the embankment slope and undercutting of the road shoulder. This same condition has likely led to saturation of the underlying road structure gravels along the lakeside edge, creating subsequent road structure failures and longitudinal pavement cracking, although there is some evidence of pre-existing road damage as well. Similar to Segments #1 and 2, the District placed emergency riprap between June 6-8, 2017 but was unable to place it strategically or properly key it in due to high lake levels and pending wind storms. As noted in the previous segments, this emergency riprap created a relatively ineffective barrier against additional slope embankment and road infrastructure damage caused by severe wind and wave action.

Photo 1.10: Segment #3 – Looking North – Historical Image (Pre-existing Road Damage – 2012)

Photo 1.11: Segment #3 – Looking North

RECOMMENDED STRATEGY

The following measures can be applied to this segment to address recovery efforts necessary due to the 2017 flood events or as enhancements to protect against future damage to the site under similar conditions:

RECOVERY	***ENHANCEMENT***
• *Remove 2017 riprap and repair embankment slope to 1:5:1 minimum slope* • *Place larger riprap (Class 25 or larger) and key riprap into slope embankment.* • *Remove asphalt and road structure gravels to road center for entire length of Segment. Compact road subgrade to 97% Modified Proctor Density. Replace with suitable compacted road subbase and base gravels and re-pave using 50mm lift of Hot-mix asphalt.* • *Re-grade and restore road shoulder as need to convey drainage away from roadway* • *Road reconstruction will require an increased standard of concrete roadside barrier*	• Add additional riprap to top of embankment to protect shoulder against scour and undercutting

SEGMENT #4

Segment #4 begins directly north of Segment #3 and is approximately 45m in length. Segment #4 generally consists of embankments ranging in slope from 1:1 to 1.5:1. The existing road shoulder is approximately 1m to 1.5m wide and is protected from surface erosion with well-established grasses. There is evidence that some riprap was pre-existing (prior to 2017 floods) along the embankment. The riprap is angular and loosely keyed in although it is difficult to discern how far up the embankment the existing riprap extends. The existing riprap is primarily Class 10 or smaller with occasional larger boulders and chunks of recycled concrete scattered throughout. There are portions of this segment that are exposed and lacking riprap. As experienced in other shoreline areas of Okanagan Lake during the 2017 flood event, it may be possible that some existing armoring was transported away during heavy wave action periods. (see Photo 1.12).

Photo 1.12: Segment #4 – Looking North – Historical Photo (2012)

During the 2017 flood event, the high lake level combined with significant wind and wave action caused significant scouring of the embankment slope and road shoulder. There appears to be some pavement cracking near the center of the roadway but this is more likely due to normal wear and tear than flood activity. Similar to the other segments, between June 6-8, 2017, the District placed additional angular riprap along the road embankment in an effort to mitigate some of the damage occurring from wave damage. The riprap was placed in response to the emergency and planning was limited in reaction to further pending wind storms. The riprap ranges in classification with some being between Class 25 and Class 10 although much of it could be classified as smaller than Class 10. Urban Systems understands that the source locations for material were limited due to demand at the time of placement. Additionally, due to high water levels at the time, proper placement and keying-in of riprap was not possible. The inability to properly place the riprap resulted in a relatively ineffective barrier to promote slope stability and protect road infrastructure.

Photo 1.13: Segment #4 – Looking North

Photo 1.14: Segment #4 – Looking South

RECOMMENDED STRATEGY

The following measures can be applied to this segment to address recovery efforts necessary due to the 2017 flood events or as enhancements to protect against future damage to the site under similar conditions:

RECOVERY	***ENHANCEMENT***
• *Remove 2017 riprap and repair embankment slope to 1:5:1 minimum slope* • *Add some Class 25 to Class 50 riprap to lower portion of embankment to reinforce slope.*	• Add additional riprap to top of embankment to protect shoulder against scour and undercutting

SEGMENT #5

Segment #5 begins directly north of Segment #4 and is approximately 108m in length. Segment #5 generally consists of embankments ranging in slope from 1:1 to 1.5:1. The existing road shoulder is approximately 1m to 2.0m wide and is somewhat protected from surface erosion with through grading and some grasses. There is evidence of pre-existing riprap along much of the embankment ranging in size from Class 10 to Class 50. Some larger boulders and recycled concrete slabs are also scattered throughout this segment, providing additional armor. The top of the embankment is lined with juvenile and mature deciduous trees (Black Cottonwood) whose roots may offer additional slope stability by binding the soils together. The road condition in this segment appears to be in good condition and does not appear to have been affected by the 2017 flooding.

Photo 1.15: Segment #5 – Looking South – Historical Photo (2012)

Photo 1.16: Segment #5 – Looking South from North of Segment #5

During the 2017 flood event, the high lake level may have scoured this segment slightly although there is little evidence significant impacts or long-term effects. The existing riprap appears to provide good protection and the District has also placed some additional riprap (Class 10 minus) that will further serve to protect the embankment slope and road.

Photo 1.18: Segment #5 – Looking South (RipRap Armor)

Photo 1.19: Segment #5 – Looking North (RipRap Armor)

RECOMMENDED STRATEGY

Segment #5 generally appears to be performing well. The District could consider hand replacement of riprap to key it into the embankment better and perhaps adding some more to the top of the embankment but this is not considered essential.

Sincerely,

URBAN SYSTEMS LTD.

Sheldon Gull, AScT
Senior Technologist

/sg

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Memo

WATERS EDGE ENGINEERING LTD.
WatersEdgeLTD.ca

To:	Kris Johnson - District of Summerland c/o Donalda Ritchie – Urban Systems Ltd.	Project No.:	1543
From:	Tara Hirsekorn, P.Eng.	Date:	August 23, 2018

Re: Foreshore Assessment Post 2017 Flood – District of Summerland – Rev.1

1.0 INTRODUCTION

Waters Edge Engineering Ltd. ("Waters Edge") was retained by Urban Systems Ltd. (USL) to conduct an assessment for the District of Summerland (DoS) of their shoreline on Okanagan Lake that was damaged by wave erosion during the 2017 flood. The objective of this assessment is to identify areas of shoreline that require repairs, that are adequately protected or that require additional protection from waves due to the damages sustained by wave action during the 2017 flood.

A site assessment was conducted by Tara Hirsekorn of Waters Edge on October 30, 2017 for the area south of Crescent Beach and north of Sun-Oka Beach. Representatives from the District of Summerland were present to describe the construction methodologies for the emergency work conducted during the flood to protect infrastructure and to describe the pre-flood condition. The water level on October 30, 2017 was 341.71m GD as a reference for the photos at the end of this memo.

2.0 ASSESSMENT AND RECOMMENDATIONS SUMMARY

Most of Summerland's shoreline consists of loose, mobile, sand or rounded gravel sediments on the beaches. The bedload is anticipated to be seasonally mobile, with locations of excessive sediment movement following the deep water waves of the 2017 flood event. The damages discussed here are judged to have been due to wave action on the high water levels during the 2017 flood event. No wave study is available. Comments are based on judgement and anecdotal information only. A wave study is recommended for repair work.

In general, the following recommendations apply to the shoreline restoration:

- Erosion protection should be constructed to the Flood Construction Level (FCL) elevation, or to just above the infrastructure to be protected – whichever is higher.
- Plant more trees along the shoreline and protect the existing large trees. Where there are trees the infrastructure has survived – most damage has occurred between the treed areas. Established large trees are the best shoreline protection, but they take time to grow.
- Logs and natural debris are nature's scour protection – leave this on the shoreline or use the logs that wash up in other areas for shore protection.
- Do not remove the emergency rock on the shoreline until there is something to replace it with.

Figure 1 identifies the approximate location of the sites along the Summerland shoreline for reference and was developed to assist the reader in understanding the content of Table 1.

Figure 1 - Site Locations for Flood Assessment (Google Earth 2012/05/12)

Table 1 summarizes the assessment results, priority level and recommendations for 8 of the 16 sites identified and should be read with the associated reports from Urban Systems and CWMM. The photos at the end of this report are associated with the site numbers in Table 1 for cross-reference.

Table 1 – Summary of Shoreline Assessment and Recommendations

Site No.	Site Description	Priority	Comments
1	Lakeshore Drive N. Emergency Riprap	High	- Concrete barriers are undermined and some are leaning (1 has fallen into lake) • Hazard to Motorists. Barriers are bearing on emergency riprap - Road shoulder is eroded in some locations • Likely needs to be rebuilt if required for road safety • Needs erosion protection and proper riprap design - Small riprap was placed along the shoreline as emergency erosion protection • Mat thickness appears too thin and likely inadequate size based on old existing riprap (no wave info available to verify sizing) - Sanitary force-main is below road

2	Crescent Beach	N/A	No shoreline assessment
3	Peach Orchard Beach Park	High	- Asphalt pathway is damaged • Scour at south end adjacent to water park with pathway being undercut and partially lost - needs repair/replacement and scour protection • Approximately ½ the width is washed away along the beach and needs repair/replacement, along with erosion protection. - Ideal location for trees and planting - No damage to path pre-flood
4	Walkway between Dog Beach & Pier	High	- Existing riprap along old timber wall is too steep and likely too small • No filter material underneath riprap - 40mm-450mm riprap added to existing riprap during storm • likely OK overall, but needs localized repairs along full length - Scour at pier abutment has created a hole and has been covered with plywood - Sections of edge of path have been washed out by wave action • Needs repair and scour/erosion protection - Old timber wall at point is missing some timbers at top leaving path exposed to further damage from waves - Path sections at lower elevations were under water and lifting/oscillating in waves, causing a loss of sub-base materials and uneven settling of the pathway • Sand remaining on settled sections of path after water level receded • Consider raising the lower sections to FCL
5	CRP Pier 'T' Dock	N/A	No shoreline assessment
6	Rotary Beach Park	High	- Single row of lockblocks are bearing on unstable ground and retaining beach material along pathway • Bases of several blocks are exposed – recommend scour protection - First chain link post foundation is exposed and section has fallen - Old timber wall is in poor condition but is protecting concrete wall from scour • Material has been washed out from between the existing timber and concrete walls - Pathway along beach has been washed away • Repair the entire section and add erosion protection
7	Pathway behind Racquet Club	Low	- Appears to be a sinkhole developing near centerline of path • may be due to saturated conditions from groundwater during flood - Asphalt is in good condition but starting to erode • Needs erosion protection - Ideal site for planting
8a	Summerland Resort Walkway	Moderate	- Walkway is a concrete slab on grade – adjacent beach is susceptible to erosion • Undermined approximately 1 meter (42") - Need to re-establish foundation for slab w/ erosion protection • Consider logs or bio-engineered resort-friendly solution
8b	Summerland Resort Walkway – Vegetated Point	High	- Concrete sidewalk undermined approximately 800mm (32") - Geotextile is damaged, sand at top of bank has washed away. Slope is too steep for sand. – need to re-establish sidewalk foundation and geotextile to retain material and install erosion protection • Visible loss of land
9	Kinsman Park	N/A	No shoreline assessment

10	James & Mary Gatral Pathway	Moderate (Pathway)	- Path is covered in sand and gravel sediments at various locations • Reduced access for handicapped persons - Boardwalk has been lifted from its foundation and re-positioned by flood waters (ref. structural report) - Some areas are susceptible to erosion but majority has sufficient, natural vegetation
11	Thornbor Public Beach Access	N/A	No shoreline assessment
12	North Nixon Public Beach Access	N/A	No shoreline assessment
13	Powell Beach	Moderate	- North end of beach has an exposed PVC pipe and bank is scouring - Approximately 15m strip of asphalt path along beach has been eroded and completely washed away – needs repair and erosion protection • Appears to be founded on beach sand and has no erosion protection - Approximately 410 linear meters of the pathway is severely cracked with a very uneven walking surface, and has many sinkholes from being completely submerged during the flood event - Localized asphalt damage from machinery when installing Tiger Dams - Bench foundations are exposed and beginning to become undermined - Asphalt parking lot was used as a staging area for machinery and some asphalt damage can be observed
14	Transfer Station and Junction Boxes	N/A	No shoreline assessment
15	Wharf Street Boat Launch	N/A	No shoreline assessment
16	Stonor Road Public Beach Access	N/A	No shoreline assessment

The shoreline protection treatment is to be completed with an engineer familiar with wave erosion processes on Okanagan Lake and in conjunction with the upslope geotechnical/structural stabilization by others. Environmental professionals may also be required for the works; an "approval" process is anticipated to be required for all foreshore work, including repair of riprap and stabilization of the foreshore area since this repair work is required below the 343 m elevation.

This summary relates only to the wave erosion aspect of the assessment and is a broad overview document intended to aid in planning of next-steps for repairs to the shoreline protection. Note that these statements are based on minimal information.

3.0 SUMMARY OF DFA ELIGIBLE FLOOD DAMAGES

This section provides insight to damages sustained from the 2017 flood on a site-specific basis. The information provided is inferred from pre-flood and post-flood condition provided by external sources. Table 2 summarizes the 2017 flood impacts due damages from waves on high water levels and may be used to support funding applications to DFA.

Table 2 – Summary of Shoreline Assessment and Recommendations

Site No.	Site Description	Damage
1	Lakeshore Drive N. Emergency Riprap	Road shoulder eroded and concrete barriers undermined and displaced from wave action on high water during the 2017 flood event. Emergency riprap placed under emergency works is likely inadequate.
3	Peach Orchard Beach Park	Asphalt pathway damaged from scour during the 2017 flood event. Sections have collapsed, and others are undermined.
4	Walkway between Dog Beach & Pier	Scour hole formed at the pier abutment from waves on high water in 2017. Old timber wall lost some timbers on the top, exposing the pathway to waves. It is unknown if this was damaged pre-event. The lower-elevation sections of path were below water and lost base materials and settled unevenly from the 2017 flood event. Riprap placed under the emergency works is OK but requires some localized repairs.
6	Rotary Beach Park	Fence has fallen, and the post foundation is exposed due to material washing away during the 2017 flood event. Pathway along the beach has been washed away from waves on high water.
7	Pathway behind Racquet Club	During the 2017 event, beach materials scoured up to the edge of the pathway, leaving the pathway vulnerable to damage, and a steep edge unsafe for pedestrians. There are sinkholes in the centre of the pathway, likely due to high groundwater during the 2017 flood event.
8a	Summerland Resort Walkway	Concrete pathway is undermined up to 1m from the waves on high water in 2017.
8b	Summerland Resort Walkway – Vegetated Point	Concrete pathway is undermined and geotextile retaining material is exposed and damaged, and there is a loss of beach sand from waves on high water in 2017.
10	James & Mary Gatral Pathway	Boardwalk section has been displaced off foundations, and sandy-gravel and woody debris is covering the pathway from deposition from waves on high water in 2017.
13	Powell Beach	Sections of asphalt pathway were eroded and washed out from waves on high water in 2017, and sections of the asphalt parking lot and pathway were damaged from machinery installing tiger dams. Several bench foundations are exposed and vulnerable to undermining from the 2017 flood event.

4.0 LIMITATIONS

This document has been prepared for the District of Summerland via. Urban Systems Ltd. in support of their shoreline erosion assessment from the 2017 flood damage. It is intended for their exclusive use on this project and may not be relied upon by any other party or for any other project or location. Waters Edge provides opinions in this document based on limited information available and provided by others and provides no warranty on this information. Climate change may impact the estimated return period events of storms and water levels as well as sediment trends. All project guidance, estimations and correspondence are bound by the terms in the Services Agreement.

Attachments:
Photos from the site assessment

1-Barriers are Undermined along Eroded Bank

1-Emergency Riprap installed Along Bank

3-Pathway Adjacent to Waterpark Scouring along Eroding Beach

3-Sections are Undermined and Failing

3- Section of Pathway along Beach is Eroding and Washing Away

4-Emergency Riprap Placed along Wall is Steep with no Filter

4- Pier Abutment Scour with Holes Boarded with Plywood

4- Submerged Path, Base Materials Mobilized Causing Uneven Asphalt Surface with Visible Erosion Damage

4- Pathway Susceptible to Erosion and Sediment Deposit where Old Timber Wall Sections are Damaged

6- Row of Lockblocks have Exposed Bases from Erosion with Visible Sediment Line

6-Lockblocks Retaining Material in Front of Pathway

6-Significant Loss of Pathway from Erosion

6-Old Timber Wall Retaining Material in Front of Concrete Wall – Concrete Wall has Exposed Footing

7-Sinkhole Developing in Center of Pathway

7-Erosion of Bank and Pathway is Beginning

8a-Concrete Pathway is Undermined and Scouring

8a-Concrete Pathway is Undermined ~40”

8a-Concrete Pathway is Undermined and Scouring

8b-Vegetated Point is Exposed to Waves and Actively Scouring

8b-Geotextile Retaining Material is Exposed and Damaged

8b-Concrete Pathway is Undermined and Scouring

8b-Concrete Pathway is Susceptible to Scour and has Exposed Geotextile

10-Boardwalk Section has been Uplifted and Displaced off Foundations

10-Leaf and Log Debris Deposited along Pathway

10-Sediments deposited along Pathway

13-Asphalt Parking Lot has been Eroded

13- Asphalt Pathway has been Eroded and Washed Away

13-Undermined Bench Foundations

13-Asphalt Pathway has been Eroded and Damaged

13-Exposed PVC Pipe Exposed from Shoreline Erosion

Powell Beach Park Management Plan

Prepared for the District of Summerland by:

LEES + ASSOCIATES

Final Report August 8, 2018

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ACKNOWLEDGMENTS

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CONTENTS

1 INTRODUCTION

1.1 BACKGROUND

Powell Beach Park is a popular community park in the Trout Creek neighbourhood of Summerland. Located on the shore of Okanagan Lake, Powell Beach Park features a sandy beach, shade trees, grass areas, picnic tables, playground, parking, washroom facilities, and a paved pathway. In addition, the west side of the Park (not part of this scope of work) has grassy areas, shade trees, two tennis courts and a softball field. The park is heavily used as a beach destination throughout the summer.

Powell Beach Park is a fully developed park, but still has significant environmentally valuable resources including mature Cottonwood trees, a residual (but impacted) red listed ecosystem (black cottonwood - Douglas-fir/common snowberry - red-osier dogwood), and highly altered ephemeral wetland. Adjoining residential development has impacted the adjacent vegetation and views into the park, but there is potential to restore some of this landscape to provide biodiversity and improve the atmosphere.

In 2017, Okanagan Lake's rising water table flooded Powell Beach Park causing damage to park infrastructure and vegetation. With climate change projections of increased precipitation and larger storm events, flooding challenges could become a more frequent occurrence for Summerland. The District of Summerland has embedded climate goals into their asset management planning in hopes to provide greater environmental, economic and social value for residents over time. Protecting sensitive ecosystems is incorporated into both Summerland's 2011 Climate Action Plan, 2018 Parks and Recreation Master Plan, and within regional climate action planning in South Okanagan's Regional Growth Strategy. Restoring riparian vegetation along Powell Beach could align with these goals as well as providing ecosystem services such as flood mitigation to the Park and flood mitigation benefits to the surrounding residential development.

Photo: 1 Powell Beach Panorama, looking east

Summerland's Official Community Plan (OCP) also recognizes the importance of the natural environment and its contribution to the health of the community through the preservation of sensitive ecosystems. The OCP specifies that "Ecologically sensitive ecosystems such as wetlands, grasslands, riparian areas, shall continue to be preserved." The OCP provides a series of objectives and an overarching policy framework focused on stewardship and protection of the surrounding natural environment that can provide overall policy directions for the management of Powell Beach Park.

In addition, the OCP recognizes that Summerland's aesthetics and quality of life are positively influenced by its foreshore, parks and open spaces. Remediation of lakeshore parks is further recommended in The Parks and Recreation Master Plan as an opportunity to improve recreation amenities. Both documents provide a series of objectives, strategies and policies for parks and open space management that can also provide guidance to the Powell beach management plan.

Photo: 2 Playground at Powell Beach Park

1.2 PROJECT PURPOSE

The purpose of this Management Plan for Powell Beach Park is to provide direction to staff on appropriately managing the Park and its habitats, as well as guidance on flood management. This plan also outlines actions that can be taken to improve the park in terms of recreational opportunities and park user experience. The Plan balances recreation and conservation, ensuring the Park can be enjoyed and protected in the future.

1.3 PROJECT PROCESS

Development of the Management Plan involved the collection and analysis of relevant information, a technical site survey, identification of recreation and environmental features within the Park boundaries, identification of management issues for the Park, development of overall management objectives and strategies for the Park, delineation of management zones, and development of principles, objectives and strategies for each zone.

District of Summerland staff from Parks & Recreation, Planning, and Works & Utilities, as well as the District's Environmental Planner Advisor from the South Okanagan Similkameen Conservation Program, provided relevant information and reviews throughout the project.

2 PARK CONTEXT

This section provides an overall description of the existing park and explores the ecological context in more detail. This is followed by an in-depth discussion of the key issues and opportunities.. This background information and analysis provides the foundation for the Vision outlined in Section 3 and the management recommendations made in Section 4.

2.1 PARK OVERVIEW

Powell Beach Park is a Community Park that provides opportunities at the community or multi-neighbourhood level for play and recreation. The park is 3.2 ha (8 ac.) in size and is bisected by Powell Beach Road. The eastern section of the park, which is the focus of this study, contains an extensive swim beach, with support amenities including: unorganized parking, washroom/change rooms, outdoor shower, picnic facilities, small playground, swing set, asphalt pathway and an informal non-motorized boat launch. The western portion of the park (not included in the present study) includes tennis courts, ballfield, lawn, copse of trees, sewer pump station and paved parking lot. The entire park is used extensively during the summer months with reports of lack of parking. Some seasonal events are scheduled such as a bathtub race and Kids tri-it sports camp. A Canada Coast Guard Navigation aid is situated at Gartrell Point, the eastern most point of the park.

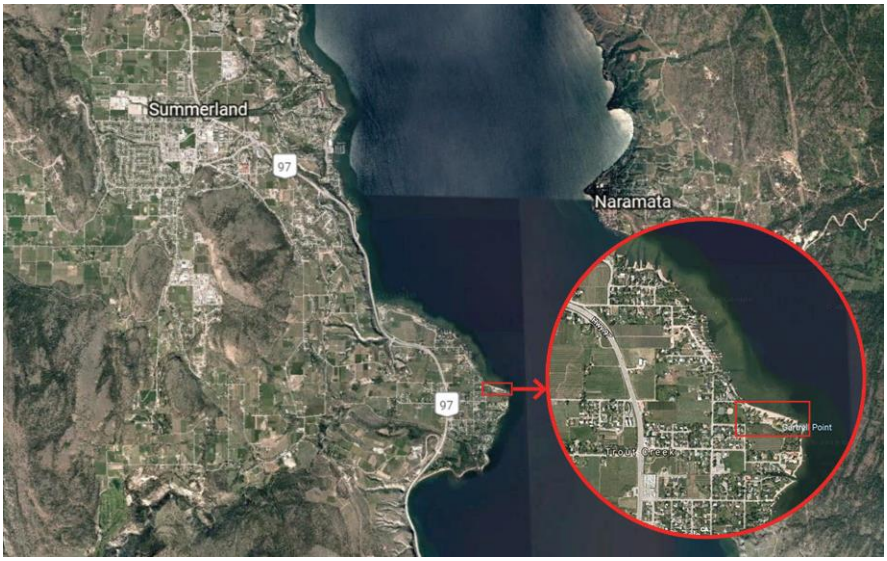


Figure 1: Powell Beach Park Location Map

The local neighborhood of Trout Creek sits adjacent to the park. The recent development of the 'Lighthouse Landing' subdivision and associated clearing of trees has created unbuffered, open views through the park, negatively impacting the experience of park visitors.

Most of the park lies on District land, with the sand beach and some of the recreation facilities residing on Crown land. The sand beach was originally man-made. However, accretion of the beach is occurring as a result of a rock groin placed on the NE corner of the beach.

Historically the park was part of the lake's floodplain with surrounding riparian habitat. Today, the majority of the park has been filled and altered. There remain some small areas of remnant native plant

communities at Gartrell Point (east end of the park). Low lying sections of the park are subject to seasonal small scale flooding resulting in temporary saturated conditions. Major flooding occurred in summer 2017 and, to a lesser extent, in 2018.

2.2 ECOLOGICAL CONTEXT

Powell Beach Park lies within the low lying hot dry interior of the province, within the rain shadow of the coastal mountains. Nearby Sun-Oka Beach Provincial Park has been classified as a Bunchgrass biogeoclimatic zone (PGxh1), one of the rarest zones in the province. The provincial park has been established in part to protect a small portion of old growth cottonwood riparian habitat adjacent to Trout Creek.

Historically, Powell Beach Park would have been in a similar biogeoclimatic zone with upland grasslands and an active floodplain composed of a Cottonwood riparian ecosystem. The BC Conservation Data centre has ranked these amongst the rarest plant communities in the province and assigned a red- listed designation. Today, Powell Beach Park has been extensively modified to support passive and active recreation. The site is largely a manicured sand beach and open lawn with only remnant environmental values in small tree/ shrub patches, occasional cottonwood trees and a pocket native riparian ecosystem.

Photo: 3 Park trees include Ponderosa pine.

A mixed tree cover of ornamental and native trees is present including:

- Plane tree (Platanus)
- Elm (Ulmus)
- Oak (Quercus)
- Lombardi Poplar (Populus nigra)
- Weeping Willow (Salix alba)
- Ash (Fraxinus)
- Black Cottonwood (Populus balsamifera)
- Ponderosa Pine (Pinus ponderosa)
- Birch (Betula paperifera)

While providing some shade, the tree cover is very mixed and not cohesive. Many trees show signs of decline including dieback, broken limbs and bole rot. The native cottonwood and ponderosa pine represent small remnants of the original landscape.

The former buffer adjacent to the Lighthouse Landing subdivision was composed of a mixture of native and introduced plants including black cottonwood, Trembling Aspen, Lombardi Poplar, blackberry and Nootka Rose.

Black Cottonwood Ecosystem

Powell Beach Park is not within Summerland's Environmentally Sensitive Development Permit Area, but it does include sensitive ecosystems and high conservation rank areas as documented in the report, *Keeping Nature in our Future: A biodiversity conservation strategy for the South Okanagan Similkameen*[1]. Powell Beach Park shoreline areas once supported black cottonwood - Douglas-fir/common snowberry - red-osier dogwood, an endangered ecological community (red-listed) in British Columbia, as evidenced by existing fragments of this ecosystem that remain on the site.

The Okanagan Lake Foreshore Inventory Update Report (2016) documented that the majority of Okanagan Lake shoreline is developed with only 41% remaining natural[2]. Retention and enhancement of Cottonwood riparian ecosystems adjacent to the shoreline, along with other deep-rooted shrubs would contribute to lake health in the area[3].

Small areas of that community can be found within the park, particularly the cottonwood stand at Gartrell Point (the east end of the park). The area is approximately 900 square meters in size but fragmented with pathways, a picnic table, bench, and fill materials. Approximately 8 medium aged cottonwood trees are present in fair to good condition and another 8 young trees are developing, indicating that suitable growing conditions exist for regeneration to occur.

Native plant species present include:

- Black cottonwood (Populus balsamifera)
- Ponderosa Pine (Pinus ponderosa)
- Tall Oregon Grape (Mahonia aquifolium)
- Snowberry (Symphoricarpus albus)
- Star- flowered Solomon's seal (Smilacena stellata)
- Horsetail (Equisetum ssp.)

Photo: 4 Cottonwood stand at Gartrell Point

[1] South Okanagan Similkameen Conservation Program. 2012. Keeping Nature in our Future: A biodiversity conservation strategy for the South Okanagan Similkameen.
2 Schleppe, J. and R. Plewes. 2017. Okanagan Lake Foreshore Inventory and Mapping Update 2016. https://www.vernon.ca/sites/default/files/docs/Sustainability/Water/2016_fim_update_report-april_2017.pdf
3 Alison Peatt. SOSCP Environmental Planner. Personal communications 2018/ 05/31.

Kokanee and Mussels

A review of the Okanagan Large Lakes Foreshore Protocol website was conducted to determine possible priority management actions for Species At Risk (SAR) within the vicinity of the park[4]. There are no reports of suitable habitat for shore spawning Okanagan Lake kokanee (*Oncorhynchus nerka*) or notable freshwater plants near the park. However, the Rocky Mountain Ridged Mussel (*Gonidea angulate*) has been mapped in shallow water approximately 1km north of the park.[5] In Canada, this species occurs only within the Okanagan Valley basin and is listed as Endangered by the Federal Species at Risk Act (SARA) and red listed by the BC provincial government.[6,7] The likelihood of any park development activity adversely affecting foreshore SAR populations is low, and any work within the lake would have to follow the protocols for freshwater mussels.

2.3 KEY ISSUES AND OPPORTUNITIES

Key issues and opportunities presented in this section were identified through discussions with District of Summerland staff and the District of Summerland's Environmental Planner Advisor from the South Okanagan Similkameen Conservation Program, as well as through on-site observations. This section outlines the predominant management issues affecting the park. These are also summarized on Figure 4. Site Analysis and Figure 5. Opportunities and Constraints Map in Appendix A.

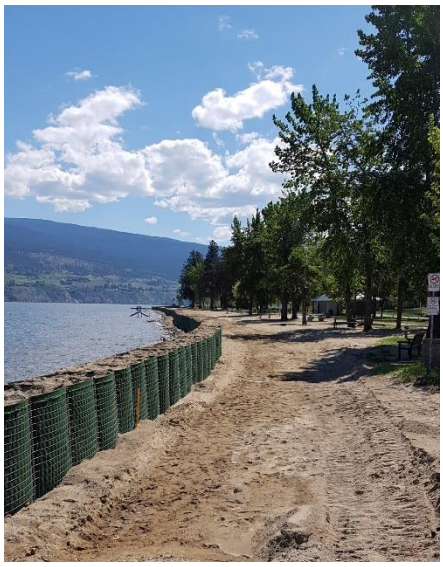


Photo: 5 Sand-filled gabions provide temporary flood protection (2018)

2.3.1 FLOOD MANAGEMENT

In 2017, Okanagan Lake's rising water levels flooded Powell Beach Park causing damage to park infrastructure and vegetation. The flood elevation reached 343.25m, which is the highest it has ever reached since the dam was built and 20 cm above the 200-year flood level.

4 https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/natural-resource-standards-and-guidance/best-management-practices/okanagan-large-lakes-foreshore-protocol
5 Alison Peatt. SOSCP Environmental Planner. Personal communications 2018/05/24.
6 B.C. Conservation Data Centre. 2018. BC Species and Ecosystems Explorer. B.C. Ministry of Environment. Victoria, B.C. Available: http://a100.gov.bc.ca/pub/eswp/ (accessed Jun 3, 2018)
7 http://www.sararegistry.gc.ca/virtual_sara/files/cosewic/sr_rocky_mtn_ridged_mussel_0911_eng.pdf

In 2018, lake levels reached 342.66m and gabions were placed along the beach, but water levels did not rise high enough to reach them. The installation and removal of the sand-filled gabions is much faster and easier than the tiger dams used in 2017, and they are more resilient to damage by floating debris[8].

During both 2017 and 2018 peak lake water level events, groundwater elevations also caused localized flooding/pooling water along the road and parking area and in the southeastern portion of the park. Pumps were used to direct groundwater back to the lake.

Flood management is an important consideration for this Management Plan which will aim to increase resiliency within the Park when flood events occur. Based on the experiences of 2017 and 2018, high water levels and land erosion can be mitigated within the Park by temporary flood protection structures. In addition, there are opportunities to address high groundwater levels by improving the road and parking areas, increasing permeable surfaces, enhancing natural areas, directing excess water back to appropriate areas onsite, and creating an outlet for flood water or groundwater to return to the lake.

Critical infrastructure needs to be designed so that if flooding occurs, it will be able to withstand the water and maintain function once levels decrease. This includes the existing lift station and any future infrastructure such as electrical stations.

Increasing the natural conservation portions of the site will additionally aid in flood management by creating areas for water to be directed during flooding and as flood waters recede. Directing water into these natural areas may help reduce the impacts of water in areas with park infrastructure and enable evapotranspiration and percolation to the extent possible.

Strategies and specific recommendations for flood management are outlined in Section 3.

2.3.2 ACTIVITIES AND RECREATION OPPORTUNITIES

Powell Beach Park is a popular community park in the Trout Creek neighbourhood with a mix of passive and active programming. The Park receives its highest usage in summer months for activities such as swimming, picnicking, and summer events, and is expected to become more of a destination park in the future, attracting more visitors from out of town.

The playground is small, suitable for younger children only, and the existing swing set is isolated from the playground. The existing play area also doesn't connect to the natural setting or the beach. There is room to expand the play area to include new swings or other play structures, as well as nature play features (rocks, logs, water, plants).

Currently there is an unused concrete pad adjacent to the existing swing set. Repurposing of the concrete pad could create an expanded picnic area and covered shade shelter. A second picnic shelter next to the playground would also enhance this area for families.

[8] *Personal communication with Maarten Stam, District of Summerland.*

The beachfront contains a popular slide into the water, but there is an opportunity to add another slide or other play features along or near the shoreline. Currently there is a lack of clear delineation of the swimming area where motorized boats are prohibited. There is also an informal motorboat access area near Gartrell Point and a non-motorized boat drop point on the west end of the beach without proper signage or safety measures. Proper delineation and signage for swimming and motorized boats is needed along the waterfront to ensure safety of beach users.

Photo: 6 Swings within lawn area and remaining concrete pad from a former structure.

Strategies and specific recommendations for improvements to activities and recreation are outlined in Section 4.

2.3.3 PARK INFRASTRUCTURE

Park infrastructure, including the parking lot, pathways, waste receptacles, some park furniture, irrigation systems, and washrooms, are in need of upgrading. The pathway has been damaged by flooding and tree roots. Repair and extension of the pathway could improve access and circulation. The washroom facilities are in need of upgrading and could provide enhanced accessibility.

Photo: 7 Washroom building (rear view)

The existing parking area is gravel with concrete barriers and bollards. Park visitors currently park along both sides of Powell Beach Road and signage and vehicular circulation is not well-organized. There is an opportunity to reorganize parking on site to improve efficiency, maximize usable park space, and improve accessibility.

Strategies and specific recommendations for improvements to park infrastructure are outlined in Section 4.

2.3.4 PARK VEGETATION AND BUFFERS

A vegetative buffer previously existed along the southern edge of the Park adjacent to the Lighthouse subdivision containing cottonwood, aspen, Lombardi poplar, blackberry and Nootka rose. During development this buffer, which was primarily on the adjacent private property, was removed, impacting the atmosphere of the park and eliminating the habitat value of this hedgerow. Shrubs were replanted in a 3 metre wide buffer area, but most have not survived due to lack of clarity on maintenance responsibility. There is a strong desire from park users to recreate a buffer, re-establishing the visual barrier from adjacent properties. There is also an opportunity to enhance natural habitat areas, which will be discussed below, as well as increasing the cohesiveness of plantings.

Strategies and specific recommendations for improvements to park vegetation and buffers are outlined in Section 4.

Photo: 8 Wildlife tree snag at the cottonwood ecosystem fragment at Gatrell Point

2.3.5 ECOSYSTEM RESTORATION

Historically part of the lake's floodplain, Powell Beach Park is a now a developed recreation site with only small pockets of intact native habitat. The Park's main environmental resources are the mature Cottonwood trees, residual red-listed ecosystem pockets (black-cottonwood-Douglas fir-common snowberry-red osier dogwood) at the east end of the park, Gartrell Point.

The area adjacent to the remnant cottonwood ecosystem fragments is seasonally wet, due to groundwater seeping upwards during high lake water levels. It is currently composed of ornamental grasses and managed as mown lawn, but has potential as an ecological restoration area. Due to this area's habitat potential and low lying conditions, it provides an opportunity for restoration to create a natural conservation zone and to help mitigate flood water impacts in the park.

Restoration efforts will aim to re-establish native vegetation including wildlife trees, native shrubs and groundcover suitable for a cottonwood forest. Shoreline planting protects tree root systems, minimizes erosion and maintains natural bank geometry. Established vegetation will provide habitat and food

sources for fish in the form of leaf litter and insect drop, as well as providing habitat for wildlife species such as amphibians, raptors and varies bird species. Through the "Growing Strong Together Riparian Restoration" project, with funding from Heritage Canada and in cooperation with the Regional District of Okanagan-Similkameen, the District of Summerland is being gifted young cottonwood trees to be planted. Placement and management of these trees will be key in restoration efforts on site.

Strategies and specific recommendations for ecosystem restoration are outlined in Section 4.

2.3.6 STEWARDSHIP AND NATURE INTERPRETATION

As a popular community park, Powell Beach has an opportunity to engage the local community in park stewardship and ecological education. Interpretative signage regarding the ecological enhancements to the site can increase awareness of the importance of riparian ecosystems. Powell Beach Park is already a beloved park to locals, and fostering the understanding of ecological fragility can enhance people's stewardship and continued care for the Park. Engagement days, such as a Trout Creek Association community beach cleanup, can provide structured ways for people to take an active role in park stewardship.

An interpretive sign is being provided as part of funding for the South Okanagan Similkameen Conservation Program Environmental Planner Project in partnership with the District of Summerland. It provides information about the importance of cottonwood trees and is available for installation at Powell Beach Park.

Strategies and specific recommendations for stewardship and nature interpretation are outlined in Section 4.

2.3.7 ACCESSIBILITY AND TRANSPORTATION

There are opportunities to ensure that every person has equal access to the park and its facilities as park improvements are made. Currently many of the facilities within Powell Beach Park are not universally accessible, creating barriers for those with physical challenges. Washroom facilities, picnic areas, pathways, and parking areas need to be upgraded to ensure not only every person is able to use the facilities, but also that they feel welcome to do so. There is an opportunity to add a separate family/ universal change room for those that do not feel welcome in the existing separated rooms.

Photo: 9 Main park pathway is asphalt damaged by flooding and tree roots.

The pathways and parking lot design need to be created in a way that allows access for all. Opportunities to create a flat connected path system will provide greater access to the park. There are also beach

accessibility products that can be installed seasonally to allow people in wheelchairs to cross the sand and reach the water.

In addition, adding bike racks will encourage park visitors to embrace green transportation as a means of getting to the park. A clear non-motorized water input point should also be delineated, providing visitors with safe access to the water.

Strategies and specific recommendations for accessibility and transportation are outlined in Section 4.

3 VISION

Based on the review of background information, discussions with staff, and assessment of the current and potential park amenities and key uses, the following vision was developed to guide the overall park management plan:

> *Powell Beach Park is an important waterfront park that provides opportunities for community connections and enjoyment of Okanagan Lake and the natural environment. The park amenities and character celebrate the natural setting, are resilient to flooding, support biodiversity, and enable outdoor recreation.*

4 MANAGEMENT ZONES, AND STRATEGIES

This section includes management principles, objectives and strategies that apply to the entire park and each of five park management zones. The management zones of the park include:

- Park-Wide Management;
- Beach Zone – All areas of sandy beach along the lake shore, generally located on the north side of the main park pathway;
- Picnic / Play Zone;
- Conservation Zone – The southeast area of the park, including existing habitat fragments and Gatrell Point;
- Buffer Zone; and
- Access and Infrastructure Zone.

Each zone is described below and is also shown, with additional details, in Figure 6. Park Zoning Map in Appendix A.

4.1.1 PARK-WIDE MANAGEMENT STRATEGIES

Principles

- Powell Beach Park is an important waterfront park, connecting the community to Okanagan Lake, the natural environment and each other. It's a highly valued community park, but is also increasingly a destination for visitors.
- Increased use over the next 10 years warrants upgrades to the park to support a high quality experience for all ages and abilities.

Objectives

- Increase resiliency of the park through increasing natural areas, establishing a higher standard of landscape maintenance, resurfacing pathways, and enhancing the natural water retention capabilities of the park.
- Flood proof critical infrastructure, reduce infrastructure in areas with high seasonal groundwater, and manage flood waters onsite through minor regrading and ecosystem restoration.
- Enhance park trees and vegetation to support biodiversity, create a consistent aesthetic, and to help mitigate impacts from flooding due to high lake levels/groundwater.

Strategies

1. Flood management:
    a. Coordinate with the Province to develop a flood management strategy, including identification of a flood elevation threshold to trigger request for sand-filled gabions. These are preferred over tiger dams for protection of the sewage lift station, park, and surrounding developed areas.
    b. Flood proof critical infrastructure (i.e existing lift station could be flood-proofed; future electrical infrastructure should be flood-proofed).
    c. Investigate subbase of existing road and parking lot. If existing asphalt is on native soil, consider rebuilding with suitable road base while also improving circulation and parking (also see the Access and Infrastructure section). This will improve resilience of the paved areas to seasonal high groundwater levels (i.e. lower likelihood of damage, lower ongoing maintenance).
    d. Replace asphalt pathway with a roadbase/limestone screenings surface to reduce repair and maintenance costs if flooding occurs and better accommodate existing tree roots (also see the Access and Infrastructure section).
    e. Allow minor flooding/surface water retention in the southeast area of the park where this already naturally occurs (See Figure 10. Water Movement). Regrade paved areas to enable surface runoff to enter this area and create an outlet to Okanagan Lake to the east (i.e. small surface channel to direct water to the lake). Also see the strategies for the Conservation Zone.

2. Tree management:
    a. Complete a tree inventory and assessment.
    b. Retain tree stumps as wildlife snags where possible and where it does not create a public hazard to park users or adjacent residents.
3. Create a park naturalization plan that identifies ornamental plants for removal and outlines a native plant palette for the park. Create additional planting beds, particularly along the edges, at focal points, and at entrances to the park.
4. Explore the potential for a land accretion application to the Province.
5. Conduct public engagement to keep neighbours and interested residents informed, to set priorities, and to gather input to inform detailed design of specific components, such as the play spaces.

Photo: 10 Sand-filled gabions installed for temporary flood protection in 2018

Potential Future Okanagan Lake Pump Station

The District of Summerland is exploring potential locations for a new pump station based on the recommendations in the 2008 Water Master Plan for a water supply from Okanagan Lake. Powell Beach is one of the locations under consideration. Two options are currently being considered: 1) a pump station and treatment infrastructure in one location; or 2) only a pump station with treatment infrastructure provided elsewhere. If Powell Beach is chosen as the location for the pump station, the second option with a smaller footprint would be preferred because of the following considerations:

- The park is already overcrowded because of the small size of the park relative to its popularity and annual visits are expected to continue to increase;
- There are limited parklands along the lakefront, all of which have very high recreational value to residents. Location of a pump station at the park would negatively impact enjoyment of the park;
- Powell Beach Park has remnant provincially red-listed ecosystem fragment, of which there is less than 90 hectares remaining on public lands in the South Okanagan and Similkameen Valleys in 1997 (BC Ministry of Environment, 1997). This number is likely even lower now. There is also good potential for ecological restoration and enhancement, particularly in the area of the park where the pump station is being considered. The smaller the footprint of the pump station, the more space can be dedicated to restoration of native ecosystems.

4.1.2 BEACH ZONE

Principles

- The beach zone is a highly valued recreational resource that provides public access to the shoreline for passive recreational activities and enjoyment.
- Primary activities and uses of the beach zone at Powell Beach Park include non-motorized boating, swimming, picnicking, and other passive water-related recreational activities. A secondary activity is landing motor boats in a limited, designated area.

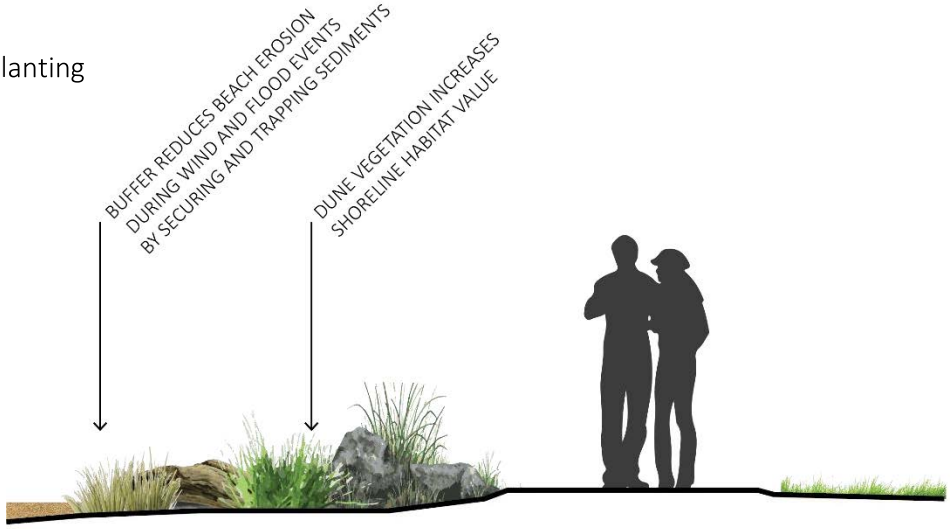
Objectives

- Protect and enhance public access to the beach and lake shoreline for high quality passive recreation and non-motorized boating.
- Introduce dune vegetation buffer along upper beach to retain sand and increase habitat values.

Strategies

6. Clearly delineate and sign separate areas along the lakefront and in the adjacent water for swimming only. Provide separate areas for launching non-motorized boats and landing of motorized boats (west end and east end, respectively). Limit motorized boat landing area in terms of physical space. Also refer to signage strategies under park-wide management.
7. Add more water play features, such as a second slide and nature play features connecting the existing play area to the water (also see Picnic/Play Zone strategies regarding play features).
8. Add pockets of grasses, sedges, and low shrubs along beach side of main pathway. Incorporate rocks and logs to mimic a natural beach vegetation aesthetic (incorporate into Strategy 3).

Figure 2. Beach Planting



9. Replace the deteriorating rock groin with bioengineered shoreline protection that can create a more natural transition to Gatrell Point while retaining beach sand. Consider a demonstration project using the GreenShores Guidelines for Coastal Development (http://stewardshipcentrebc.ca/Green_shores/cdrs/).
10. Enhance universal access to the beach and water by installing seasonal beach mats (http://www.mobi-mat.com/ or similar product).

Photo: 11 Groin at east end of the beach

4.1.3 PICNIC / PLAY ZONE

Principles

- The picnic/play zone is an intensively used area of the park that complements the beach zone by providing open lawn, shade trees, picnic facilities, play features, and associated amenities.
- Amenities and circulation enhance access and provide a variety of opportunities for enjoyment of the park for individuals, families, and groups.

Objectives

- Manage as an intensively used park landscape with a high standard of turf and tree maintenance.
- Provide a variety of picnic and play amenities for all ages and abilities and for diverse users.

Strategies

11. Renovate lawn areas including improvements in turf quality, level of ongoing maintenance, and the irrigation system (see Figure 6. Park Zoning Map for area delineation).
12. Improve play features:
    a. Consult with local residents regarding desired improvements to the play features. In particular, explore the desire to maintain existing swings in their current location.
    b. Add new play amenities adjacent to the existing play equipment. Expand play features into the beach zone. Consider adding a water tap near the play area, connecting to a channel to Okanagan Lake, using recirculating lake water.
    c. Add nature play features such as logs, rocks, and vegetation at the edge of the conservation zone.
    d. Consider accessible and inclusive play features to serve those with varying abilities.
13. Add picnic shelters with picnic tables at the existing concrete pad and near the play area (see Figure 7. Site Concept) to provide areas for group gatherings. Consider providing outdoor BBQ facilities at one or both.
14. Upgrade picnic tables, benches, and waste receptacles to match the newer park benches from Wishbone Site Furnishings. Use accessible picnic tables so that wheelchair users can roll right up to the table.
15. Create improved accessibility by expanding the concrete pads under the picnic tables (1.5m between the picnic table base and the edge of concrete pad) and ensure a smooth transition from the concrete pads to surrounding ground elevations (i.e. adjacent surface should not exceed 13mm (0.5”).
16. Create improved accessibility by including/adding a clear space of 915mm x 1200mm (36” x 48”) adjacent to benches to accommodate wheelchairs.

4.1.4 CONSERVATION ZONE

Principles

- The Cottonwood riparian forest is a highly valuable remnant stand of the endangered native ecosystem, worthy of protection and enhancement.
- The Cottonwood riparian forest enhances both the aesthetic appeal and recreational opportunities at Powell Beach Park.

Objectives

- Manage as an example of a healthy riparian cottonwood forest with seasonal flood mitigation capacity.
- Protect and enhance the stand to restore ecological function and biodiversity.
- Provide opportunities for environmental education and community stewardship.

Strategies

17. Prepare a detailed restoration plan and management plan for the conservation zone of Powell Beach Park, in cooperation with the South Okanagan Similkameen Conservation Program including:
    a. Removal of exotic plant material, fill and park amenities (benches, picnic table),
    b. Replenishment of beach sand on the east side of the groin (also see Strategy 9 regarding repair and/or replacement of the groin),
    c. Planting of cottonwood trees and associated native vegetation to expand existing native ecosystem fragments,
    d. Identification of a pathway alignment through the conservation area and to the beach at Gatrell Point, avoiding impacts and providing a pleasant walking experience,
    e. Development of a native vegetation and wildlife tree management plan, and
    f. A management plan including monitoring of the health of the ecosystems in the conservation zone.
18. Install interpretive signage about the ecosystem and encourage community participation in managing the zone.
19. Create a transition between the picnic/play zone and the conservation zone incorporating nature play features.

4.1.5 VEGETATED BUFFER ZONE

Principles

- A vegetated buffer along the park edge will improve the comfort and enjoyment of park visitors.
- A vegetated buffer will improve the comfort and enjoyment of Lighthouse landing residents by screening views into homes and reducing beach sand being blown onto the property.
- A vegetated buffer can add to ecosystem restoration on site and can provide an opportunity to promote the use of native plants in a landscape.

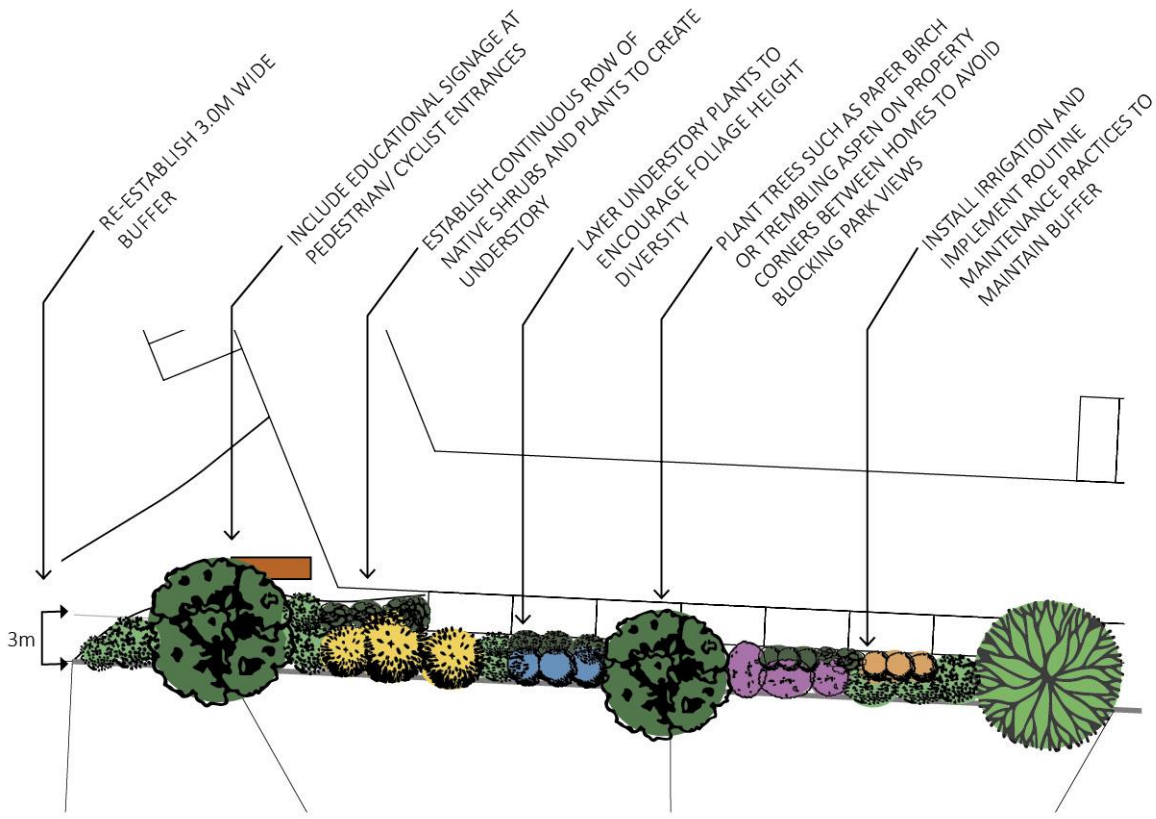
Objectives

- Re-establish a vegetative buffer that satisfies both the park visitor and Lighthouse landing residents.
- Enhance the ecological function of the park by increasing wildlife habitat.
- Provide opportunities for environmental education and community stewardship.

Strategies

20. Re-establish a 3.0 metre wide vegetative buffer by planting a continuous row of native shrubs interspersed with small trees in selected spaces between the homes (see Figure 3. Vegetated Buffer Schematic).
    a. Plant with native shrubs at 1-2m on centre and trees at property corners, as shown in Figure 3.
    b. Implement routine landscape maintenance practices and install temporary irrigation for plant establishment (2-3 growing seasons).
    c. Install educational signage about native plants at the two pedestrian/cyclist entrances to the park from the adjacent neighbourhood.

Figure 3. Vegetated Buffer Schematic and Plant Palette



Black Hawthorn (Crataegus douglasii) | Paper Birch (Betula papyrifera) | Choke Cherry (Prunus virginiana) | Trembling Aspen (Prunus virginiana) | Tall Oregon Grape (Mahonia aquifolium)

Snowberry (Symphoricarpus albus) | Mock Orange (Philadelphus lewisi) | Saskatoon Berry (Amelanchier alnifolia) | Nootka Rose (Rosa nutkana) | Blue Elderberry (Sambucus caerulea)

4.1.6 ACCESS AND INFRASTRUCTURE ZONE

Principles

- Powell Beach Park provides a variety of experiences for people of all ages and abilities to enjoy access to the beach, Okanagan Lake, picnic and play opportunities.
- Recognizing the limited size and high demand at Powell Beach Park, usable park space and conservation of natural areas are prioritized over infrastructure.
- Infrastructure and access is prioritized for pedestrians, cyclists, and vehicles, in that order.

Objectives

- Provide clear, efficient vehicular circulation, parking, and drop-off areas.
- Provide enhanced pedestrian circulation, with looping paths throughout the park and a variety of focal points.
- Provide universal access to all key park features and areas.

Strategies

21. Provide a designated area for non-motorized boat drop-off, including a 15-minute parking stall and a graded ramp down to the beach.
22. Upgrade washrooms:
    a. Improve universal access to toilet stalls, sinks and soap dispensers.
    b. Consider the addition of a separate universal washroom/family change room.
    c. Improve lighting inside and at the entrances.
23. Create a network of looping pathways (see Figure 7. Site Concept). Path surface should be roadbase with limestone screenings, 1.5 meter width, and maximum of 5% slope to ensure universal access.
24. Reconfigure the entrance road and parking (see Figure 7. Site Concept):
    a. Provide a variety of parallel and angled parking along both sides of the road, avoiding the critical root zones of existing mature trees.
    b. Add a turn-around at the end of the road.
    c. Add a minimum of two designated accessible parking spaces.
    d. Add a location that can accommodate one or two food trucks, including access to power. Power may require upgrading.
25. Add the following signage (see Figure 7. Site Concept for locations):
    a. entrance signs
    b. park regulations
    c. parking
    d. designated boating and swimming areas and regulations
    e. interpretive
26. Upgrade park furnishings (see Picnic/Play Zone strategies).
27. Remove the bollards along the parking lot/road edge and replace with a curb to ease park maintenance. Include curb cuts to allow surface water drainage into lawn/landscape areas.

5 MANAGEMENT PLAN IMPLEMENTATION

The strategies outlined in Section 4 identify a range of opportunities, some of which are more important to the overall quality of the park than others. This section groups the strategies into three priority categories (high, medium, low) based on their contribution to the overall vision and principles for the park, as well as the principles and objectives for each zone.

There are several considerations affecting the implementation, schedule and budget:

- Addressing the buffer zone between the park and adjacent residents was a key component of this plan and is of high importance to many local residents.
- The deadline for installation of cottonwood trees currently available from SOSCP is March 31, 2019. This creates urgency for development of the restoration and management plan for the conservation area and detailed design of a pathway.
- The District can apply for funding from the Province to implement flood repairs. Implementation of strategies related to flood repairs, protection and mitigation could be influenced by those funding deadlines and requirements.
- Determination of the water pump station size and location is an important piece of information needed before restoration and planting can take place in that portion of the conservation zone.
- Discussions with the Province will be required in order to pursue work on the existing groin. Starting those conversations as soon as possible will help inform the conservation zone plan.
- Peak park use is during the summer; major works should be scheduled in fall and spring to minimize impacts to the community and park users.

The remaining strategies are important to creating a cohesive park experience, but are not as time-sensitive and can be pursued as funding is available.

Public engagement may be needed to help set priorities.

Table 1 Implementation Table

Zone*	Strategy	Priority	Cost
PW	Coordinate with the Province to develop a flood management strategy, including identification of a flood elevation threshold to trigger request for sand-filled gabions.	1	Staff Time
PW	Repair roadway and reconfigure vehicular circulation and parking. Regrade roadway to drain to the east toward the conservation area. Remove existing bollards and concrete barriers and replace with curbs or wheel stops. *Coordinate with the development of the conservation zone restoration and management plan. Finalize the road and parking configuration design before planting the conservation zone.	1	$500,000
PW	Refine the alignments for new park pathways. Remove asphalt surface and install new pathway of limestone screenings over road base (1.5-2m wide).	1	$60,000
VB	Re-establish a vegetated buffer along the south side of the park. Install temporary drip irrigation and plan for removal once plants are established (2-3 growing seasons).	1	$25,000
A/I	Designate an area at the east end of the beach to allow temporary landing of 3-4 motorized boats. Install buoys (perpendicular to the shoreline) and signage to clearly delineate the area. Undertake public education and outreach, if needed, to encourage compliance.	1	$2,000
C	Prepare a detailed restoration plan and management plan for the conservation zone of Powell Beach Park, in cooperation with the South Okanagan Similkameen Conservation Program. *Coordinate with pathway, road/parking, and groin planning and repairs. Consider a split-rail fence at the transition between the conservation zone and the picnic/play area.	1	$15,000 plan $60,000 implementation

PW	Complete a tree inventory, assessment, and management plan. *Coordinate with the development of the conservation zone restoration and management plan regarding trees in the conservation zone.	2	$10,000
C	Install interpretive signage about the ecosystem and encourage community participation in managing the zone.	2	$2,500 per sign
PP	Renovate lawn areas including improvements in turf quality, level of ongoing maintenance, and the irrigation system.	2	$60,000 irrigation and reseeding
PP	Expand play space adjacent to the existing play area. *Public engagement is recommended.	2	$50,000
PP	Add nature play features in the transition area between the picnic/play zone and the conservation zone.	2	$25,000
B	Add pockets of grasses, sedges, and low shrubs along beach side of main pathway. Incorporate rocks and logs to mimic a natural beach vegetation aesthetic	2	$10,000
A/I	Upgrade washrooms (basic, no expansion).	3	$15,000
A/I	Add signage including entrance signs, park regulations, parking regulations, boat/swimming areas, and interpretive signs.	3	$2,500 per sign
B	Add more water play features such as a second slide or nature play features connecting the play area to the lake.	3	$10,000
B	Replace the concrete and rock groin with bioengineered shoreline protection that can create a more natural transition to Gatrell Point while retaining beach sand. Consider using this as a demonstration project.	3	$150,000

PP	Add two picnic shelters with accessible picnic tables.	3	$35,000 per picnic shelter w/ 2 tables
PP	Upgrade picnic tables, benches and waste receptacles to match newer park benches from Wishbone Site Furnishings. Create improved accessibility by expanding the concrete pads under the picnic tables. Create improved accessibility by including additional clear space adjacent to benches.	3	See unit prices
B	Enhance universal access to the beach and water by buying and seasonally installing beach mats (i.e. Mobi-mat or similar product).	3	$5,000
PW	Create a park naturalization plan that identifies ornamental plants for removal and outlines a native plant palette for the park. Create additional planting beds, particularly along the edges, at focal points, and at entrances to the park.	3	$10,000 plan and $20,000 planting costs
PW	Explore the potential for a land accretion application to the Province.	3	Staff time

**PW: Park Wide, B: Beach Zone, PP: Picnic Play, C: Conservation Zone, VB: Vegetated Buffer, A/I: Access and Infrastructure*

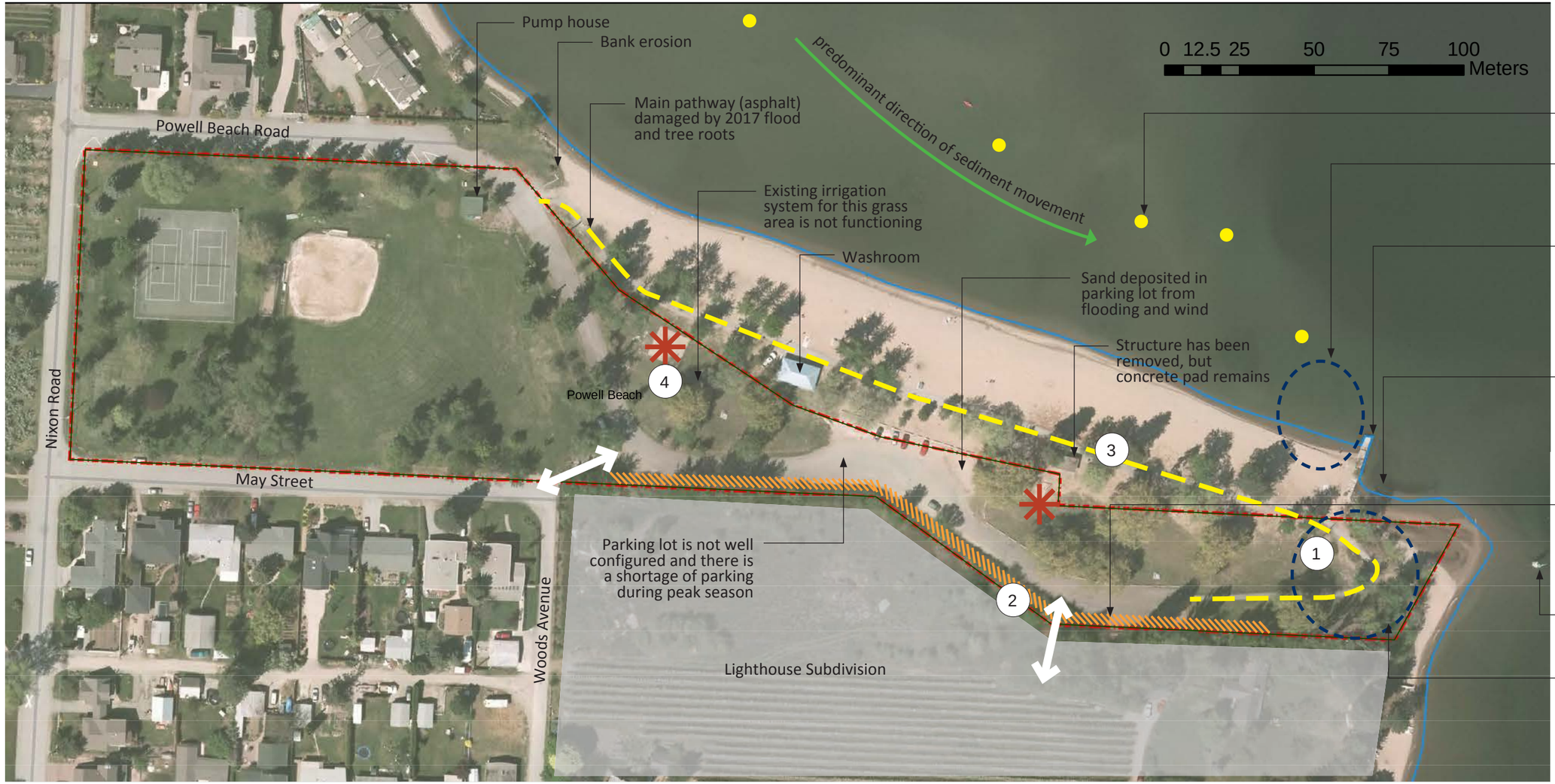
Table 2 Unit Costs

Item	Notes	Unit	Qty	Unit Cost	Subtotal
Strip and dispose of Turf grass		m^2	1200	$ 3.00	$ 3,600.00
Remove road to a depth of 500mm		m^3	1500	$ 50.00	$ 75,000.00
Remove asphalt pathway surface		m^2	525	$ 25.00	$ 13,125.00
Remove bollards and concrete barriers		each	150	$ 20.00	$ 3,000.00
Fine grading		allowance*			$ 10,000.00
Drainage	roadway surface drainage	allowance*			$ 10,000.00
Pedestrian pathways (gravel)	2.0m width, granular surface and base	lm	700	$ 80.00	$ 56,000.00
Asphalt surface (roadway and parking)	110mm asphalt, 250mm base, 300mm subbase	m^2	5100	$ 100.00	$ 510,000.00
Irrigation system	to grassed/planted areas	m^2	3500	$ 15.00	$ 52,500.00
Reseed lawn		m^2	3,500	$ 2.00	$ 7,000.00
Buffer planting	planting density 2m o.c.	m^2	480	$ 50.00	$ 24,000.00
Restoration planting^	planting density 2-3m o.c.	m^2	3000	$ 20.00	$ 60,000.00
Benches - replacements		each	5	$ 2,000.00	$ 10,000.00
Picnic tables - replacements/improvements		each	4	$ 4,000.00	$ 16,000.00
Picnic tables - new		each	4	$ 4,000.00	$ 16,000.00
Picnic shelter		each	2	$ 25,000.00	$ 50,000.00
Waste receptacle		each	5	$ 2,000.00	$ 10,000.00
Signage		each	6	$ 2,500.00	$ 15,000.00
Bike racks		each	2	$ 3,500.00	$ 7,000.00
Tree inventory and assessment		each	1	$ 5,000.00	$ 5,000.00
Restoration and management plan	work with SOSCP	each	1	$ 15,000.00	$ 15,000.00
Park naturalization plan and planting costs	Including beach planting along pathway	allowance*			$ 30,000.00
Expand play spaces	new traditional play features	allowance*			$ 25,000.00
Nature play area		allowance*			$ 15,000.00
Upgrade washrooms		allowance*			$ 15,000.00
Replace rock groin with bioengineered protection		allowance*			$ 150,000.00
Mobi-mat accessible beach pathway		lm	20	$ 220.00	$ 4,400.00

** dependent on detailed design*

^ does not take into account the potential for donated trees and shrubs

APPENDIX A: MAPS AND FIGURES



LEGEND

- Pedestrian walkways from neighbourhood
- Play features
- Pedestrian pathway
- Swimming buoys

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FIGURE 4: SITE ANALYSIS
POWELL BEACH PARK MANAGEMENT PLAN

Rev: 0
Date: May 17, 2018
Drawn/Checked: MT/JK
Scale: 1:1,500 @ 11”x17”

1. Opportunity to improve, formalize and sign a non-motorized boat drop-off/put-in. There is erosion along the shoreline in this area.
2. Existing play area is approximately 5 years old and is in good condition. There is an opportunity to add new play amenities features.
3. The washroom is in need of upgrades including improved accessibility features (i.e. sinks and soap dispensers).
4. Former structure has been removed, but the concrete pad remains. This area could be repurposed as a picnic shelter or shade structure.
5. Existing concrete and rock groin is in need of repair, although it is functional in terms of retaining beach sand.
6. Area of lower recreational use and seasonal groundwater provides an opportunity for ecosystem restoration and cottonwood planting, as well as interpretive signage and environmental education features.
7. Swings are in need of replacement. There is an opportunity to expand the other play area with new swings or other features.
8. Park pathway is in need of repair. There is an opportunity to improve usable park space through realignment of some sections. There is an opportunity to improve accessibility throughout. There is an opportunity to create a walking loop.
9. The existing parking lot could be improved in terms of efficient use of space and clear signage. Replacing parking and road edging treatment.
10. Opportunity to enhance beach/ swimming/ family picnicking opportunities; add more water play features, accessible surfacing, picnic facilities
11. Plant a vegetated buffer to improve the aesthetics and atmosphere in the park.
12. Opportunity to enhance lawn areas for picnics and play.
13. There is a need to clearly delineate swimming areas and separate from motorboat uses.
14. There is an opportunity for improved beach access and a viewpoint

Other park-wide opportunities:

- Rethink waste receptacle locations
- Replace aging picnic tables and improve accessibility
- Interpret environmental and heritage information
- Improve vehicular and pedestrian circulation patterns; include an areas to accommodate concession vehicles (food trucks).
- Long term tree management plan required; manage hazard trees, stablish a standard for selection of replacement trees over time.
- Opportunities to connect the east and west portions of the park creating a more integrated park with shared facilities and themes through pathways, signage and plantings.

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FIGURE 5: OPPORTUNITIES AND CONSTRAINTS
POWELL BEACH PARK MANAGEMENT PLAN

Rev: 0
Date: May 17, 2018
Drawn/Checked: MT/JK
Scale: 1:1,500 @ 11”x17”

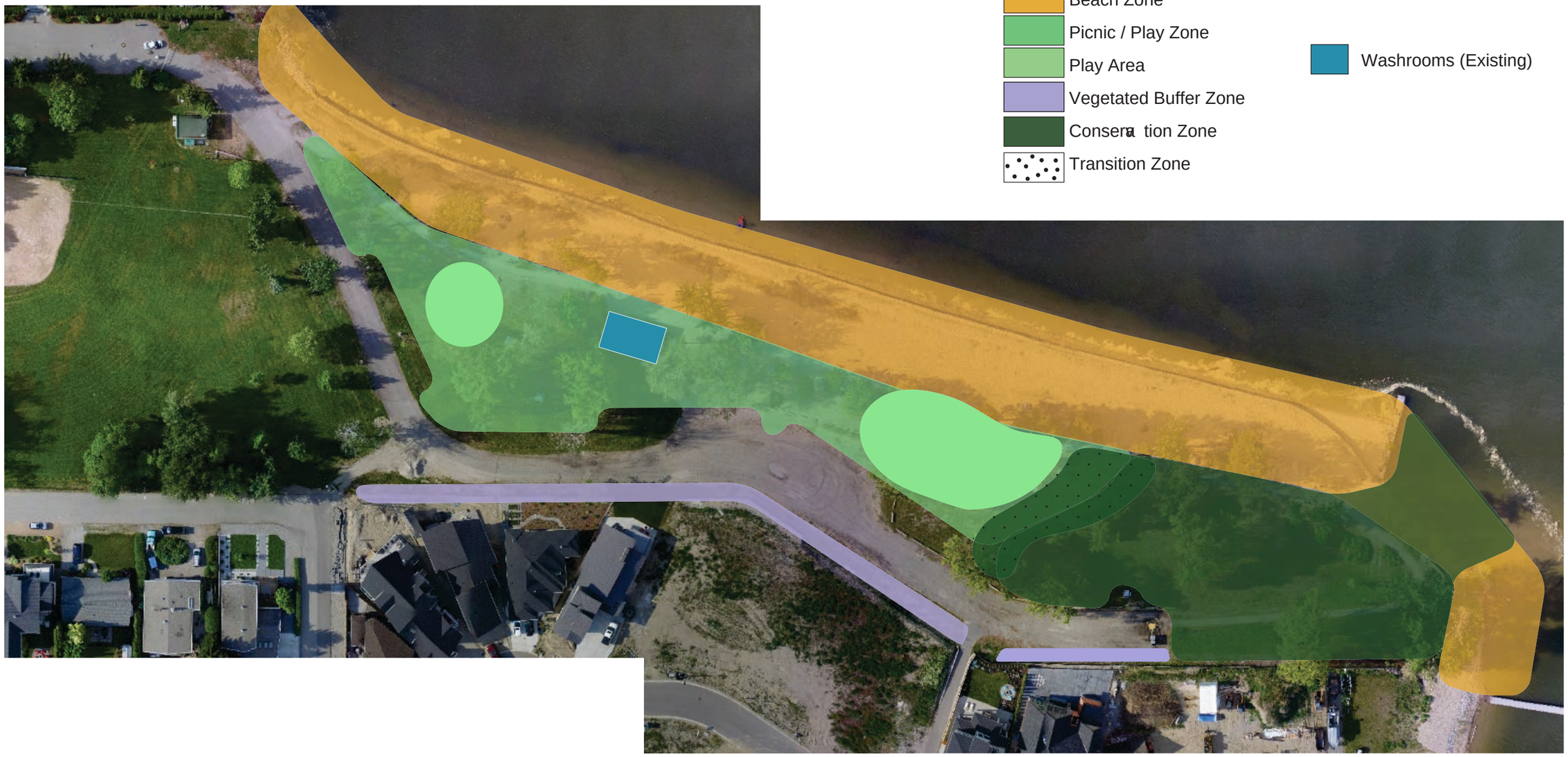

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FIGURE 6: PARK MANAGEMENT ZONES
POWELL BEACH PARK MANAGEMENT PLAN

N

Rev: 1
Date: July 25, 2018
Drawn/Checked: AC/MT
Scale: NTS @ 11x17L

KEY TO PHOTOS AND ILLUSTRATIONS

1. Interpretive sign
2. Renovate existing path
3. Accessible beach mat pathway
4. Bike rack
5. Picnic shelter
6. Food truck parking
7. Picnic/Play - Conservation Interface
8. Planted buffer
9. Replace groin with bioengineered shoreline protection
10. Non-motorized boat launch
11. Expanded play area

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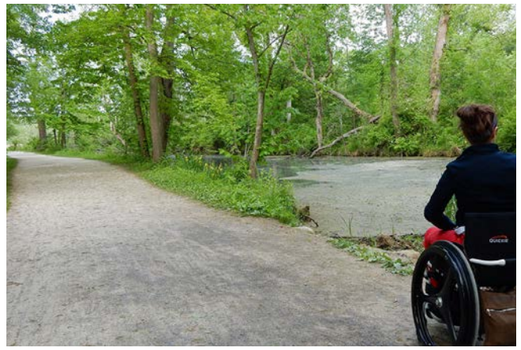
FIGURE 7: PARK CONCEPT PLAN
POWELL BEACH PARK MANAGEMENT PLAN

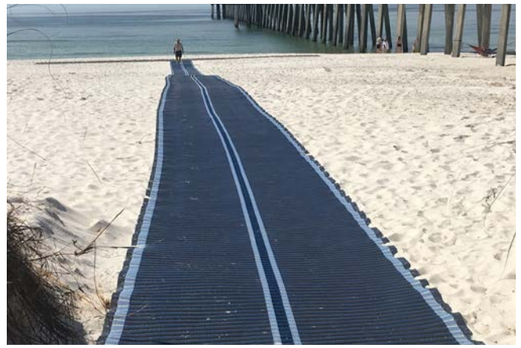
N

Rev: 1
Date: July 25, 2018
Drawn/Checked: AC/MT
Scale: NTS @ 11x17L

1 Interpretive signage educates the community about ecosystems and encourages stewardship.



2 Roadbase and limestone screening surfacing provides accessible pathway circulation.



3 Temporary pathways (ex. Mobi Mat shown) provide easier beach access.

4 Bike racks throughout the park encourage users to cycle to the park instead of driving.

5 Picnic shelters provide shelter from sun and rain allowing users to gather and enjoy the park throughout the seasons.

6 Power outlets near parking provide opportunity for food trucks to park at Powell Beach during peak times.

7 Transition zone between Picnic and Play Zone to Conservation Zone with feathered vegetative edge.

8 Vegetated Buffer Zone (min. 3m) separates housing development from Park and provides hedgerow habitat.

9 Replace groin with bioengineered shoreline protection. Potential location for viewing platform in the future.

10 Non-motorized Boat Ramp and loading zone parking improves accessibility to lake

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FIGURE 8: CONCEPT PLAN PRECEDENTS
POWELL BEACH PARK MANAGEMENT PLAN

N

Rev: 1
Date: July 25, 2018
Drawn/Checked: AC/MT
Scale: NTS @ 11x17L

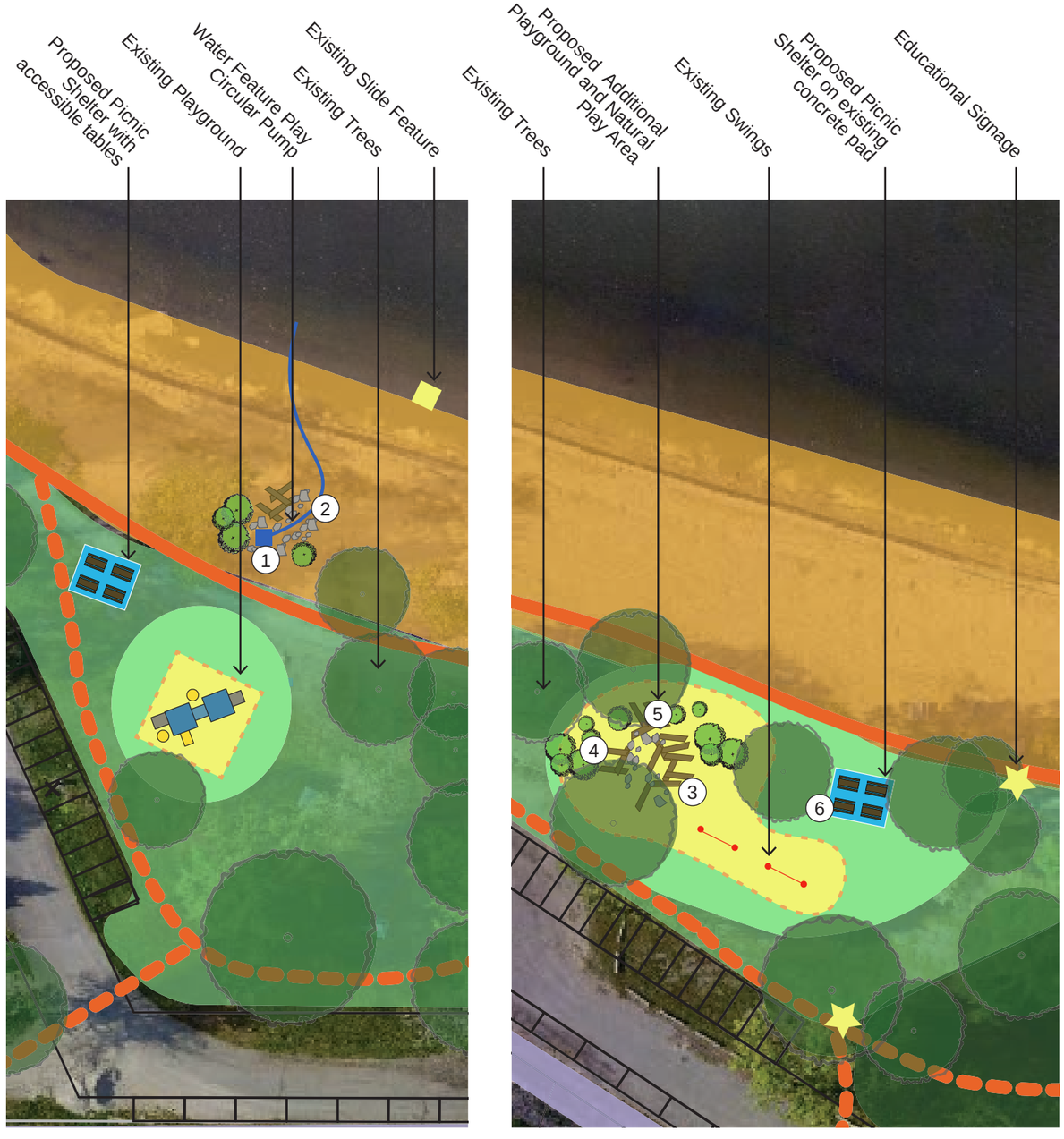

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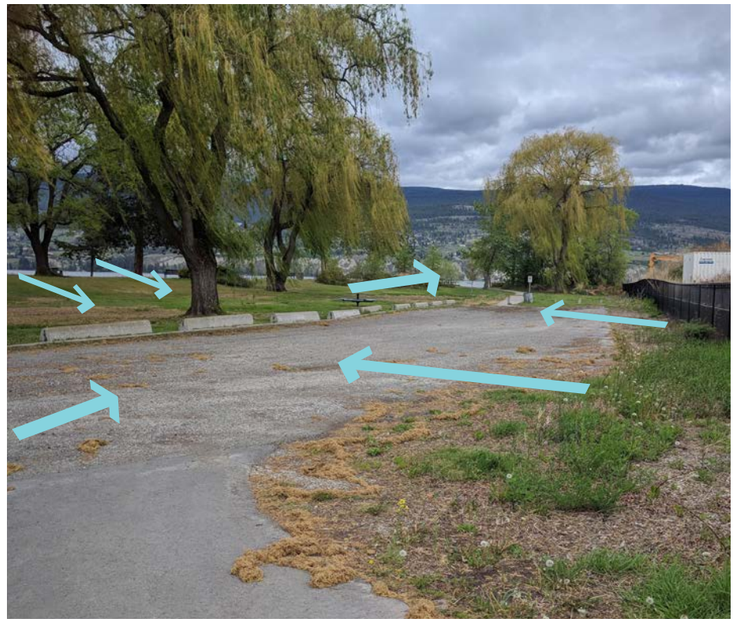
FIGURE 9: PLAYGROUND CONCEPT
POWELL BEACH PARK MANAGEMENT PLAN

N

Rev: 1
Date: June 14, 2018
Drawn/Checked: AC/MT
Scale: 1:5m @ 11x17L



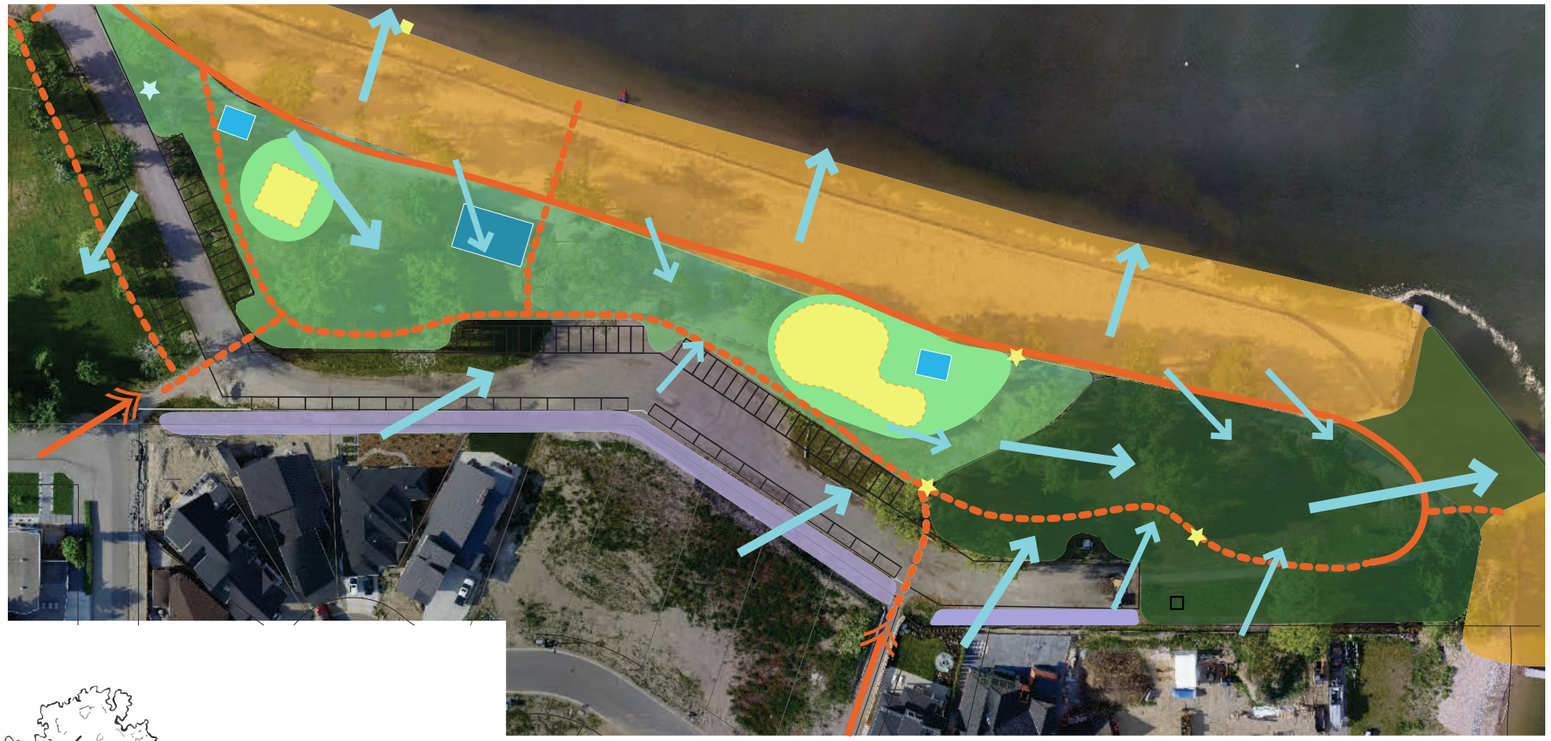


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FIGURE 10: WATER MOVEMENT
POWELL BEACH PARK MANAGEMENT PLAN

N

Rev: 1
Date: July 25, 2018
Drawn/Checked: AC/MT
Scale: NTS @ 11x17L