



Agenda

penticton.ca

Regular Council Meeting
to be held at
City of Penticton Council Chambers
171 Main Street, Penticton, B.C.

Tuesday, December 19, 2017
at 1:00 p.m.

1. **Call Regular Council Meeting to Order**
2. **Introduction of Late Items**
3. **Adoption of Agenda**
4. **Recess to Committee of the Whole**
5. **Reconvene the Regular Council Meeting**
6. **Adoption of Minutes:**
 - 6.1 Minutes of the December 5, 2017 Regular Council Meeting 1-7 Adopt
 - 6.2 Minutes of the November 28, 2017 Special Council Meeting 8-11 Adopt
 - 6.3 Minutes of the November 29, 2017 Special Council Meeting 12-15 Adopt
 - 6.4 Minutes of the November 30, 2017 Special Council Meeting 16-25 Adopt
7. **Committee and Board Reports**
 - 7.1 Official Community Plan Task Force Minutes of November 16, 2017 26-29
Staff Recommendation: THAT Council receive the draft minutes of the Official Community Plan Task Force meeting of November 16, 2017.
 - 7.2 Penticton Creek Restoration Committee Minutes of November 24, 2017 30-32
Staff Recommendation: THAT Council receive the draft minutes of the Penticton Creek Restoration Committee meeting of November 24, 2017.
Committee Recommendation: THAT Council support the adoption of the Penticton Creek Master Plan as presented.
Committee Recommendation: THAT Council support expanding the scope of the Penticton Creek Restoration Committee in 2018 to include aspects of planning, restoration and flood protection issues in Ellis Creek.
 - 7.3 Arts, Creative and Cultural Innovations Committee Minutes of December 1, 2017 33-36
Staff Recommendation: THAT Council receive the draft minutes of the Arts, Creative and Cultural Innovations Committee meeting of December 1, 2017.

8. Correspondence

8.1 Correspondence from Greyhound Canada Transportation ULC 37-40

9. Staff Reports:

- CE 9.1 December 2017 Master Plan Penticton Creek 41-114
Staff Recommendation: THAT Council adopt the Mould Engineering December 2017 Master Plan Penticton Creek Restoration as a guiding document for works associated with Penticton Creek.
- DRF 9.2 Heritage & Museum Committee 115-118
Staff Recommendation: THAT Council direct staff to continue with the Heritage and Museum Committee as an ad-hoc committee, through the Museum Manager and Director, Recreation and Facilities.
- BA 9.3 2018-2022 Five Year Financial Plan Bylaw No. 2017-79 119-123
Staff Recommendation: THAT Council give first, second and third reading to "2018-2022 Five Year Financial Plan Bylaw No. 2017-79".
- LA 9.4 Penticton District Emergency Program Society Licence to Use Renewal 124-135
Re: 251 Dawson Avenue (Portion)
Staff Recommendation: THAT Council approve a renewal of the Licence to Use to the Penticton and District Emergency Program Society (PDEPS) for a portion of the building located at 251 Dawson Ave. (approximately 3,400 sq. ft.) for a five (5) year term with the introduction of a 90 day escape clause at a rate of \$1.00 for the term; AND THAT Council direct staff to advertise the intention to provide assistance pursuant to Section 24 of the Community Charter; AND THAT Council authorize the Mayor and Corporate Officer to execute the Licence to Use.
- GMI 9.5 Granular Sludge Pilot Project - AECOM 136-140
Staff Recommendation: THAT Council endorses the City working with AECOM on a Granular Sludge Pilot Project at the Advanced Waste Water Plant.
- GMI 9.6 Water Transmission System Upgrades Tender 141-142
Re: Budget Amendment
Staff Recommendation: THAT Council approve a budget increase of \$350,000 to CAP10024-W50 from the City's Water Reserve to fund 2017-Tender-15 Water Transmission System Upgrades; AND THAT Council direct staff to proceed with the tender award for the Water Transmission System Upgrades to the low bidder Cantex-Okanagan Construction Ltd.
- DDS 9.7 Memorandum of Understanding with BC Housing 143-150
Re: Housing Provider Assistance Program
Staff Recommendations:
#1 - BC Housing Memorandum of Understanding
THAT Council approve the attached Memorandum of Understanding for the development of supported modular housing in Penticton as part of the provincial rapid housing response program.
AND THAT the Mayor and Corporate Officer are authorized to enter into the agreement on behalf of the City.
#2 - Housing Provider Assistance Program
THAT Council support, in principle, the use of funds from the City's Affordable Housing Reserve Fund to establish a program to assist the City's not-for-profit housing providers in preparing for expected provincial and federal housing funding announcements.

10. Public Question Period

11. Recess Meeting

12. **Reconvene the Regular Council Meeting following the Public Hearing at 6:00 p.m.**

13. **Reconsideration of Bylaws and Permits:**

13.1	Zoning Amendment Bylaw No. 2017-75 Re: 453 Eckhardt Avenue West	151-152	2 nd /3 rd
13.2	Zoning Amendment Bylaw No. 2017-78 Re: 935 Forestbrook Drive	153-154	2 nd /3 rd /Adopt
13.3	Fees and Charges Amendment Bylaw No. 2017-77 Re: Nuisance Abatement Fees	155-156	Adopt

14. **Land Matters:**

DDS	14.1	Development Variance Permit PL2017-8101 Re: Lots 2 – 10, 19 – 22 Hawthorn Drive <i>Staff Recommendation: THAT Council approve "Development Variance Permit PL2017-8101" for Lots 2-10 and Lots 19-22 District Lot 2710 Similkameen Division Yale District Plan EPP69185, located along Hawthorn Drive as highlighted in red in Attachment A, a permit to to increase the maximum height of a retaining wall within a required yard from 1.2m to 5.0m; AND THAT staff be directed to issue "Development Variance Permit PL2017-8101."</i>	157-172	Del/Sub
DDS	14.2	Development Variance Permit PL2017-8102 Re: Lots 1 – 27, Avery Heights <i>Staff Recommendation: THAT Council approve "Development Variance Permit PL2017-8102" for Lots 1-27 District Lot 2710 Similkameen Division Yale District Plan EPP62484, located along Avery Place and Evergreen Drive as highlighted in red in Attachment A, a permit to to increase the maximum height of a retaining wall within a required yard from 1.2m to 2.5m; AND THAT staff be directed to issue "Development Variance Permit PL2017-8102."</i>	173-186	Del/Sub
DDS	14.3	Development Variance Permit PL2017-8103 Re: 4039 Lakeside Road <i>Staff Recommendation: THAT Council approve "Development Variance Permit PL2017-8103" for Lot 22 Block 209 District Lot 190 Similkameen Division Yale District Plan 466, located at 4039 Lakeside Road, a permit to increase the height of a retaining wall within any required yards from 1.2m to 2.0m, to decrease the minimum front yard from 6.0m to 3.0m, to decrease the minimum south interior side yard of a principle building from 1.5m to 0.9m and to decrease the requirement for a driveway to be located 0.5m from a property line to 0.2m from a property line as per Section 12.8 of the City of Penticton Subdivision and Development Bylaw No. 2004-81; AND THAT staff be directed to issue "Development Variance Permit PL2017-8103."</i>	187-204	Del/Sub
DDS	14.4	Street Naming (The Ridge) Bylaw No. 2017-80 Re: Antler Drive, Deer Crescent, Elk Street, Fawn Court <i>Staff Recommendation: THAT Council forward the following proposed street names for the new roads created by the subdivision of Lot 1, District Lot 2710, Similkameen Division Yale District, Plan KAP21103, located at 1830 Ridgedale Drive (The Ridge) to the Ad-hoc Heritage and Museum Committee for comment: - Antler Drive; - Deer Crescent; - Elk Street; and - Fawn Court.</i>	205-211	

15. **Notice of Motion**

16. **Business Arising**
17. **Council Round Table**
18. **Public Question Period**
19. **Adjournment**

Regular Council Meeting
held at City of Penticton Council Chambers
171 Main Street, Penticton, B.C.

Tuesday, December 5, 2017
at 1:00 p.m.

Present: Mayor Jakubeit
Councillor Picton
Councillor Sentes
Councillor Konanz
Councillor Sayeed
Councillor Martin
Councillor Watt

Staff: Jim Bauer, Chief Financial Officer
Dana Schmidt, Corporate Officer
Anthony Haddad, Director of Development Services
Mitch Moroziuk, General Manager of Infrastructure
Angie Collison, Deputy Corporate Officer

1. Call to Order

The Mayor called the Regular Council meeting to order at 1:00 p.m.

2. Introduction of Late Items

3. Adoption of Agenda

684/2017

It was MOVED and SECONDED

THAT Council adopt the agenda for the Regular Council meeting held on December 5, 2017 as amended to include late item 11.2 Zoning Amendment Bylaw No. 2017-65 and item 11.3 Zoning Amendment Bylaw No. 2017-53.

CARRIED UNANIMOUSLY

4. Adoption of Minutes:

4.1 Minutes of the November 21, 2017 Committee of the Whole

685/2017

It was MOVED and SECONDED

THAT Council receive the minutes of the November 21, 2017 Committee of the Whole as presented.

CARRIED UNANIMOUSLY

4.2 Minutes of the November 21, 2017 Public Hearing

686/2017

It was MOVED and SECONDED

THAT Council receive the minutes of the November 21, 2017 Public Hearing as presented.

CARRIED UNANIMOUSLY

4.3 Minutes of the November 21, 2017 Regular Council Meeting

687/2017

It was MOVED and SECONDED

THAT Council adopt the minutes of the November 21, 2017 Regular Council Meeting as presented.

CARRIED UNANIMOUSLY

5. **Committee and Board Reports**

5.1 Development Services Advisory Committee Minutes of November 17, 2017

688/2017

It was MOVED and SECONDED

THAT Council receive the draft minutes of the Development Services Advisory Committee meeting of November 17, 2017.

CARRIED UNANIMOUSLY

5.2 Transportation Advisory Committee Minutes of November 17, 2017

689/2017

It was MOVED and SECONDED

THAT Council receive the draft minutes of the Transportation Advisory Committee meeting of November 17, 2017.

CARRIED UNANIMOUSLY

6. **Correspondence**

7. **Staff Reports:**

7.1 Parking Engagement Update and Recommendations

690/2017

It was MOVED and SECONDED

THAT Council continue to provide free parking on Lakeshore Drive and Riverside Drive; AND THAT the parking spaces on Lakeshore Drive between Winnipeg Street and Power Street be changed to 3hr restricted parking from 9am-6pm, Monday to Friday.

CARRIED

Councillors Sayeed, Watt and Martin, Opposed

691/2017

It was MOVED and SECONDED

THAT Council direct staff to post the restricted parking signage in the parking spaces on Lakeshore Drive between Winnipeg Street and Power Street between the months of June – September.

CARRIED

Mayor Jakubeit and Councillors Picton and Watt, Opposed

692/2017

It was MOVED and SECONDED

THAT Council reconsider the resolution to continue to provide free parking on Lakeshore Drive and Riverside Drive;

AND THAT the parking spaces on Lakeshore Drive between Winnipeg Street and Power Street be changed to 3hr restricted parking from 9am-6pm, Monday to Friday.

DEFEATED

Mayor Jakubeit, Councillors Sayeed, Watt, Sentes, Picton, Opposed

693/2017

It was MOVED and SECONDED

THAT Council direct staff to retain existing Resident Only Parking areas around the Hospital and Downtown.

CARRIED UNANIMOUSLY

694/2017

It was MOVED and SECONDED

THAT Council endorse the implementation of the following short-term recommendations:

- Martin Street extension seasonal changes to allow monthly employee parking from 6am-6pm from Monday to Friday from October to May to provide 70 more reserved parking stalls.
- City owned public parking lot hourly changes from 24/7 reserved to Monday – Saturday reserved from 6am-6pm to provide 85 more publicly available parking stalls on evenings and Sundays.
- White Avenue change from metered parking to monthly reserved employee parking from 6am-6pm to create 12 more monthly rental parking spaces for employees.
- Westminster Avenue E change from free on-street parking to monthly reserved for employees between the hours of 6am and 4pm, Monday to Friday providing for 31 more employee parking spaces;

AND THAT Council direct staff to install wayfinding signage and directional signage to better identify the location, availability and programs offered downtown;

AND THAT Council direct staff to implement the complete Mobile Parking Payment Application.

CARRIED UNANIMOUSLY

695/2017

It was MOVED and SECONDED

THAT Council direct staff to prepare amendments to the Zoning Bylaw to increase the City's cash-in-lieu of parking requirements and decrease the number of vehicle spaces reduces for car-share vehicles;

AND THAT staff consult with the Development Services & Transportation Advisory Committees before bringing any amendments to Council.

CARRIED UNANIMOUSLY

7.2 Fortis BC Shared Use of Structures

696/2017

It was MOVED and SECONDED

THAT Council approve the Renewal and Amending Agreement for Shared Use of FortisBC Structures as contained in Attachment B of the FortisBC Shared Use Structures staff report dated December 5, 2017;

AND THAT Council authorize the Mayor and Corporate Officer to execute the FortisBC Renewal and Amending Agreement.

CARRIED UNANIMOUSLY

7.3 Fees and Charges Amendment Bylaw No. 2017-77
Re: Nuisance Abatement Fees

697/2017

It was MOVED and SECONDED

THAT Council give first, second and third reading to "Fees and Charges Amendment Bylaw No. 2017-77", a bylaw that outlines Excessive Nuisance Abatement Fees for the City of Penticton.

CARRIED UNANIMOUSLY

7.4 2018 Council Meeting Dates

698/2017

It was MOVED and SECONDED

THAT Council select the following dates for the 2018 Regular Meetings of Council: January 9, 23, February 6, 20, March 6, 20, April 3, 17, May 8, 22, June 5, 19, July 3, 17, August 7, 21, September 4, 18, October 2, 30, November 6, 20, and December 4, 18.

CARRIED UNANIMOUSLY

8. Public Question Period

9. Recess Meeting

Council recessed the Regular Council Meeting at 3:10 p.m.

10. Reconvene the Regular Council Meeting at 6:00 p.m.

Council reconvened the Regular Council Meeting at 6:00p.m.

11. Reconsideration of Bylaws and Permits

11.1 Zoning Amendment Bylaw No. 2017-76
Re: 187 Wyles Crescent

699/2017

It was MOVED and SECONDED

THAT Council adopt "Zoning Amendment Bylaw No. 2017-76".

CARRIED UNANIMOUSLY

- 11.2 Zoning Amendment Bylaw No. 2017-65
Re: 461 Eckhardt Avenue West

700/2017

It was MOVED and SECONDED

THAT Council adopt "Zoning Amendment Bylaw No. 2017-65".

CARRIED UNANIMOUSLY

- 11.3 Zoning Amendment Bylaw No. 2017-53
Re: 703 Forestbrook Drive

701/2017

It was MOVED and SECONDED

THAT Council adopt "Zoning Amendment Bylaw No. 2017-53".

CARRIED UNANIMOUSLY

12. Land Matters

- 12.1 Development Variance Permit PL2017-8089
Re: 273/275 Conklin Avenue

Delegations/Submissions:

- Doug Hamilton, applicant, spoke in support of the application.

702/2017

It was MOVED and SECONDED

THAT Council approve "Development Variance Permit PL2017-8089" for Lot 5 District Lot 1 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 2518 Except the Easterly 45 Feet Thereof Measured Along the Southerly and Northerly Boundaries Thereof, located at 273 Conklin Avenue and for Lot 4 District Lot 1 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 2518, located at 275 Conklin Avenue, a permit to reduce the minimum lot width for a standard lot from 16.0m to 11.4m;

AND THAT staff be directed to issue "Development Variance Permit PL2017-8089."

CARRIED UNANIMOUSLY

- 12.2 Development Variance Permit PL2017-8105
Re: 115 Preston Avenue

Delegations/Submissions:

- Linnette and Shaun Gratton, applicants, spoke in support of the application.

703/2017

It was MOVED and SECONDED

THAT Council approve "Development Variance Permit PL2017-8105" for Lot 1 District Lot 250 Similkameen Division Yale District Plan 8006, located at 115 Preston Avenue, a permit to reduce the required parking spaces from 3 to 1, to reduce the minimum front yard from 4.5m to 3.0m and to reduce the minimum rear yard for a principal building from 6.0m to 1.5m; AND THAT staff be directed to issue "Development Variance Permit PL2017-8105."

CARRIED UNANIMOUSLY

- 12.3 Phased Development Agreement
Re: 450 Martin Street (P2 Developments)

704/2017

It was MOVED and SECONDED

THAT Council receive the letter attached to this report as "Attachment A" from the owner of P2 Developments Inc. requesting a mutual cancellation of the Phased Development Agreement for 450 Martin Street for consideration;

AND THAT Council agree to the request to return \$150,000 that was intended for downtown planning work to the owners of P2 Developments Inc. and to remove any encumbrances from title referencing the development envisioned by the Phased Development Agreement;

AND THAT Council deny the request for compensation for the road dedication area or to rededicate the road dedication area back to the owners;

AND THAT Council direct staff to proceed with the following steps prior to cancellation of the agreement:

1. Amend City of Penticton Zoning Bylaw 2017-08, removing the CD1 zone from the bylaw, rezoning 450 Martin Street from CD1 to C5;
2. Amend "Official Community Plan Bylaw 2002-20" reducing the site specific height maximum for 450 Martin Street;
3. Apply to the Land Title office to discharge the following instruments from title of the subject property:
 - a. Covenant LB372185 (Phased Development Agreement Covenant);
 - b. Statutory Right of Way LB342186 (Public Access to Rooftop Amenity).

CARRIED UNANIMOUSLY

- 12.4 Zoning Amendment Bylaw No. 2017-75
 Development Variance Permit PL2017-8093
 Development Permit PL2017-8094
 Re: 453 Eckhardt Avenue West

705/2017

It was MOVED and SECONDED

THAT "Zoning Amendment Bylaw No. 2017-75", a bylaw to rezone Lot 11 District Lot 4 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 937, located at 453 Eckhardt Avenue West from RD2 (Duplex Housing: Lane) to RM2 (Low Density Multiple Housing), be given first reading and forwarded to the December 19, 2017 Public Hearing;

AND THAT prior to adoption of "Zoning Amendment Bylaw No. 2017-75", a 3.0m road dedication along the south property line (Eckhardt Avenue West) is registered with the Land Title Office.

THAT delegations and submissions for "Development Variance Permit PL2017-8093" for Lot 11 District Lot 4 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 937, located at 453 Eckhardt Avenue West, a permit to waive the requirement to provide trees and shrubs in the landscape buffer area and to reduce the minimum interior yard of a principal building from 3.0m to 1.5m, be heard at the December 19, 2017 Public Hearing.; AND THAT Council consider "DVP PL2017-8093" following the adoption of "Zoning Amendment Bylaw No. 2017-75." THAT Council, subject to adoption of "Zoning Amendment Bylaw No. 2017-75," approve "Development Permit PL2017-8094" for Lot 11 District Lot 4 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 937, located at 453 Eckhardt Avenue West, a permit that allows for the construction of a second duplex on a lot.

CARRIED UNANIMOUSLY

12.5 Zoning Amendment Bylaw No. 2017-78
Re: 935 Forestbrook Drive

706/2017

It was MOVED and SECONDED

THAT "Zoning Amendment Bylaw 2017-78", bylaw that rezones Lot A, District Lot 294, Similkameen Division Yale District, Plan 14463, located at 935 Forestbrook Drive, from R2 (Small Lot Residential) to P2 (Parks and Recreation) and RM3 (Medium Density Multiple Housing) as shown on Schedule 'A' of the Bylaw, be given first reading and forwarded to the December 19, 2017 Public Hearing.

CARRIED UNANIMOUSLY

15. Notice of Motion

Notice of Motion from Councillor Martin:

707/2017

It was MOVED and SECONDED

THAT Council direct staff to prepare a detailed inventory of City owned lands for the February 6, 2018 Regular Council agenda; AND THAT the following be identified in the inventory:

- Properties designated for future infrastructure needs;
- Dedicated Parkland;
- Properties currently zoned park;
- Properties identified for park expansion;
- Properties with development potential.

CARRIED UNANIMOUSLY

16. Business Arising

Councillor Sentes' request to reinstate the Heritage & Museum Committee will be added to the December 19, 2017 Regular Council Agenda.

17. Council Round Table

18. Public Question Period

19. Adjournment

708/2017

It was MOVED and SECONDED

THAT Council adjourn the Regular Council meeting held on Tuesday, December 5, 2017 at 6:48 p.m.

CARRIED UNANIMOUSLY

Certified correct:

Confirmed:

Dana Schmidt
Corporate Officer

Andrew Jakubeit
Mayor

Special Meeting of Council
held in Council Chambers, City Hall
171 Main Street, Penticton, B.C.

Tuesday, November 28, 2017
at 9:00 a.m.

Present: Mayor Jakubeit
Councillor Sentes
Councillor Konanz
Councillor Picton
Councillor Martin
Councillor Watt
Councillor Sayeed

Staff: Peter Weeber, Chief Administrative Officer
Dana Schmidt, Corporate Officer
Jim Bauer, Chief Financial Officer
Mitch Moroziuk, General Manager Infrastructure
Anthony Haddad, Director of Development Services
Angela Campbell, Controller
Wes Renaud, Budget Analyst
Angie Collison, Deputy Corporate Officer

1. Call to Order

Mayor Jakubeit called the Special Meeting of Council to order at 9:00 a.m.

2. Adoption of Agenda

626/2017

It was MOVED and SECONDED

THAT Council adopt the agenda for the November 28, 2017 Special Meeting of Council as presented.

CARRIED UNANIMOUSLY

3. Financial Plan Overview

Jim Bauer, Chief Financial Officer, provided Council with an overview of the 2018-2022 Financial Plan and the three themes: growth and development; asset management; and safety and enforcement.

4. Public Engagement Overview

JoAnne Kleb, Community Engagement, provided Council with an overview of the public engagement sessions held November 22, 23 & 25, 2017.

5. Public Comments:

- Bridgit Kemp, Warren Avenue West, asked for an explanation of storm water. 300 block has six months community market, will it enhance mobility in that region? Has there been a study or analysis on reduction of parking on 300 block? Pentalkton fantastic evening, attended all three budget sessions, more people on first night. Has City considered pentalkton model format for other City presentations?
- Lyla Parsons, against storm water on utility bill, comes out of general revenue, want that to continue, dividend surplus in electrical fund is where it should come from, raise business tax multiplier closer to Kelowna's. City has a debt of 37 million dollars and pay interest on debt. Determine is it a want or need, slow down on wants like 300 block and Skaha Lake Marina until we think of a budget that can afford this.
- Lynn Kelsey, Oakville Street, SOEC debt gone, how did we get it all paid off? Asset management are we going from top of list to bottom of list of priorities? Want to see infrastructure taken care of, concern with making pretty, is it priorities in order or a list?
- Rod King, Carter Road, where did the 3% come from? Behind eight ball when it comes to asset management, increase tax to 4.5% to address asset management, dedicated fund, reasonable increase, could go farther, not flashy water or sewer, 300 block. Extend appreciation for new pedestrian controlled cross walk on Vancouver hill, it is going to make a huge difference to safety in our community.

6. 2018 Budget Talks

6.1 Library

Heather Buzzell, Head Librarian and Linda King, Board Chair, provided Council with the 2017 accomplishments and 2018 Public Library budget. Maintaining current operating hours.

6.2 Museum

Dennis Oomen, Museum Manager, provided Council with an overview of the museum & archives budget.

6.3 Recreation

Kerry Wagner, Recreation Operation Supervisor, provided Council with the 2017 accomplishments and an overview of the 2018 recreation initiatives and budget.

The meeting recessed at 10:47 a.m. and reconvened at 11:09 a.m.

6.4 Parks

Len Robson, Public Works Manager, introduced Todd Whyte, new Parks Supervisor and provided Council with an overview of the 2018 parks operating and capital budget.

6.5 Development Services

Anthony Haddad, Director of Development Services, provided Council with an overview of the Development Services budget.

6.6 Economic Development

Anthony Haddad, Director of Development Services, provided Council with an overview of the Economic Development 2017 accomplishments and 2018 budget.

The meeting recessed at 12:00 p.m. and reconvened at 1:01 p.m.

6.7 Planning

Blake Laven, Planning Manager, provided Council with the 2017 accomplishments and an overview of the 2018 planning initiatives and budget.

6.8 Development Engineering

Michael Hodges, Development Infrastructure Manager, provided Council with the 2017 accomplishments and an overview of the 2018 development engineering initiatives and budget.

6.9 Land Management

Peter Wallace, Land Administrator, provided Council with the 2017 accomplishments and an overview of the 2018 land management initiatives and budget.

6.10 Building & Licensing

Ken Kunka, Building and Permitting Manager, provided Council with the 2017 accomplishments and an overview of the 2018 building and licensing initiatives and budget.

6.11 Bylaw Enforcement

Tina Siebert, Bylaw Services Supervisor, provided Council with the 2017 accomplishments and an overview of the 2018 bylaw enforcement initiatives and budget.

Council contemplated an increase to the bylaw services budget and would like to give consideration to an additional officer.

The meeting recessed at 2:40 p.m. and reconvened at 2:55 p.m.

6.12 Animal Control

Tina Siebert, Bylaw Services Supervisor, provided Council with the 2017 accomplishments and an overview of the 2018 dog control initiatives and budget.

6.13 Facilities

Bregje Kozak, Director of Recreation and Facilities, provided Council with the 2017 accomplishments and an overview of the 2018 facilities capital and operating budget.

The meeting recessed at 3:16 p.m. to address technical issues and resumed at 3:18 p.m.

Council will revisit the Skaha Marina discussion.

5. Media and Public Question Period

6. Adjourn

627/2017

It was MOVED and SECONDED

THAT Council adjourn the Special Council meeting held on Tuesday, November 28, 2017 at 3:54 p.m.

CARRIED UNANIMOUSLY

Certified correct:

Confirmed:

Dana Schmidt
Corporate Officer

Andrew Jakubeit
Mayor

Special Meeting of Council
held in Council Chambers, City Hall
171 Main Street, Penticton, B.C.

Wednesday, November 29, 2017
at 9:00 a.m.

Present: Mayor Jakubeit
Councillor Sentes
Councillor Konanz
Councillor Picton
Councillor Watt
Councillor Sayeed
Councillor Martin

Staff: Peter Weeber, Chief Administrative Officer
Dana Schmidt, Corporate Officer
Jim Bauer, Chief Financial Officer
Mitch Moroziuk, General Manager Infrastructure
Anthony Haddad, Director of Development Services
Angela Campbell, Controller
Wes Renaud, Budget Analyst
Angie Collison, Deputy Corporate Officer

1. Call to Order

Mayor Jakubeit called the Special Meeting of Council to order at 9:09 a.m.

2. Adoption of Agenda

628/2017

It was MOVED and SECONDED

THAT Council adopt the agenda for the November 29, 2017 Special Meeting of Council as presented.

CARRIED UNANIMOUSLY

3. 2018 Budget Talks:

3.1 Engineering – Operating and Capital

Ian Chapman, City Engineer, provided Council with the 2017 accomplishments and an overview of the 2018 engineering capital and operating budget.

Councillor Watt left the meeting at 10:14 a.m.

629/2017

It was MOVED and SECONDED

THAT Council retain the 300 block project in the budget.

CARRIED
Councillor Konanz, Opposed

Councillor Watt returned to the meeting at 10:18 a.m.

3.2 RCMP

Supt. Ted De Jager and Sandra Idzes, provided Council with the 2017 accomplishments and an overview of the 2018 RCMP initiatives and budget.

The meeting recessed at 10:52 a.m. and reconvened at 11:06 a.m.

Councillor Konanz left the meeting.

3.3 Fire Services

Chris Forester, Deputy Fire Chief, provided Council with the 2017 accomplishments and an overview of the 2018 fire services initiatives and budget.

3.4 Operations

Mitch Moroziuk, General Manager of Infrastructure, provided Council with the 2017 accomplishments and an overview of the 2018 operations initiatives and budget.

3.5 Transit

Mitch Moroziuk, General Manager of Infrastructure, provided Council with the 2017 accomplishments and an overview of the 2018 transit initiatives and budget.

3.6 Fleet

Len Robson, Public Works Manager, provided Council with the 2017 accomplishments and an overview of the 2018 fleet initiatives and budget.

3.7 Roads and Maintenance

Len Robson, Public Works Manager, provided Council with the 2017 accomplishments and an overview of the 2018 roads and maintenance initiatives and budget.

The meeting recessed at 12:11 p.m. and reconvened at 1:11 p.m.

3.8 Street Lighting

Shawn Filice, Electric Utility Manager, provided Council with the 2017 accomplishments and an overview of the 2018 street lighting initiatives and budget.

3.9 Traffic Control

Shawn Filice, Electric Utility Manager, provided Council with the 2017 accomplishments and an overview of the 2018 traffic control initiatives and budget.

3.10 Electrical Utility

Shawn Filice, Electric Utility Manager, provided Council with the 2017 accomplishments and an overview of the 2018 electrical utility capital and operating budget.

3.11 Solid Waste

Len Robson, Public Works Manager, provided Council with an overview of the solid waste budget.

3.12 Cemetery

Len Robson, Public Works Manager, provided Council with an overview of the cemetery budget.

3.13 Distribution System

Len Robson, Public Works Manager, provided Council with the 2017 accomplishments and an overview of the 2018 water distribution system initiatives and budget.

3.14 WTP

Ian Chapman, City Engineer, provided Council with the 2017 accomplishments and an overview of the 2018 water treatment plant initiatives and budget.

The meeting recessed at 2:28 p.m. and reconvened at 2:41 p.m.

3.15 AWWTP

Ian Chapman, City Engineer, provided Council with the 2017 accomplishments and an overview of the 2018 advanced waste water treatment plant initiatives and budget.

3.16 Collection System

Len Robson, Public Works Manager, provided Council with the 2017 accomplishments and an overview of the 2018 sewer collection system initiatives and budget.

3.17 Information Technology

Dave Polvere, IT Manager, provided Council with the 2017 accomplishments and an overview of the 2018 information technology initiatives and budget.

3.18 Human Resources

Kerri Lockwood, Human Resources Manager, provided Council with the 2017 accomplishments and an overview of the 2018 human resources initiatives and budget.

4. Media and Public Question Period

5. Adjourn

630/2017

It was MOVED and SECONDED

THAT Council adjourn the Special Council meeting held on Wednesday, November 29, 2017 at 3:49 p.m.

CARRIED UNANIMOUSLY

Certified correct:

Confirmed:

Dana Schmidt
Corporate Officer

Andrew Jakubeit
Mayor

Special Meeting of Council
held in Council Chambers, City Hall
171 Main Street, Penticton, B.C.

Thursday, November 30, 2017
at 9:00 a.m.

Present: Mayor Jakubeit
Councillor Sentes
Councillor Konanz
Councillor Picton
Councillor Martin
Councillor Watt
Councillor Sayeed

Staff: Peter Weeber, Chief Administrative Officer
Dana Schmidt, Corporate Officer
Jim Bauer, Chief Financial Officer
Mitch Moroziuk, General Manager Infrastructure
Anthony Haddad, Director of Development Services
Angela Campbell, Controller
Wes Renaud, Budget Analyst
Angie Collison, Deputy Corporate Officer

1. Call to Order

Mayor Jakubeit called the Special Meeting of Council to order at 9:01 a.m.

2. Adoption of Agenda

631/2017

It was MOVED and SECONDED

THAT Council adopt the agenda for the November 30, 2017 Special Meeting of Council as presented.

CARRIED UNANIMOUSLY

3. 2018 Budget Talks:

Tourism

Thom Tischik & Barb Haynes, Travel Penticton, provided Council with the 2017 accomplishments and an overview of the 2018 tourism initiatives and budget.

SOEC

Dean Clarke, Spectra, provided Council with the 2017 accomplishments and an overview of the 2018 South Okanagan Events Centre, Penticton Trade and Convention Centre, Memorial Arena and Okanagan Hockey School Training Centre budget.

Mayor & Council

Dana Schmidt, Corporate Officer, provided Council with an overview of the 2018 Mayor and Council budget.

Corporate Administration

Dana Schmidt, Corporate Officer, provided Council with the 2017 accomplishments and an overview of the 2018 Corporate Administration initiatives and budget.

Communications

JoAnne Kleb, Community Engagement, provided Council with the 2017 accomplishments and an overview of the 2018 communications initiatives and budget.

The meeting recessed at 10:50 a.m. and reconvened at 11:04 a.m.

Revenue & Collections

Amber Coates, Revenue Supervisor, provided Council with the 2017 accomplishments and an overview of the 2018 revenue and collections initiatives and budget.

Procurement

Cathy Ingram, Procurement and Inventory Manager, provided Council with the 2017 accomplishments and an overview of the 2018 procurement initiatives and budget.

Finance

Angela Campbell, Controller, provided Council with the 2017 accomplishments and an overview of the 2018 finance initiatives and budget.

Debt and Reserves

Angela Campbell, Controller, provided Council with the debt summary and reserves.

632/2017

It was MOVED and SECONDED

THAT Council approve \$75,000 for the Arts Reserve for 2018.

CARRIED
Councillors Martin and Konanz, Opposed

The meeting recessed at 12:04 p.m. and reconvened at 1:02 p.m.

Municipal Grants

Jim Bauer, Chief Financial Officer, provided Council with an overview of the municipal grant policy and the application criteria.

Grants – Arts, Culture & Heritage

DPA – BC Family Day

633/2017

It was MOVED and SECONDED

THAT Council support the grant request of \$1,100 cash and in kind park rental for the DPA – BC Family Day.

CARRIED UNANIMOUSLY

DPA – Canada Day Celebration

634/2017

It was MOVED and SECONDED

THAT Council support the grant request of \$4,500 cash and in kind for park rental for the DPA – Canada Day Celebration.

CARRIED UNANIMOUSLY

DPA – Sunshine Cabaret – Summer Concert Series

635/2017

It was MOVED and SECONDED

THAT Council support the grant request of \$8,000 cash and \$2,300 in kind for the DPA – Sunshine Cabaret – Summer Concert Series.

**CARRIED
Councillor Picton, Opposed**

Miss Penticton Royalty

636/2017

It was MOVED and SECONDED

THAT Council support a grant of \$7,650 cash and \$1,500 in kind for Miss Penticton Royalty.

**CARRIED
Councillor Konanz, Opposed**

Okanagan School of the Arts (Shatford Centre)

637/2017

It was MOVED and SECONDED

THAT Council support a grant of \$10,000 cash for the Okanagan School of the Arts (Shatford Centre).

**CARRIED
Councillors Sayeed, Watt, Sentes, Opposed**

Okanagan Symphony Society

638/2017

It was MOVED and SECONDED

THAT Council deny the municipal grant request from the Okanagan Symphony Society.

CARRIED UNANIMOUSLY

Okanagan Valley Music Festival Society – Penticton Kiwanis Music Festival

639/2017

It was MOVED and SECONDED

THAT Council support a grant request of \$5000 in kind for the Okanagan Valley Music Festival Society – Penticton Kiwanis Music Festival.

CARRIED UNANIMOUSLY

Mayor Jakubeit declared a conflict of interest and left the meeting at 1:47 p.m. Deputy Mayor Watt chaired the meeting.

Pentastic Jazz Festival Society

640/2017

It was MOVED and SECONDED

THAT Council support a grant of \$2,700 cash and \$7,000 in kind for Pentastic Jazz Festival Society.

**CARRIED
Councillors Martin and Konanz, Opposed**

Mayor Jakubeit returned to the meeting.

Penticton & District Community Arts Council

641/2017

It was MOVED and SECONDED

THAT Council support a grant of \$12,312 cash for the Penticton & District Community Arts Council.

CARRIED UNANIMOUSLY

Penticton & District Community Arts Council – Arts Rising

642/2017

It was MOVED and SECONDED

THAT Council support a grant of \$5,000 cash for the Penticton & District Community Arts Council – Arts Rising.

CARRIED UNANIMOUSLY

Penticton Art Gallery Society

643/2017

It was MOVED and SECONDED

THAT Council support a grant of \$100,000 cash for the Penticton Art Gallery Society.

**DEFEATED
Mayor Jakubeit, Councillors Sayeed ,Watt, Sentes, Opposed**

644/2017

It was MOVED and SECONDED

THAT Council support a grant of \$125,000 cash for the Penticton Art Gallery Society.

**CARRIED
Councillors Konanz, Martin, Picton, Opposed**

Penticton Elvis Festival

645/2017

It was MOVED and SECONDED

THAT Council support a grant of \$5,000 in kind for the Penticton Elvis Festival.

CARRIED UNANIMOUSLY

Penticton Historic Automobile Society (Peach City Beach Cruise)

646/2017

It was MOVED and SECONDED

THAT Council support a grant of \$7,000 in kind for the Penticton Historic Automobile Society (Peach City Beach Cruise).

CARRIED UNANIMOUSLY

Mayor Jakubeit and Councillor Martin declared a conflict and left the meeting at 2:08 p.m.

Penticton Peach Festival Society

647/2017

It was MOVED and SECONDED

THAT Council support a grant of \$20,000 cash and \$24,000 in kind for Penticton Peach Festival Society.

CARRIED UNANIMOUSLY

Mayor Jakubeit and Councillor Martin returned to the meeting at 2:10 p.m.

Penticton Scottish Festival Society

648/2017

It was MOVED and SECONDED

THAT Council support a grant of \$4,000 in kind for the Penticton Scottish Festival Society.

CARRIED UNANIMOUSLY

Councillor Martin declared a conflict and left the meeting.

Rotary Club of Penticton (Ribfest)

649/2017

It was MOVED and SECONDED

THAT Council support a grant of \$5,000 in kind for the Rotary Club of Penticton (Ribfest).

CARRIED

Councillors Sayeed and Sentes, Opposed

Councillor Martin returned to the meeting at 2:16 p.m.

Royal Canadian Legion – facility use Remembrance Day

650/2017

It was MOVED and SECONDED

THAT Council support a grant of \$3,000 in kind for the Royal Canadian Legion – facility use for Remembrance Day.

CARRIED UNANIMOUSLY

SS Sicamous Society - operations and utilities

651/2017

It was MOVED and SECONDED

THAT Council support a grant of \$ 65,000 for the SS Sicamous Society – operations and utilities.

CARRIED UNANIMOUSLY

Grants - Health, Safety & Social Services

Canadian Mental Health Association

652/2017

It was MOVED and SECONDED

THAT Council support a grant of \$2,000 cash for the Canadian Mental Health Association.

CARRIED UNANIMOUSLY

CFSOS

653/2017

It was MOVED and SECONDED

THAT Council support a grant of \$25,000 cash for the Community Foundation (CFSOS).

CARRIED UNANIMOUSLY

Okanagan Motorcycle Riders Association – Toy Run

654/2017

It was MOVED and SECONDED

THAT Council support a grant of \$500 in kind for the Okanagan Motorcycle Riders Association – Toy Run.

CARRIED UNANIMOUSLY

Okanagan Similkameen Healthy Living Fair Society

655/2017

It was MOVED and SECONDED

THAT Council support a grant of \$3,921 in kind for the Okanagan Similkameen Healthy Living Fair Society.

CARRIED UNANIMOUSLY

Penticton & Area Access Society

656/2017

It was MOVED and SECONDED

THAT Council support a grant of \$4,300 cash for the Penticton & Area Access Society.

CARRIED UNANIMOUSLY

Penticton & District Search & Rescue

657/2017

It was MOVED and SECONDED

THAT Council support a grant of \$12,435 in kind for the Penticton and District Search & Rescue.

CARRIED UNANIMOUSLY

Councillor Sayeed declared a conflict and left the meeting at 2:27 p.m.

Penticton & District Multicultural Society (SOICS)

658/2017

It was MOVED and SECONDED

THAT Council support a grant of \$15,700 cash for the Penticton & District Multicultural Society (SOICS).

CARRIED UNANIMOUSLY

Councillor Sayeed returned to the meeting at 2:28 p.m.

Penticton Centre for Exceptional Learning

659/2017

It was MOVED and SECONDED

THAT Council support a grant of \$1,500 cash for Penticton Centre for Exceptional Learning.

CARRIED UNANIMOUSLY

Salvation Army – Volunteer Coordinator

660/2017

It was MOVED and SECONDED

THAT Council support a grant of \$15,000 cash for Salvation Army – Volunteer Coordinator for a three year term and reevaluate every year for its merits.

DEFEATED

Mayor Jakubeit, Councillors Sayeed, Konanz, Sentes, Martin, Picton, Opposed

661/2017

It was MOVED and SECONDED

THAT Council deny the grant request for the Salvation Army – Volunteer Coordinator.

CARRIED

Councillor Watt, Opposed

Skaha Bluffs Park Watch Society

662/2017

It was MOVED and SECONDED

THAT Council support a grant of \$13,000 cash for the Skaha Bluffs Park Watch Society.

CARRIED UNANIMOUSLY

South Okanagan Seniors Wellness Society

663/2017

It was MOVED and SECONDED

THAT Council support a grant of \$13,000 cash for the South Okanagan Seniors Wellness Society.

CARRIED UNANIMOUSLY

South Okanagan Similkameen Mental Wellness Society – Penticton Branch (Mental Wellness Centre)

664/2017

It was MOVED and SECONDED

THAT Council support a grant of \$18,000 cash for the South Okanagan Similkameen Mental Wellness Society – Penticton Branch (Mental Wellness Centre).

CARRIED UNANIMOUSLY

South Okanagan Similkameen Volunteer Centre Society

665/2017

It was MOVED and SECONDED

THAT Council support a grant of \$20,000 cash for the South Okanagan Similkameen Volunteer Centre Society.

CARRIED

Councillor Konanz, Opposed

Young Life – South Okanagan

666/2017

It was MOVED and SECONDED

THAT Council support a grant of \$5,000 cash for the Young Life – South Okanagan.

CARRIED

Councillors Watt and Sayeed, Opposed

Mayor Jakubeit left the meeting at 2:51 p.m.

Grants – Parks, Recreation and Sport

Canadian Sport School Hockey League

667/2017

It was MOVED and SECONDED

THAT Council support a grant of \$10,000 cash for the Canadian Sport School Hockey League.

CARRIED UNANIMOUSLY

Mayor Jakubeit returned to the meeting at 2:52 p.m.

Okanagan Similkameen Conservation Alliance (Meadowlark Nature Festival)

668/2017

It was MOVED and SECONDED

THAT Council support a grant of \$1,750 cash for Okanagan Similkameen Conservation Alliance (Meadowlark Nature Festival).

DEFEATED

Councillors Watt, Konanz, Sentes and Picton, Opposed

669/2017

It was MOVED and SECONDED

THAT Council deny the grant request from Okanagan Similkameen Conservation Alliance (Meadowlark Nature Festival).

CARRIED

Mayor Jakubeit, Councillors Sayeed and Martin, Opposed

Parkrun

670/2017

It was MOVED and SECONDED

THAT Council support a grant of \$2,500 cash for Parkrun.

CARRIED UNANIMOUSLY

Penticton & Area Cycling Association – bike to work week

671/2017

It was MOVED and SECONDED

THAT Council support a grant of \$2,500 cash and for Penticton & Area Cycling Association – bike to work week.

CARRIED UNANIMOUSLY

Penticton Curling Club

672/2017

It was MOVED and SECONDED

THAT Council support a grant of \$9,000 cash and \$5,000 in kind for 2018 for the Penticton Curling Club.

CARRIED

Councillor Konanz, Opposed

Penticton Dragon Boat Festival

673/2017

It was MOVED and SECONDED

THAT Council support a grant of \$12,752 in kind for the Penticton Dragon Boat Festival.

CARRIED UNANIMOUSLY

Upper Dek Veas Hockey (via Penticton Recreation)

674/2017

It was MOVED and SECONDED

THAT Council support a grant of \$8,800 in kind for Upper Dek Veas Hockey (via Penticton Recreation).

CARRIED UNANIMOUSLY

Grants - Other

School District Rentals

675/2017

It was MOVED and SECONDED

THAT Council support \$6,000 in kind for the School District Rentals as per Joint Use Agreement.

CARRIED UNANIMOUSLY

Other Opportunities

676/2017

It was MOVED and SECONDED

THAT Council support \$15,000 for Other Opportunities.

CARRIED UNANIMOUSLY

Partnerships

677/2017

It was MOVED and SECONDED

THAT Council support a partnership agreement for \$30,000 in kind for Granfondo.

CARRIED UNANIMOUSLY

YES Project

678/2017

It was MOVED and SECONDED

THAT Council support funding of \$300,000 in 2018 budget and \$100,000 in 2017 budget for the YES Project.

CARRIED

Mayor Jakubeit, Councillors Watt and Konanz, Opposed

Meeting recessed at 3:30 p.m. and reconvened at 3:50 p.m.

Budget Summary

Council was provided with answers to questions asked over the past three days.

679/2017

It was MOVED and SECONDED

THAT Council approve \$40,000 as a place holder for enhanced bylaw services.

CARRIED UNANIMOUSLY

680/2017 **It was MOVED and SECONDED**
 THAT Council debt finance the 300 block project through the Asset Management Reserve.
CARRIED
Councillor Konanz, Opposed

681/2017 **It was MOVED and SECONDED**
 THAT Council support \$100,000 for 2018 planning and analysis for the Skaha Marina Dock Revitalization.
CARRIED UNANIMOUSLY

Council began discussions on November 28, 2017 with a proposed 3 % tax increase. Council reviewed the proposed increases and reductions and ended November 30, 2017 with a proposed tax increase of 3.44 %.

682/2017 **It was MOVED and SECONDED**
 THAT Council support the 3.44% proposed tax increase.
CARRIED
Councillor Konanz, Opposed

4. Media and Public Question Period

5. Adjourn

683/2017 **It was MOVED and SECONDED**
 THAT Council adjourn the Special Council meeting held on Thursday, November 30, 2017 at 4:58 p.m.
CARRIED UNANIMOUSLY

Certified correct:

Confirmed:

 Dana Schmidt
 Corporate Officer

 Andrew Jakubeit
 Mayor



Official Community Plan Task Force Meeting

held at City of Penticton, Council Chambers
171 Main Street, Penticton, B.C.

Thursday, November 16, 2017
at 5:30 p.m.

Present: Andre Martin, Councillor
Brian Symonds, Member at Large
Dawn Russell, Penticton Indian Band Representative
Evelyn Riechert, Regional District of the Okanagan Similkameen Representative
Garrett Cruickshank, Member at Large
Jason Cox, Chamber Representative
Jill Bateman, Penticton Industrial Development Association Representative
Jillian Tamblyn, Member at Large
Kristi Estergaard, Interior Health Representative
Lynn Allin, Downtown Penticton Association Representative
Lynn Kelsey, Vice-Chair
Rhys Spencer, Member at Large
Sharon Fletcher, Member at Large
Warren Sanders, Member at Large

Staff: Ben Johnson, Special Projects Manager
Blake Laven, Planning Manager
JoAnne Kleb, Communication Engagement Officer
Philip Cooper, Communications Manager
Sharon Thompson, Corporate Administration Secretary

Guest: Tina Lee

1. **Call to Order**

The Official Community Plan Task Force was called to order by the Vice-Chair at 5:35 p.m.

2. **Adoption of Agenda**

It was MOVED and SECONDED

THAT the Official Community Plan Task Force adopt the agenda for the meeting held on November 16, 2017 as amended [item 4.1 amended to read Skaha Bluffs Boundary Extension Update].

CARRIED UNANIMOUSLY

3. **Adoption of Minutes**

It was MOVED and SECONDED

THAT the Official Community Plan Task Force adopt the minutes of the October 4, 2017 meeting as presented.

CARRIED UNANIMOUSLY

4. **Business Arising from Prior Meetings**

4.1 Skaha Bluffs Boundary Extension Update

The Special Projects Manager provided an update on the results of the electoral process surrounding the Skaha Bluffs Boundary Extension, stating that by the deadline, November 15, 382 petitions against the extension were received, representing 1.4% of the electorate. Results will be presented to Council next week. Future public engagement is planned around this issue. Discussion and questions followed.

5. **New Business**

5.1 Staffing Update (Tina Lee)

The Community Engagement Officer introduced Tina Lee noting that Tina will be working on various communications projects in the coming year.

5.2 Engagement Strategy

The Engagement Officer presented an overview of the Official Community Plan Engagement Strategy explaining the strategic priority objective of the OCP document will reflect the interests of citizens to guide development and decisions for the next 25 years. She detailed 4 phases of engagement which will include the public as a collaborative partner in the decision process.

The Engagement Officer explained that Phase 1 of the process, which brought about public awareness through a number of public events and presentations throughout 2017, is complete and Phase 2 will begin November 22 with the PenTalkton event.

5.3 Expo Update

The Special Projects Manager noted OCP engagement will continue in the form of a multi-day Expo in January. Staff are actively working to find dedicated space to set up a downtown storefront to facilitate the creation of an engaging and creative space for public dialogue.

5.4 PenTALKton Event

The Engagement Specialist explained Phase 2 of the Community Engagement process will begin November 22 with the PenTALKton event at the Trade and Convention Centre. Created with the help of Skyler Punnett Creative, PenTalkton will feature 10 concise and engaging presentations by local and regional speakers who will speak on subjects that focus on building an understanding of issues, opportunities and trade-offs in key policy areas including affordable housing, building healthy cities, food security, history and heritage, green architecture and design, smart neighbourhood development and our Downtown Plan. Staff has actively promoted the event through multiple platforms including print, social media and press releases. Community leaders representing City committees, Downtown Penticton Association, the Chamber, etc. have been invited to participate in the event. The committee is encouraged to invite their network of contacts to this event. Questions and discussion followed.

5.5 OCP Expo Content Overview

The Special Projects Manager is currently working with staff to secure downtown dedicated storefront space for the OCP Expo. He noted having space for an extended period will provide the creative space to engage in dialogue about the future of Penticton.

New branding material was circulated for the OCP multi-day Expo noting the new look is visually compelling and presents a strong brand identity.

The Special Projects Manager explained the Expo will be divided into a series of subject area stations manned by city staff, members of the OCP Task Force and other experts. Each station will talk about what is contained in the current OCP, what has changed since 2002 and what's happening today. Feedback will be captured and will ultimately form the goals, policies and future land use plan in the OCP. Questions and discussion followed.

5.6 Consultancy Update

The Special Projects Manager has engaged Urbanics Consultants to update findings of a housing needs assessment. She explained that rather than only relying on the last census date (2011), Urbanics has a more robust methodology to analyze 2016 data to produce growth projections for Penticton. It is expected the data will be available by the end of the year and Urbanics will be invited to present their findings to the committee at a future date.

The Special Projects Manager reported that he has issued a RFP for a commercial industrial capacity study which should result in useful information in time for the upcoming workshops.

5.7 Expo Growth Exercise

The Special Projects Manager engaged the committee in a creative exercise that will be used to engage people to talk about key issues at Expo events. Discussion and feedback provided by the committee will be used to refine the exercise used at the Expo.

5.8 Task Force ShapeYourCity Page

The Special Projects Manager stated a private forum has been created on the ShapeYourCity page for the committee as a platform to encourage conversation and post documents.

5.9 November 21 Council Report

The Special Projects Manager stated he will be presenting upcoming Engagement activities to Council next week.

6. **Next Steps**

Committee will reconvene and was reminded to tell everyone about the PenTALKton event.

7. **Next Meeting**

The next regularly scheduled meeting of the Official Community Plan Task Force to be determined. Staff to send out proposed dates via a Doodle Poll.

8. **Adjournment**

It was MOVED and SECONDED

THAT the Official Community Plan Task Force adjourn the meeting held on Thursday, November 16, 2017 at 7:50 p.m.

CARRIED UNANIMOUSLY

Certified Correct:

Sharon Thompson
Corporate Administrative Secretary



Penticton Creek Restoration Committee Meeting

Held at City of Penticton Committee Room A
171 Main Street, Penticton, B.C.

Friday, November 24, 2017
at 9:00 a.m.

Present: Helena Konanz, Councillor
Bryn White, Chair
Bill Wickett, Penticton Fly Fishers Association
Bruce McFarlane, Regional Water Engineer
Bruce Turnbull, Penticton Fly Fishers Association Representative
Doug Maxwell, Member at Large
Hillary Ward, Member at Large
Jody Goode, Mould Engineering
Paul Askey, Freshwater Fisheries Society of BC Representative
Paul Truelove, Member at Large

Staff: Mitch Moroziuk, General Manager of Infrastructure
Ian Chapman, City Engineer
Audrey Tanguay, Long Range Planner
Sharon Thompson, Committee Secretary

Guest: Yi Li, Regional Hydrologist
Ministry of Forests, Lands and Natural Resources

1. Call to Order

The Penticton Creek Restoration Committee was called to order by the Chair at 9:08 a.m.

2. Adoption of Agenda

It was MOVED and SECONDED

THAT the Penticton Creek Restoration Committee adopt the agenda for the meeting held on November 24, 2017 as circulated.

CARRIED UNANIMOUSLY

3. Adoption of Minutes

It was MOVED and SECONDED

THAT the Penticton Creek Restoration Committee adopt the minutes of the September 13, 2017 meeting as circulated.

CARRIED UNANIMOUSLY

4. Business Arising from Prior Meetings

4.1 Structure 1 Replacement Cancellation

Yi Li, Regional Hydrologist with the Ministry of Forests, Lands and Natural Resource Operations and Rural Development was introduced by colleague, Bruce McFarlane.

The Chair reported that project partners explored the option to address Structure 1 as an alternative to the postponed Lower 3A project in order to use the 2017 funding from the federal RFCPP program, which would have been an excellent fit. Unfortunately, because of the delay in the 2017 Lower 3A project, and the inability to undertake the Structure 1 replacement, the RFCPP funding for the 2017 construction costs (\$200,000), less the \$20,000 allocated to the Structure 1 design and study, will have to be returned to the funder. The RFCPP funding for 2018 construction costs are secure.

4.2 Penticton Creek Master Plan Public Consultation Update

The Chair relayed that an engagement specialist was hired to lead the Penticton Creek Master Plan public consultation process. To bring about public awareness a number of public events were hosted, materials were created and feedback was gathered on the ShapeYourCity website as well as the Public Market and Community Centre.

The General Manager of Infrastructure explained that as a result of the positive public feedback, no changes to the Penticton Creek Master Plan are required and the next step is to report the results to Council. The Penticton Creek Engagement Summary presentation is scheduled to be on Council's agenda December 19.

**It was MOVED and SECONDED that the Penticton Creek Restoration Committee recommends:
THAT Council support the adoption of the Penticton Creek Master Plan as presented.
CARRIED UNANIMOUSLY**

5. New Business

5.1 Report on Creek Damage from last Freshet Flows

The City Engineer reported that as a result of spring flooding, the City is faced with damage to both Penticton and Ellis Creeks. Penticton Creek suffered mostly structural damage while Ellis Creek is faced with erosion in the upper reaches which resulted in material being carried down and deposited in lower areas. Damage has been assessed and measures needed to correct it before 2018 freshet flows have been identified.

Mould Engineering presented an inspection report summary explaining the spring of 2017 was a 1 in 10-year event resulting in significant erosion and overall deterioration. Estimated costs for these 1 in 10-year and 1 in 20-year events promise to be more expensive than the 1 in 100-year events and priorities should be adjusted. Ellis Creek was identified to be the highest priority in terms of flooding and determined that after surveying the area, construction plans should proceed when least impactful to fish habitat. Discussion and questions followed and included addressing the repairs required and funding options. The Committee discussed whether its mandate should be expanded to include Ellis Creek and the City Engineer agreed to introduce the concept at upcoming Budget discussions.

**It was MOVED and SECONDED that given the comprehensive consultant report findings the Penticton Creek Restoration Committee recommends:
THAT Council support expanding the scope of the Penticton Creek Restoration Committee in 2018 to include aspects of planning, restoration and flood protection issues in Ellis Creek.**

CARRIED UNANIMOUSLY

Action: The Chair will notify the Okanagan Nation Alliance of the decision and Council recommendation.

Mould Engineering continued with 2017 inspection results of Penticton Creek, as detailed in the Master Plan. Water levels and accumulated materials were indicated as areas of concern. The presentation indicated areas where no work will be required (which included the Showpiece section) as well as numerous areas requiring moderate to extensive repairs. These repairs vary in scope depending on location and include erosion, structural, concrete lining, channel downgrading, roadway cracking and tree removal. Also explained were structures that would likely fail ahead of others, cost estimates and 2018 priorities to address fish protection.

Ensuing discussion and questions included priorities, national disaster funding and next steps. It was agreed that the Master Plan flood priority list should be updated to identify where funds should be allocated for future 1 in 10, 1 in 20 and 1 in 100/200 year events. In addition, the Master Plan should reflect the extraordinary events and impacts of 2017. The General Manager of Infrastructure requested the final version of the Penticton Creek Master Plan no later than December 11, 2017.

The General Manager of Infrastructure reported that the Storm Water Utility rate will be implemented over a 7-year period beginning with public consultation in January 2018. The Chair agreed to invite the CAO from the Town of Gibsons to come and speak on their provisions for assessing valuation and funding the protection of natural capital and green infrastructure/assets to address services such as stormwater to local governments in the region.

6. Next Meeting

The next scheduled meeting of the Penticton Creek Restoration Committee is January 19, 2017.

7. Adjournment

It was MOVED and SECONDED

THAT the Penticton Creek Restoration Committee adjourn the meeting held on Friday, November 24, 2017 at 11:20 a.m.

CARRIED UNANIMOUSLY

Certified Correct:

Sharon Thompson
Committee Secretary



Arts, Creative & Cultural Innovations Committee Meeting

held at City of Penticton Committee Room A
171 Main Street, Penticton, B.C.

Friday, December 1, 2017
at 8:00 a.m.

Present: Campbell Watt, Councillor
Robin Roberts, Chair
Corinna Netherton, Member at Large
Darren Bifford, Member at Large
Gerald Kenyon, SOPAC Representative
Jane Shaak, Okanagan School of the Arts, Shatford Centre Representative
Murray Swales, Member at Large
Paul Crawford, Penticton Art Gallery Representative
Skyler Punnett, Member at Large

Staff: Bregje Kozak, Director Recreation & Facilities
Sharon Thompson, Recording Secretary

Guest: Timothy Tweed, Penticton & District Community Arts Council

1. **Call to Order**

The Arts, Creative & Cultural Innovations Committee was called to order by the Chair at 8:02 a.m.

2. **Adoption of Agenda**

It was MOVED and SECONDED

THAT the Arts, Creative & Cultural Innovation Committee adopt the agenda as amended (added items 4.4 Historical Art Reserves & 7.5 Members at Large) for the meeting held on December 1, 2017.

CARRIED UNANIMOUSLY

3. **Adoption of Minutes**

It was MOVED and SECONDED

THAT the Arts, Creative & Cultural Innovation Committee adopt the minutes of the October 27, 2017 meeting as circulated.

CARRIED UNANIMOUSLY

4. **Business Arising from Prior Meetings**

4.1 Committee Orientation

The Chair and committee members participated in roundtable introductions and were invited to share why they were interested in sitting on this committee. The Chair updated the committee on Lori Mullen's departure and the new staff liaison, Bregje Kozak, Director Recreation and Facilities, was introduced.

4.2 Public Sculpture Project Update

The Chair provided an update on the Public Sculpture Project and confirmed the deadline for artists' submissions is December 15. The Chair requested volunteers to sit on a public sculpture subcommittee noting that one of the duties would be to sit on the selection jury. Paul Crawford (Penticton Art Gallery Representative), Skyler Punnett (Member at Large) and Darren Bifford (Member at Large) volunteered to join Robin Roberts (Chair) to sit on the subcommittee. Ensuing discussion included jury representation and identifying community representatives who could be recruited to sit on the 2018 jury.

The Chair opened discussion regarding 2017 sculpture exhibits and the possibility of adopting them permanently. Discussion and ideas included finding buyers or sponsors and fundraising. The Director Recreation and Facilities suggested consideration of a two-year lease of the winning sculptures which would allow overlap rather than the annual removal of all sculptures and installation of new ones.

4.3 Valley First Donation Program Update

The Chair noted that jury members had not yet met and so there was nothing new to report on the Valley First Donation Program.

4.4 Historical Art Reserves

The Chair noted the previous staff liaison obtained a City of Penticton 2008 art inventory document and asked if the Director Recreation and Facilities could have an updated version available for a future meeting.

5. **New Business**

5.1 2018 Committee Goal Setting

In an effort to determine the Committee's top priorities and areas of focus, the Chair led an exercise to determine the top 3 of 12 recommendations detailed in the Terms of Reference. The committee was asked to give the recommendations consideration prior to the next meeting where the topic will be on the agenda and a vote will be taken.

6. Representative Updates

7.1 Penticton Art Gallery

The Penticton Art Gallery representative provided an update on both past and upcoming events and initiatives. He noted the popular Soup Bowls event went well and the Syrian exhibit is currently running in Calgary with upcoming exhibitions either confirmed or in discussion for Langley, Fort St. John, Atlanta and the Human Rights Museum in Winnipeg. The One-Man Star Wars Trilogy, a one man play starring Charles Ross, will be presented December 12.

The Art Galley representative shared that he attended the Different by Design-Exploring Innovation for Rural Prosperity conference in Nelson recently. He noted that, comparatively, our arts community has much to be proud of and could certainly capitalize on marketing Penticton's arts attractions.

7.2 Penticton & District Community Arts Council

The new Penticton & District Community Arts Council representative relayed that due to recent financial losses which resulted in the Council being left with a deficit, the difficult decision to eliminate a staff position was made. The Arts Council will continue with annual initiatives which includes the 5th annual Arts Awards and the 2nd annual Arts Rising Festival.

7.3 South Okanagan Performing Arts Centre

The South Okanagan Performing Arts Centre representative reported that Council, at their regular meeting November 21, approved the Society's request to not allow development of the 99 Nanaimo Avenue site for 16 months in order to allow time to organize and convene a workshop/symposium aimed to identify the best options for realizing the SOPAC project. The workshop is intended to bring together experts in contemporary creation and presentation of the performing arts.

7.4 Okanagan School of the Arts, Shatford Centre

The Okanagan School of the Arts, Shatford Centre, representative reported that the facility continues to garner praise from user groups as a conference centre, auditorium, teaching kitchen and arts collective. The Centre hosted the successful Art for Peace exhibition in November and is currently booked for Christmas social events. They plan to host Creative Community luncheons in the New Year and are currently developing programming to be launched in January. The Shatford Centre will host the 3rd annual Okanagan Writers' Festival in the spring.

7.5 Members at Large

Murray Swales offered to speak to Travel Penticton about coordinating a Community Calendar where upcoming events in the area could be published in one go-to calendar location.

Skylar Punnett advised that the 10th Penticton Pecha Kucha event "Tall Tales" is scheduled for 6:00 p.m. Thursday, December 7 at Cannery Brewing and encouraged participation from anyone who might be interested.

8. **Council Outcome(s)**

Received for information

9. **Next Meeting**

The next meeting of the Arts, Creative & Cultural Innovations Committee is scheduled for 8:00 a.m., Friday, December 29, 2017.

10. **Adjournment**

It was MOVED and SECONDED

THAT the Arts, Creative & Cultural Innovations Committee adjourned the meeting held on Friday, December 1, 2017 at 9:28 a.m.

CARRIED UNANIMOUSLY

Certified Correct:

Sharon Thompson
Committee Secretary



December 7, 2017

Mayor Andrew Jakubeit
City of Penticton
Director, Regional District of Okanagan-Similkameen
171 Main Street
Penticton, BC V2A 5A9

VIA EMAIL: Andrew.jakubeit@penticton.ca

Mayor Jakubeit,

Thank you for the opportunity to present at your recent meeting.

As discussed, Greyhound's application to the Passenger Transportation Board is the result of significant decline in ridership over the past several years. Despite efforts on our part to reduce costs, as well as other measures to adapt to the market, the status quo is no longer sustainable. We understand that the proposed changes will be difficult for some in your communities, and we regret having had to file this application with the Passenger Transportation Board. The reality is that despite corrective measures and multiple discussions with provincial policy makers, we can no longer operate unsustainable routes.

At the same time, we are proposing the creation of a provincial 'Connecting Communities Fund' to ensure that B.C. residents in rural and remote locations continue to have access to viable and sustainable transportation options. We are proposing that this fund be made available to eligible municipalities who wish to contract with private sector operators to provide services that will connect their communities to larger centres that are located on primary transportation corridors. We feel this solution warrants discussion, and Greyhound Canada is an important contributor to that conversation. We are hopeful that with the support of small communities and regional governments the province will give serious consideration to this proposal.

We share your belief that B.C. residents should have access to intercity bus transportation options. We bring decades of experience, existing infrastructure and significant expertise employing best practices that are working in other provinces and in the U.S. All of this, combined with your input, would help to inform a made-in-BC solution. We understand that this fund could potentially benefit Greyhound and/or other private sector transportation providers. We also know it would benefit your residents.

We want to work collaboratively with mayors and all levels of government to ensure that citizens in your community will have safe, reliable and sustainable transportation



services. To that end, we look forward to connecting with you over the coming days to identify next steps and how Greyhound Canada can be of help.

We also want to make you aware that the PTB has set dates for public hearings: Prince George (December 11), Terrace (December 12), Smithers (December 13) and Fort St. John (December 14). Additional information is available through the PTB website. http://www.ptboard.bc.ca/ICB_application_notices/256-17/256-17_greyhound.html

I have also provided you with a copy of a letter that was sent to Minister Trevena earlier this week.

Yours truly,

GREYHOUND CANADA TRANSPORTATION ULC

Senior Vice President, Canada
SK/eh

Attachment



December 4, 2017

Hon. Claire Trevena
Minister of Transportation and Infrastructure
Room 305
Parliament Buildings
Victoria, B.C. V8V 1X4

VIA EMAIL: claire.trevena.MLA@leg.bc.ca

Dear Minister Trevena:

I want to begin by thanking you for taking the time to meet with my colleagues and me in your offices in Victoria, on September 14, 2017. We appreciated the opportunity to bring you up to date on important issues facing the intercity bus sector in British Columbia in general, and Greyhound's current status, in particular. We thought it appropriate to apprise you of the difficulties we are experiencing in the province as evidenced by the application we filed with the Passenger Transportation Board on August 10, 2017. In the interim, the Board has published Notice of Public Hearings, pursuant to our application, to take place during the week of December 11, 2017.

As you will recall, during our discussion you expressed concern about the need for intercity bus transportation options for citizens living in rural and remote communities throughout British Columbia. We concurred and cited the example of a rural bus connectivity program in the United States that might serve as an applicable model for B.C.

Since meeting with you we have conferred with a number of mayors and regional municipal officials in several British Columbia communities including Prince George, Kelowna and Penticton. What we learned reinforces our view that there exists a clear need for a socially-mandated intercity bus transportation program to provide essential transportation services for rural and remote citizens with limited transportation options. To that end, we discovered significant interest in the concept of a rural connectivity program that municipalities could access.

We are mindful of the fact that cumulatively all levels of government in Canada allocate billions of tax dollars annually to fund urban transit projects and services. In contrast, transit funding for rural and remote communities is miniscule; transportation services to these communities should be regarded as an equally important driver of social and economic development.

We therefore propose that your department initiate a Connecting Communities Fund to address significant transportation challenges for citizens and taxpayers who reside in small, rural or remote communities with a view to providing them with access to



transportation hubs located on primary transportation corridors. We also suggest that such a program be based on the following principles:

1. To leverage existing infrastructure, the program should be formed on the basis of a partnership between the provincial government and qualified private operators.
2. The public aspect would consist of capital and operating contributions including a reasonable profit margin for operators to ensure sustainability.
3. The private component would include provision of drivers, training, maintenance, insurance, terminal infrastructure, ticketing and dispatch services and advertising and promotion.
4. Operator qualifications should include the ability to deliver best practices for driver, maintenance and safety standards.
5. Clear eligibility criteria for participating municipalities should include the requirement that all services connect to transportation hubs that are located on primary transportation corridors.

Minister, we believe that this proposal merits serious consideration by your government. We are also confident that it can be designed and delivered in a cost-effective manner that is fiscally responsible.

We are prepared to meet with you and your departmental officials at your earliest convenience to discuss this proposal in detail and we would expect to be able to provide you with detailed cost estimates at that time.

Thank you for your attention to this important matter and I look forward to discussing it with you in the not-too-distant future.

Yours truly,

GREYHOUND CANADA TRANSPORTATION ULC

Senior Vice President, Canada
SK/eh

Council Report

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Ian Chapman, P.Eng City Engineer
Subject: **December 2017 Master Plan Penticton Creek**

File No:

Staff Recommendation

THAT Council adopt the Mould Engineering December 2017 Master Plan Penticton Creek Restoration as a guiding document for works associated with Penticton Creek.

Strategic priority objective

The Penticton Creek Master Plan conforms with the Environmental and Sustainable strategic objectives by providing a guiding document that will ensure the sustainability of the environment and the ecosystems within our community.

Background

The Penticton Creek Master Plan has been developed at the direction of Council and under the guidance of the Penticton Creek Restoration Committee to become a compendium of critical information about Penticton Creek and includes a strategy to ensure that key environmental and flood protection objectives can be met within a 20 year horizon.

The plan maps out information about the physical conditions of the creek and the works that need to be undertaken to address areas that have deteriorated with solutions that address land issues, fish habitat, flood protection, archaeological features and recognizes the role Penticton Creek plays as a receiving area for storm water.

The intent is that individual projects will be undertaken every few years in accordance with available funds and to ensure that each project can be completed within the annual fish window during which works within the wetted perimeter of a creek are allowed.

The City will be applying for a License under the Provincial Water Sustainability Act that will provide an umbrella agreement so that all the individual works can be progressed through a much more streamlined permitting process.

The Master Plan is an active document and will need updates to reflect completion of individual projects and monitored results of cumulative deterioration, and physical changes from natural events such as the recent 2017 freshet damage. The plan incorporates a tracking system that records updates and directs interested parties to the most up to date document. Reprioritization of flood priorities is a result of focusing on smaller but more frequent floods (i.e. 1:10 year, 1:20 year), rather than on potential large 1:200 year events. The failure of the creek infrastructure is not a linear deterioration over the years based on age, but rather occurs exponentially. Extreme events (long freeze/higher flow) are taking a greater toll as the infrastructure ages.

One of the objectives of the Master Plan was to undertake effective communications with stakeholders and the general public. The following is a summary of the communication work undertaken:

- Presentations to City of Penticton Council and Penticton Indian Band Chief and Council. The presentations involved providing details of the master plan objectives, methodology and the results and conclusions from the research undertaken.
- Media stories and coverage of the volunteer and non-profit activities in real time to monitor kokanee returns during the run, Penticton Creek hatchery program, linkage to the draft master plan and the 2015 showcase project.
- A public presentation at a busy Summer Saturday market which included a detailed summary of the contents of the draft master plan as well as a guided walking tour to view the kokanee spawning and highlight the showcase project.
- The Master Plan draft and a summary of the Master plan elements were posted on the City Website together with an opportunity to provide feedback through the online "Shape Your City" process.

Over the public consultation period there were:

- 10+ news articles on the project;
- 70+ conversations with residents
- 40+ on a guided walking tour of the creek
- 779+ reviewed emails
- 10,000 received a news letter
- 14 day displays

Public feedback was predominantly positive and supportive of the Master Plan and restoration of Penticton Creek. The feedback themes were:

- We messed it up, we need to fix it
- Prioritize over other projects
- Excellent plan
- Anything to bring back fish, make it more natural

Mould Engineering has incorporated the feedback received from the Penticton Indian Band, the public, the Penticton Creek Restoration Committee and new information that surfaced during the 2017 flood event into the Master Plan. It is now complete and ready for the consideration of Council. The final document was made available in advance to City Council and the Public on the City Web Site.

Financial implication

The Master Plan itself is fully funded within the 2017 budget. The upgrade works defined within the report total approximately \$30M. Funding for these works will be secured form a variety of sources that include grants for public safety, flood protection, green infrastructure and fisheries habitat improvement from organizations such as the Freshwater Fisheries BC, Habitat Conservation Trust, and the South Okanagan Conservation Fund, municipal and senior government grant programs, private donations and the proposed City of Penticton Storm Water Utility.

Analysis

The December 2017 Master Plan Penticton Creek is now complete and ready for the consideration of Council to be adopted as a guiding document. Alternatively Council could send the Master Plan back to staff and the Penticton Creek Restoration Committee with direction.

Alternate recommendations

THAT Council send the December 2017 Master Plan Penticton Creek back to staff and the Penticton Creek Restoration Committee with direction.



Attachments

Attachment A – Master Plan – Penticton Creek Restoration

Respectfully submitted,

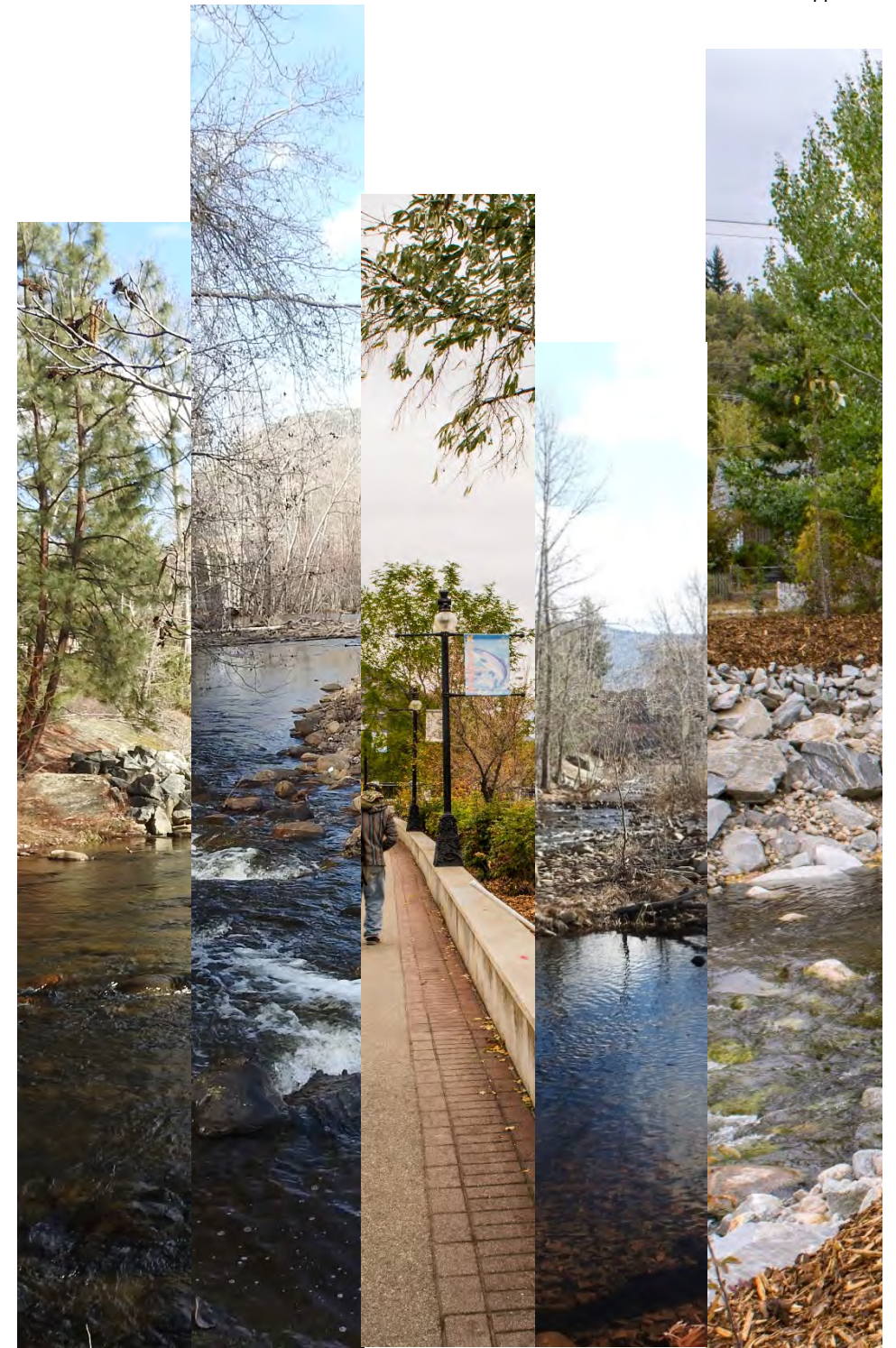
Ian Chapman, P.Eng.
City Engineer

Approvals

General Manager of Infrastructure 	A/ Chief Administrative Officer 
---	---

Penticton - A Place to Stay Forever

MASTER PLAN PENTICTON CREEK RESTORATION



ACKNOWLEDGEMENTS

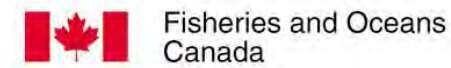
The Committee Members would like to thank the City of Penticton for contributing resources and leadership to this initiative and pursuing the outcomes to revitalize Penticton Creek. In turn, the foresight, commitment and knowledge of the Committee Members and Consultants is critical to the success of the monumental task of reviving Penticton Creek. The City of Penticton extends their gratitude to all individuals representing these organizations and looks forward to bringing the Master Plan to fruition.

City of Penticton

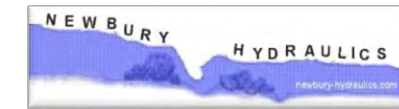


Committee Members:

- Downtown Penticton Association
- Department of Fisheries and Oceans
- Freshwater Fisheries Society of BC
- Landowner Representative
- MFLNRO: Fish and Wildlife Division
- MFLNRO: Water Stewardship Division
- Okanagan Nation Alliance
- Penticton Fly Fishers' Association
- Penticton Indian Band
- South Okanagan-Similkameen Conservation Program



PENTICTON INDIAN BAND



Consultants:

- Mould Engineering
- Newbury Hydraulics
- Matthews Environmental Consulting
- 4 Seasons Heritage Consulting



Prepared By:

Mould Engineering 567 Lawrence Avenue, Kelowna, BC V1Y 6L8 Tel: 250-868-2072 Fax: 250-868-2078 e-mail: mouldeng@h2o6engineering.com

TABLE OF CONTENTS

INTRODUCTION	4
PLANNING PROCESS	7
DESIGN FLOOD	12
EVALUATING THE INFRASTRUCTURE	14
FISHERIES HABITAT ASSESSMENT	18
CULTURAL & HERITAGE INVENTORY MAPPING	19
CREEK REVITALIZATION	22
PROJECT PRIORITY LIST	40
PRELIMINARY COST ESTIMATES	40
FUNDING STRATEGY	41
RECOMMENDATIONS	42
REFERENCES	44
TABLE OF ANNEXES	46

FIGURES

Figure 1: Penticton Creek Watershed13
 Figure 2: Maximum Daily Gumbel Distribution Plot13
 Figure 3: The Alluvial Fan of Penticton Creek14
 Figure 4: Profile of Lower Penticton Creek14
 Figure 5: Risk of Structure Failure16
 Figure 6: Proportion of Observed Kokanee Spawners in Different Areas of Penticton Creek (Askey, 2016).....18
 Figure 7: Existing Conditions for Several Reach 4 Flows.....19
 Figure 8: Proposed Conditions for Several Reach 4 Flows.....23
 Figure 9: Type A Structure Replacement where Adequate Freeboard.....23
 Figure 10: Type B Structure Replacement where Inadequate Freeboard23

TABLES

Table 1: Penticton Creek Flow Data & Information Used12
 Table 2: Q200 Determination13
 Table 3: Velocities During 4 cms Flow18
 Table 4: Existing Habitat Characteristics (excerpt from Matthews, 2016)18
 Table 5: Summary of Cultural Heritage Values Identified19
 Table 6: Flood and Fisheries Prioritization.....40
 Table 7: Summary of Preliminary Cost Estimates (in 2016 dollars).....41

PENTICTON CREEK DOCUMENT TRACKING



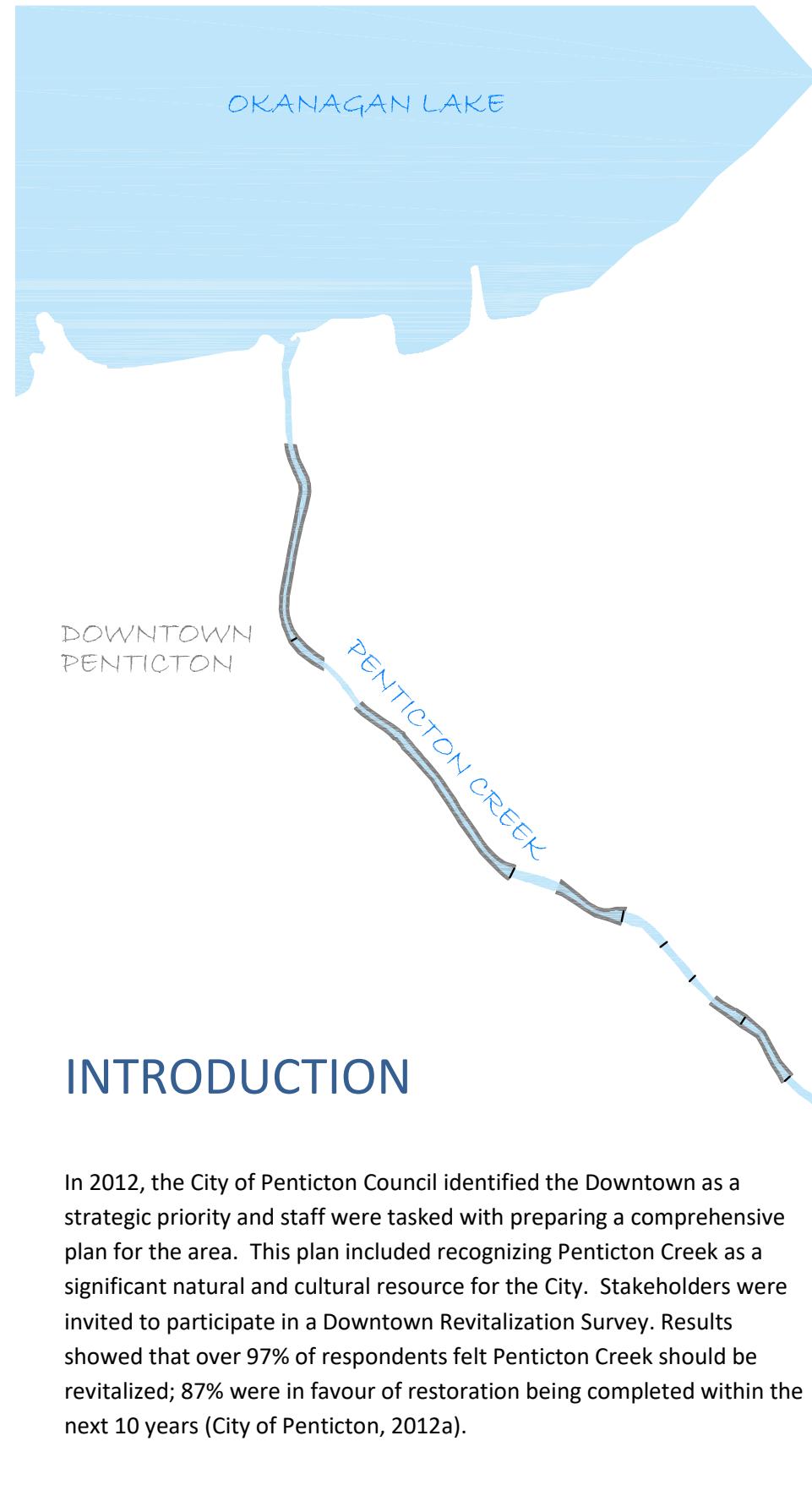
Left: Structure #9, 2016 (facing NE)

Right: Failed Structure #9 after a cold winter and spring freshet, 2017 (facing SW)

The creek is actively changing over time and as a result, the Penticton Creek Restoration Master Plan is intended to be an active document. As the infrastructure ages, it will deteriorate at an exponential rate; an example of such failure is shown in the photos above.

Future inspections, studies and restoration designs will be completed before the next update of the Master Plan and should be tracked to ensure readers of the Plan have the most up to date information. As such documents are produced, they will be listed in the table below.

<i>Date</i>	<i>Document Name</i>	<i>Author</i>
Nov. 2017	2017 Erosion & Deposition Inspection Report	Mould Engineering
Dec. 2017	Master Plan - Penticton Creek Restoration	Mould Engineering



INTRODUCTION

In 2012, the City of Penticton Council identified the Downtown as a strategic priority and staff were tasked with preparing a comprehensive plan for the area. This plan included recognizing Penticton Creek as a significant natural and cultural resource for the City. Stakeholders were invited to participate in a Downtown Revitalization Survey. Results showed that over 97% of respondents felt Penticton Creek should be revitalized; 87% were in favour of restoration being completed within the next 10 years (City of Penticton, 2012a).

Subsequent to this effort, the Penticton Creek Restoration Initiative (PCRI) Committee was formed and work was undertaken in 2015 to complete a Showcase Project, just upstream of the Ellis Street bridge.

The next stage in restoration of the creek is the completion of a 'Master Plan' that collects and organizes all information relevant to the condition of the existing creek channel. This plan will also analyze conceptual options and facilitate the creation of a comprehensive strategy to prioritize sections of the Creek for restoration work. Once the preferred section for work is identified, the team will put the plan into action with design of the first project.

On January 18, 2016, City of Penticton Council approved a motion to authorize staff to develop a 'Master Plan' to analyze the lower 4.46 km of Penticton Creek, below Penticton Dam #2. In the 1950s, following a couple of large floods, about 30% of this length was lined in concrete and 39 drop structures were constructed in order to pass greater flood flow volumes while reducing the grade of the creek to control erosion. Fish habitat was obviously heavily impacted by the flood infrastructure work. The lining and structures are now deteriorating and restoration is needed.

Previous planning documents, such as the City of Penticton's Official Community Plan and Downtown Plan, recognize the creek as a special, natural place. The Downtown Plan notes the importance of Penticton Creek, stating "rehabilitation of the Penticton Creek environment will ... create a valuable and sustainable ecological and public amenity." (City of Penticton, 2012b).

The creek is a large flood infrastructure asset for the city, protecting many residents and the commercial downtown core. The planned revitalization works are a change for generations to come. Penticton Creek will become a vibrant part of the community, providing attractive public spaces and an active recreation corridor for the public, linking numerous neighbourhoods along the creek to downtown and the lake.

During the process of creating the Master Plan, stakeholders were consulted and had opportunity to contribute. The plan is intended to be a living document that will be revised as reaches are revitalized and fisheries and flood infrastructure are reassessed.



Fishing at Penticton Dam #2, circa 1908 (Hudson, 1908)

BACKGROUND

Penticton Creek is perched on a large alluvial fan, deposited in the valley by post-glacial inflows from the Monashee Mountains (Roed & Fulton, 2011). The creek was significantly modified in the late 1940s/early 1950s in order to protect the City from flooding. Following severe flooding in the Okanagan in 1942, the two senior governments were pressured to implement measures to reduce inundation. A joint federal and provincial study was released in 1946 which recommended major diking, channelization, and storage solutions in the Valley. Another devastating flood in 1948 was the catalyst to begin work. Flood protection included channelizing many sections of the creek, and in the lower reaches a concrete lining was installed (see photo below). Channelizing narrowed the creek from an estimated 1-in-2 year bankfull width of approximately 16 m to 6 m. In effect, the stream channel became a massive infrastructure project, similar to a major road artery, conducting water, rather than vehicles.

Analysis of 1938 air photos show an additional creek length of approximately 220 metres. This is not a significant difference and it is not obvious that long oxbows have been cut off from the creek. It seems that most changes resulted in elimination of floodplains and creating a single channel, rather than allowing the creek to braid. This was considered when creating conceptual designs for renaturalizing the creek. Maintaining the flood capacity and stability of the channel while enhancing its biological and scenic characteristics presents significant challenges for Penticton Creek.

Today, after 65+ years of service, the concrete lining and drop structures are showing their age, deteriorating in many locations to the point that native material is being exposed. The City has had to complete emergency repair works in the past. In addition, there has been interest in restoring the creek channel in order to improve both fish habitat and appearance, particularly through the downtown area of the City.

Attempts at restoration date back to the early 2000s, when the Penticton Flyfishers Society planned improvements to the fisheries aspects of the creek. Work at the time included the placement of concrete parking curbs on the creek bottom, with the intent of increasing water depths to help fish migration. The Penticton Flyfishers Society also maintains two spawning beds and works with the Province to manage a Kokanee hatchery. Currently, there is minimal habitat for fish in the lower reaches and the concrete lining and drop structures are significant barriers to upstream reaches that have habitat potential.

With renewed interest in restoring the channel, the PCRI Committee was formed to oversee the renaturalization of the creek, from Lake Okanagan to Penticton Dam #2. Fisheries representatives and supporting funding organizations played a significant role in backing the Showcase Project (2015), which is proving to be a successful revitalization initiative.



Flooding damage at Van Horne St. & Nanaimo Ave. (Source Unknown, 1942)



Construction of concrete lining. (Source Unknown)



Penticton Creek below Ellis St. bridge (looking upstream)

SHOWCASE PROJECT

An 83-metre long demonstration section of creek was constructed in 2015. The concrete lining was removed, the channel bottom widened from 6 metres to 8 metres, and river cobble installed to create pools and riffles. Riffles are common to natural water courses and are “shallow, high-velocity sections of stream that provide important areas for fish food production, rearing and migration.” (City of Penticton, 2015b)

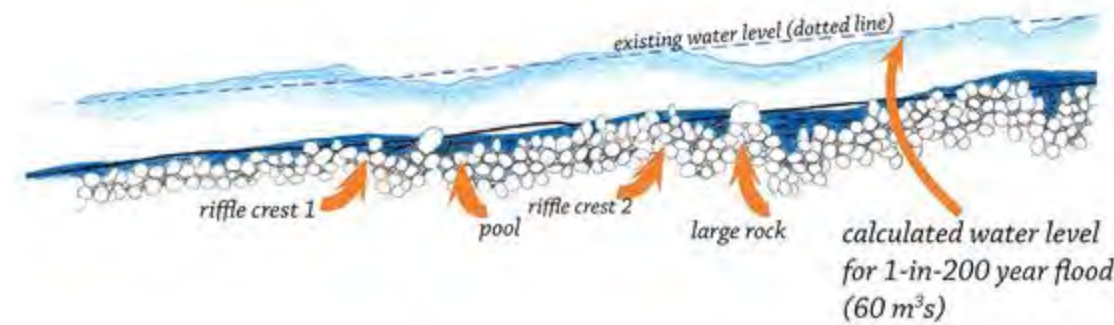
The widened channel maintains flood levels similar to the concrete-lined channel while providing habitat and easier passage for migrating fish. It is expected that other aquatic species will develop with time, and a more natural appearance will occur. Vegetation will mature and bedload with woody debris will move in and out of the project, based on the magnitude of spring freshet and storm events.

Prior to construction, the Restoration Committee discussed the creek history, design flows, improvement options as well as preferred location and communication. A design brief was prepared based on these meetings, approvals were obtained and a construction window was identified. The project was completed by Okanagan Valley contractors, consultants and volunteers utilizing local materials.

As the project involved reconstruction of the entire channel bed, it was necessary to dewater and relocate all fish prior to construction. Once the environmental tasks were completed, installation of the containment dams and diversion pipe took place. Construction challenges included: limited site access, availability of large river rock, complexity of constructing low head pools and riffles with large material, and a short work window. Commissioning began on September 1st with water being slowly introduced into the newly constructed creek channel. Removal of the creek diversion works and final grading occurred the following day. Once the upstream and downstream fish fences were removed, migrating fish immediately began to explore and pass through the new surroundings.

Responses to the project from members of the public and professionals alike have been positive. There were numerous positive comments about fish passage and the new look and sound of the Creek. The results “exceeded expectations” for some, and the ongoing monitoring results are encouraging. Electrofishing of the Showcase on August 24, 2016 resulted in one salmonid per 16 m², compared to one salmonid per 360 m² before the restoration. The detailed fish count on August 24, 2016 included fifteen rainbow trout, six eastern brook trout and thirty-eight longnose dace within 332 m².

The Ellis Street Bridge and the adjacent walkway have become popular viewing locations and site tours for interested organization have occurred. Stakeholders and funding partners were numerous and are shown on the project signage.



Profile view of the Showcase design (City of Penticton, 2015b)



PLANNING PROCESS

COHESION WITH OTHER PLANS

The Master Plan for Penticton Creek should be cohesive with other planning documents and consider previous recommendations. Two previous documents that discuss Penticton Creek are the City of Penticton's Official Community Plan and the Downtown Plan.

The Official Community Plan (Bylaw 2002-20), was released in 2002, and designates Penticton Creek as part of a sensitive wetland and riparian habitat in Penticton. The plan wishes to heighten awareness about the sensitivity of this area and therefore, requires an Environmentally Sensitive Development Permit for work around the creek. It also recognizes the flood areas adjacent to Penticton Creek as having flood hazard potential. The plan is supportive of efforts to naturalize the creek and enhance fish habitat and states it will "maintain base water flows and encourage the retention of trees and other natural vegetation along the banks of creeks and watercourses that traverse through Penticton." (City of Penticton, 2002). According to the plan, there is public support for developing a greenway pedestrian corridor along the creek that will help connect all areas of the city with trails. Currently, there is no public path between Forestbrook Drive and Eckhardt Avenue.

The Downtown Plan was also supportive of naturalizing and restoring Penticton Creek, "with the aim of restoring fish habitat through stream bed reconfiguration and/or naturalization." The funding strategy for this work includes funding from the provincial and federal governments, considering partnerships with other stakeholders such as First Nations groups, naturalists and community groups, grants, and considering adding the work "as a park project to the DCC program and utilize those specific DCCs to subsidize project costs." (City of Penticton, 2012). The plan would also like to see additional pedestrian bridges constructed in the downtown area, specifically at the corner of Backstreet Boulevard adjacent to the Kokanee/En Tee Teuk salmon sculpture. By rehabilitating the creek and providing access to the east side of the creek, the plan hopes to increase pedestrian activity along Ellis Street.

GOALS, OBJECTIVES & CHALLENGES

The overall goal of creating a Master Plan for Penticton Creek is to create a feasible, multi-stage plan that encompasses restoration of the creek while reflecting multi-stakeholder values. The Master Plan will aim to:

- ◆ **Restore fish habitat:** Returning Penticton Creek to a more natural state will benefit Kokanee and Rainbow trout and other riparian wildlife. This improves the creek's aesthetic and social values, and supports recovery of Okanagan Lake fish stocks and associated recreational fishery activities, thus contributing to the economy.
- ◆ **Provide flood protection:** Penticton has a history of high creek flows that have overtopped the banks and flooded areas of Downtown. Flood protection infrastructure needs to be designed to meet current standards and provide a high-level of protection to private property.
- ◆ **Fix failing infrastructure:** Existing channel works have been eroding for some time, and this can cause sudden maintenance issues and considerable unplanned expenses for City Operations.

Restoration of the creek to the original channel and cross-section would be an ideal situation, but not practical because of the extreme cost of purchasing private property as well as the large-scale earthmoving task needed to carve-out the original creek width capable of passing a large flood. Similar effects can be obtained by introducing pools, riffles, and other habitat features that can be supported by the hydraulics.

Specific objectives are to:

- ◆ Document a clear understanding of the current channel flow capacity, state of deterioration of flood control works and risk of failure/flood through the length of Penticton Creek from Penticton Dam #2 to Okanagan Lake.
- ◆ Improve the stream's capacity to support wild fish populations and enhance wildlife habitat, as fish and wildlife populations are a mere shadow of what they once were.
- ◆ Improve the aesthetic and recreational value of the creek corridor for the public.

A separate objective is to prepare detailed design documents for improvements to the next section of creek, for construction to proceed during the 2017 fisheries window.

Challenges are many, more than typical creek or river projects, due to the urban setting of Penticton Creek. This Master Plan outlines the vision and concepts for most reaches, with a couple reaches requiring further analysis. Additional details and discussion will also occur at the final design stage.

Challenges include:

- ◆ Obtaining the desired clearance between high water level and bridge girders;
- ◆ Achieving freeboard standards without creating dikes;
- ◆ Public awareness to flood protection needs;
- ◆ Narrow corridor due to private and public property;
- ◆ Vegetation, both from flood prevention and riparian aspects;
- ◆ Achieving stakeholder visions within constraints of the low and high flow hydraulics;
- ◆ Funding, not only for construction but also for monitoring and adaptive management;
- ◆ Preserving areas of cultural and heritage value; as well as
- ◆ A short construction window.

COMMUNICATIONS PLAN

A comprehensive communications strategy is needed in order to develop a Penticton Creek Master Plan that successfully recognizes and obtains the support of the numerous stakeholders involved. Also, a collaborative approach is being used with members of the Restoration Committee involved in the data collection and presentation stages; so communication is important. There are three distinct stages regarding communications for this project: Preparation of the Master Plan, Public Consultation, and Phase 1 Construction.

Goals and Objectives

For all three Stages of Communication, key objectives are:

1. Be open and transparent about what is planned for Penticton Creek
2. Be inclusive of stakeholders directly and indirectly affected by the project
3. Explain technical information using plain language
4. Translate technical drawings into artistic renderings when needed
5. Recognize funding partners
6. Educate the public on the value of a healthy Penticton Creek
7. Foster Creek stewards amongst creek-side property owners
8. Garner public support for the Project
9. Celebrate the success of the Penticton Creek Restoration Committee.

Project Steering Committee & Stakeholders Involved

As stated in the Introduction, the preparation of the Master Plan was under the direction of the Penticton Creek Restoration Initiative Committee. Members of the Committee can be seen in Annex B. The stakeholders involved in the plan include:

- ◆ City of Penticton Mayor, Council, and Staff;
- ◆ Penticton Indian Band (PIB) Chief and Council;
- ◆ Okanagan Nation Alliance (ONA);
- ◆ Provincial and Federal regulatory authorities;
- ◆ The Penticton Creek Restoration Committee;
- ◆ Funding agency representatives;
- ◆ Adjacent property owners;
- ◆ Penticton Flyfishers;
- ◆ Freshwater Fisheries;
- ◆ South Okanagan-Similkameen Conservation Program;
- ◆ School District No School District No 67 (Okanagan Skaha);
- ◆ École Entre Lacs;
- ◆ Downtown Penticton Association; and the
- ◆ General Public;

Communications Sensitivities

In 1942, water overflowed the banks of Penticton Creek creating a large flood that had a significant impact on private property (homes and downtown businesses). In response, Government and Council of the 1950s took several steps to protect private property, including physical flood control measures like concrete lining, drop structures, berms, and the channelized creek banks.

Failure or changes to these works results in several sensitivities that must be considered today:

- ◆ **Fear of Flooding:**

Long-term residents and their children may recall the flood and visual change to the creek when the channel works were constructed. More recent residents recall the high water levels of 2006 and 2008 and may be concerned about changes to the flood protection infrastructure.

- ◆ **Fish Habitat:**

Natural spawning grounds, habitat areas, and the ability for fish to migrate up Penticton Creek were all impacted when it was channelized. The negative impact on the fishery reduces the economic contribution to local communities.

- ◆ **Maintenance Challenges:**

The concrete channel lining and drop structures are two components of the infrastructure that are eroding badly and causing maintenance challenges. City Operations must complete sudden repairs to Penticton Creek as erosion happens. This unplanned work can be expensive, and does not address the root problems with a channelized creek.

- ◆ **Private Property Flood Protection Awareness:**

To protect the community, M-178, M-185 & M-195 Plans were approved by Council between 1950-1970 to define the corridor for flood protection measures. These plans appear as a notation on Title for private property along the creek; however, as properties changed hands over the years, awareness of the notation and/or the importance of preserving the areas included within the three plans may not be as obvious to current owners. This results in encroachments found throughout the length of the study corridor.

- ◆ **Publicly-Owned Land:**

The City of Penticton owns numerous parcels along the creek; School District No. 67 also owns a parcel. The community may be impacted by changes and desire input regarding use of the public parcels.

- ◆ **Vegetation:**

Trees have grown and infilled along the creek banks as well as within the wetted concrete channel sections. Vegetation removal can be a sensitive issue, as it affects the environment, sight lines, shade, etc. Deadfall trees can also become a hazard during high-flow events.

- ◆ **Construction:**

Activities related to construction such as site access, noise, dust, traffic, parking, etc. all need to be considered.

Public Relations Methods

Methods used to communicate with the public include:

- ◆ News Releases to radio and TV;
- ◆ Web Presence;
- ◆ Site Signage;
- ◆ Contact Person(s).

Communication Dynamics

The landowners spanning the 4.5 km corridor range from: commercial businesses in the downtown core; residential homeowners upstream of the showcase project; and semi-natural areas, some of which is owned by the City. These three landowner groups, along with other stakeholders, will need different information as the Master Plan and construction projects take shape.



One of ten panels prepared to present the Master Plan to the public (City of Penticton, 2017)

Public Engagement At a Glance...



PUBLIC CONSULTATION

After a comprehensive process to create a draft of the Master Plan, the document was presented to various stakeholders, including:

- Penticton City Council;
- Penticton Indian Band and related organizations;
- The general public, via the media (paper, website, etc.) and the Penticton Community Market.

The presentations to the City of Penticton Council and Penticton Indian Band Chief and Council included providing details of Master Plan objectives, methodology and the results and conclusions from the research undertaken. Following these presentations, the Plan was also summarized into ten panels, called the Penticton Creek Master Plan Story, which was available to view on the website. The first Story panel is shown to the left. The public was then invited to view the draft Plan and leave feedback on the City's 'Shape Your City' website. .

In September 2017, an event named 'Something Fishy' was planned to promote the Master Plan, inform the public, and request feedback. There were two parts to the event: an informative display of the Story panels and a walking tour along the creek. The panels were displayed at the Penticton Community Market where PCRI Committee members were available to discuss the Master Plan with the public. Over 70 conversations with residents took place and over 30 chose to provide comments.

The walking tour began at temporary fish fences, which had been installed near Okanagan Lake Park. The public could watch volunteers who were conducting a fish count of kokanee. The tour then walked along the creek approximately 400 m to Ellis Street bridge, where participants could view the 2015 Restoration Showcase project. Over 40 people attended the walking tour.

The Penticton Creek Master Plan Story panels were displayed at the Penticton Community Centre for two weeks after the Community Market event. In addition, a writeup on the Master Plan was highlighted in the monthly City newsletter, which is mailed out with resident's electrical bills.

Public Feedback

The feedback from the public was very positive and supportive of the Master Plan and restoration of Penticton Creek.

The following are some verbatim comments from the public:

- ◆ Very important for us to do.
- ◆ Anything to bring back the fish.
- ◆ Good for future generations.
- ◆ Making it natural is an excellent idea.
- ◆ Well planned.
- ◆ Excellent! Engineers and staff should be commended.
- ◆ Prioritize this project.
- ◆ I support it going forward, it is a mess.
- ◆ Spend more money on the creek and less on Downtown phase 3.

The following are a summary of suggestions or concerns from the public:

- ◆ Look at eliminating public access under the bridges
- ◆ Maintain public access trail and fill in missing pieces
- ◆ Specific property concerns
- ◆ Work on the reaches downstream of the Showcase first, to improve aesthetics and provide an asset for the fish

These comments and suggestions have been discussed by the Penticton Creek Restoration Initiative (PCRI) committee and in general, will be addressed on a project-by-project basis. The desire to see improvements downstream of the Showcase (Reaches 1, 2a and 2b) emphasis the recommendation of the Master Plan that additional study is needed to select a final design for these reaches.



Public Response to Penticton Creek Restoration (James Miller, 2017)



Left and Centre: PCRI Committee members interact with the public at a Penticton Farmer's Market event

Right: Paul Askey (Freshwater Fisheries BC and PCRI Committee member) hosts a restoration walking tour

DESIGN FLOOD

Prior to preparing restoration concepts, and in order to ensure that modifications do not restrict the flood capacity of the channel, the magnitude of a 1-in-200 year flood event needed to be determined. This flow, also known as the Q_{200} , has a 0.5% Annual Exceedance Probability, or a one in two hundred chance of being exceeded in any year. In addition, there are two values of Q_{200} flow that need to be established: the maximum instantaneous flow and the maximum annual daily flow, which is an average of the flows recorded on the highest flow day of the year. It is important to consider both of these floods because there are different freeboard requirements for each, which is discussed in the Hydraulic Analysis section.

The process of determining these flood values began with assembling and analyzing known creek flow data and historic information available, which is summarized in Table 1. It is noted that the flood of 1942 was estimated to have been an instantaneous value of 48 cms (cubic metres per second) and so the concrete channel constructed in the late 1940's was designed to pass 51 cms. Once the data and information was correlated to a creek discharge, a statistical analysis was performed as well as a Gumbel distribution plot was created. A Gumbel plot is one method of using known recorded flows to extrapolate to a possible flood event. A total of 37 data points make up the current plot, which is shown in Figure 2.

From the Gumbel Distribution, the maximum annual daily Q_{200} flow is estimated to be 40 cms. This value is increased by 20% to account for climate change (recommended by the Association of Professional Engineers and Geoscientists of BC when data is limited), and a further 25% "peaking" factor is added to estimate the maximum instantaneous discharge. The resulting recommended Q_{200} maximum instantaneous discharge is then estimated to be 60 cms, as shown in Table 2. The channel must be capable of passing this design flood value, which has been discussed at length by the Committee.

Table 1: Penticton Creek Flow Data & Information Used

DATA SOURCE	YEAR(S)
Joint Board of Engineers, Okanagan Flood Control Report (1946)	1942
Water Survey of Canada Gauging Station 08NM118 (currently inactive)	1950 – 1971
City of Penticton Water Treatment Plant records	1997 – 2016
Dean Environmental – data from the Campbell Mtn. diversion	1998 & 1999
*Photos/newspaper articles re: flow over the Penticton Dam #2 spillway	1948, 1990, 2006 & 2008
*Photos of flow in concrete channel below the Ellis Street bridge	2002 & 2006
*A computer model of Penticton Creek, created using the U.S. Army Corps. of Engineers Hydraulic River Modeling program (HEC-RAS), was used to estimate stream discharge based on photographic evidence.	



Newspaper page from May 28, 1942



Flooding on Front Street (Stocks, 1928)

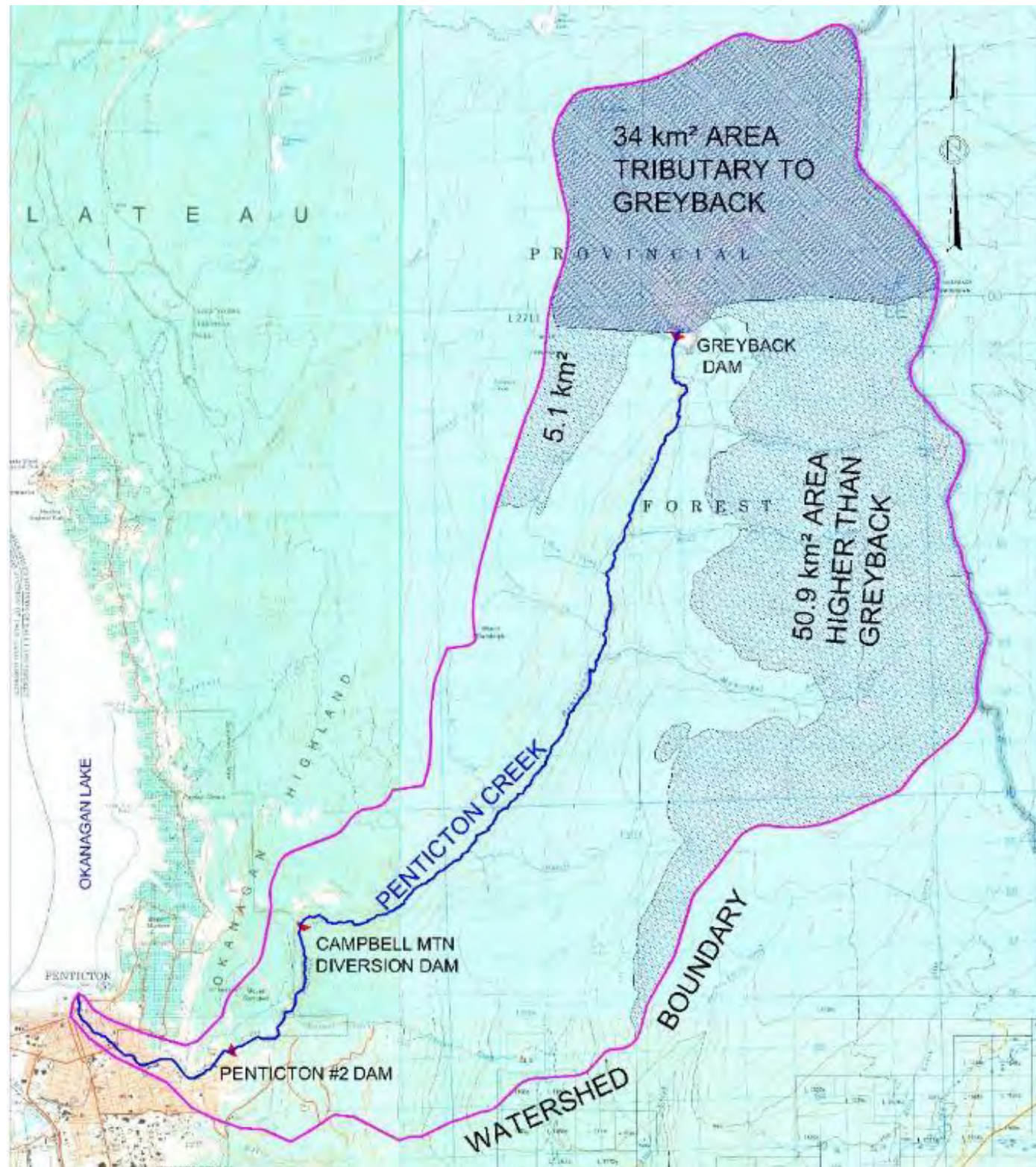


Figure 1: Penticton Creek Watershed

It is important to note, that the majority of the data recorded from the Water Survey of Canada Gauging Station does not incorporate the large attenuating effect of the Greyback Reservoir (Greyback), which acts on a considerable portion of the upper Penticton Creek watershed. As seen in Figure 1, approximately 38% of the upper watershed is tributary to Greyback. Since the construction of the dam in 1967, Greyback has significantly reduced the magnitude and timing of the runoff peak entering Penticton Creek.

Since 1969, there have been 21 years where Greyback did not spill. The City of Penticton's Water Treatment Plant data (available since 1997) shows that the peak creek runoff was almost always recorded before Greyback filled and spilled; the only exceptions occurred in 1999 and 2012.

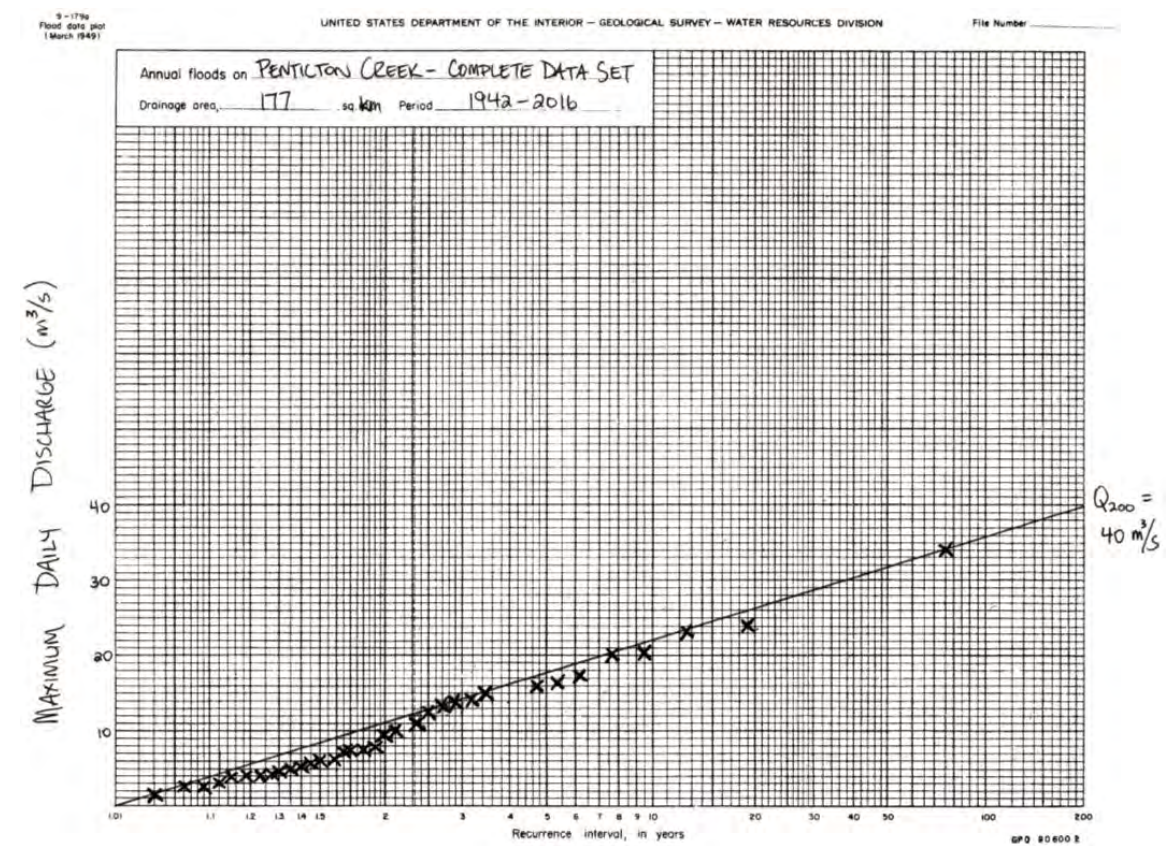


Figure 2: Maximum Daily Gumbel Distribution Plot

Table 2: Q200 Determination

<p>Historical info./data/photo review = 40 cms (maximum daily) Add 20% for climate change = 48 cms (maximum daily) Recommended Maximum Daily Q₂₀₀ = 48 cms</p>
<p>Recommended Maximum Daily Q₂₀₀ = 48 cms Add 25% for peaking factor = 60 cms (maximum instantaneous) Recommended Maximum Instantaneous Q₂₀₀ = 60 cms</p>

EVALUATING THE INFRASTRUCTURE

The existing infrastructure was analyzed and inventoried during numerous site visits between March and June, 2016. A high-level survey was completed by the City of Penticton in the spring and summer of 2016. This data is needed to inform planning and conceptual design decisions. In the future, as detailed design of each reach begins, a more in depth survey will be completed.

The infrastructure identified includes numerous drop structures, pedestrian bridges, vehicular bridges, above ground utility crossings, storm system outlets, and concrete lining. Analysis resulted in division of the creek into sections and reaches, based on criteria including channel lining, land use on either side of the creek, water surface width, entrenchment depth, and slope between drop structures. Drawings and cross sections of the existing creek are shown in Annex H. A plan view and pictures of Reaches 1 – 3 can be found on pages 20 and 21.

SECTIONS

Three sections were classified based on their slope and bank lining, as can be seen in the profile opposite and the photos on the following page.

Section 1 is approximately 2.1 km long, beginning at Lake Okanagan and ending just upstream of Forestbrook Drive bridge. The section includes Reaches 1 to 10 and is mostly concrete lined, with minimal resting for fish. The overall average slope through this section is 2.1%.

Section 2 is 1.1 km long and extends from just upstream of Forestbrook Drive bridge to a geographical creek pinch point, created naturally and tightened by Penticton Avenue. This section includes Reaches 11 and 12 and is a mostly natural bottom, stepped channel with drop structures and pools. The overall average slope is approximately 3.0%.

Section 3 consists of Reach 13 and begins at the pinch point of the creek and ends at Penticton Dam #2. This section is just under 1.3 km long and has an average overall slope of 3.0%. The channel is a natural run, with constant gradient and no drop structures.

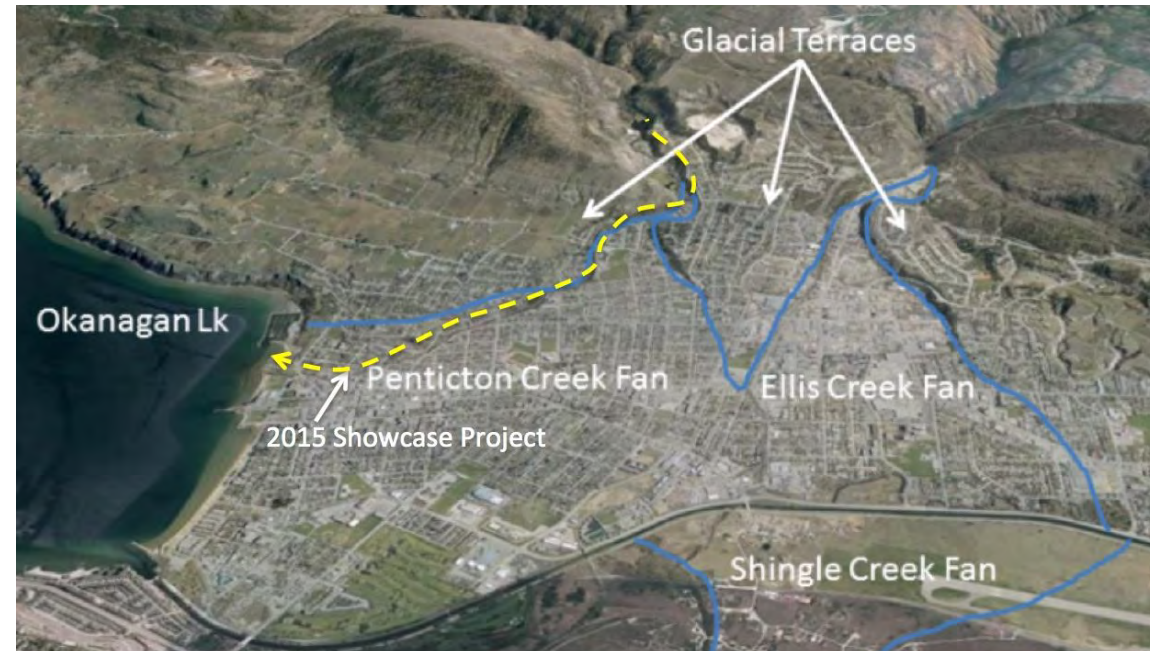


Figure 4: The Alluvial Fan of Penticton Creek

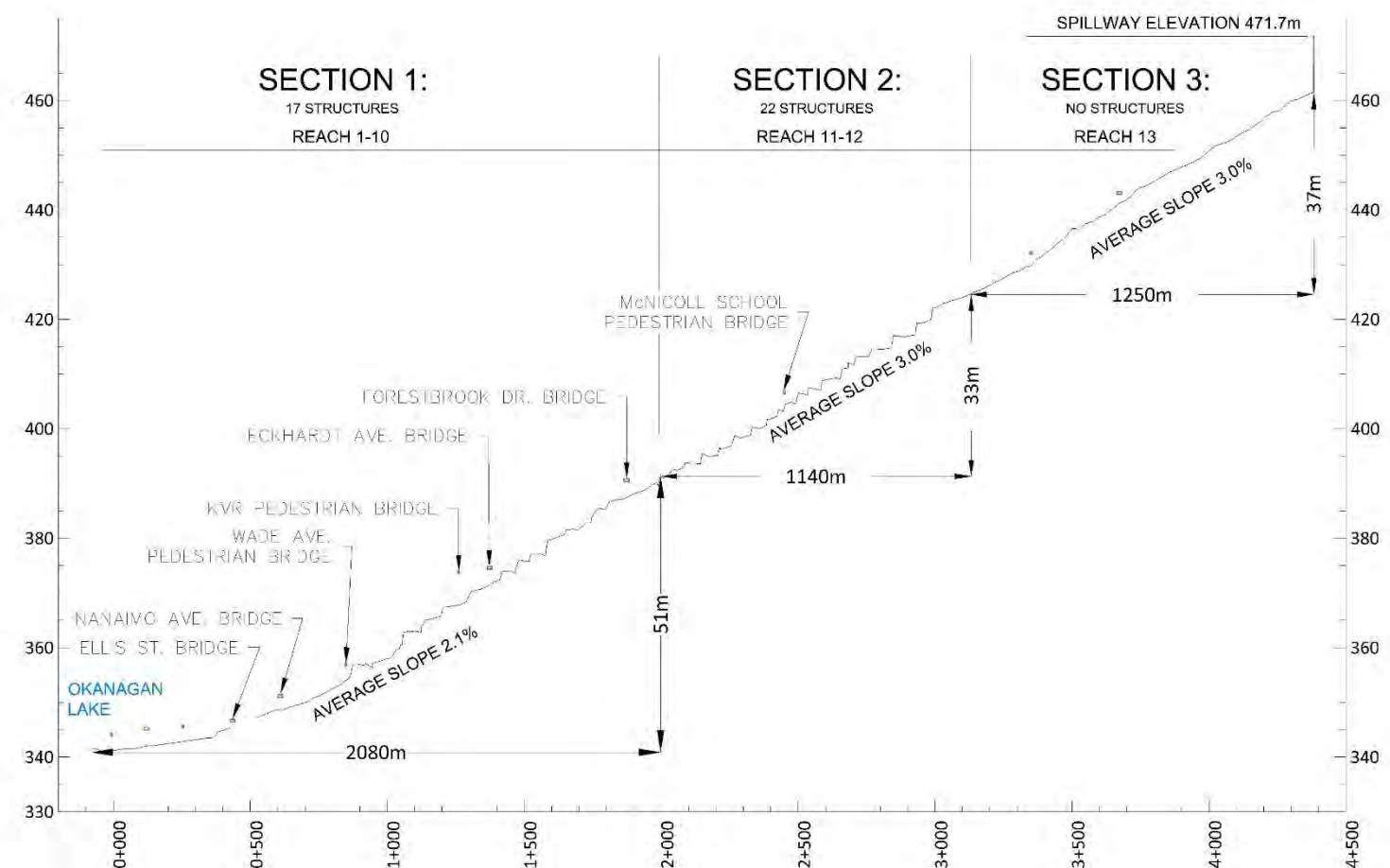


Figure 3: Profile of Lower Penticton Creek

REACHES & SUBREACHES

Thirteen reaches were identified based on their existing channel slope, lining type (channel bottom and bank), number of structures, ability to widen, and land use on either side of the creek. It was found that the channel slope between drop structures varied significantly, ranging from 0.0% to 3.3%. A table of reach descriptions is shown in Annex C. Reach boundaries are shown in plan and profile views in Annex H.

For restoration purposes, possible constructible length in a work window was considered and many of the longer reaches were subdivided, and shorter reaches combined to make projects of roughly 200 m each. This resulted in a total of 20 sub-reaches. In some cases, a natural feature, such as the Penticton Avenue pinchpoint, or a bridge, create clear boundaries between sub-reaches.

LINING

The lining of Penticton Creek includes reinforced formed and non-formed concrete, riprap, and natural channel materials. For reaches lined in concrete, deterioration and holes in the lining was noted. In many non-formed sections, wire reinforcing mesh is visible where the concrete has failed. Reaches that are lined with rock or natural materials were analyzed to determine the stable rock size required as bank protection. This is dependent on the slope and depth of water in each reach. In some sections, such as Reach 13, the existing rock size is not large enough to be stable, which results in channel downgrading.

The lining was rated according to the potential to fail and the consequence of said failure. These two ratings were then converted into a risk rating, which was used as part of the project prioritization process to minimize flood risks. The lining ratings and flood periodization list can be found in Annex F.



Section 1 – Concrete Lined



Section 2 – Stepped Channel



Section 3 – Natural Run

DROP STRUCTURES AND RIFFLES

A total of 39 drop structures were documented on Penticton Creek. These were a combination of three types: concrete, wood crib, and riprap structures, as shown below. Many of these structures are visibly deteriorating and some have already failed.

Similarly to creek lining, the structures were rated according to their potential to fail and the consequence of said failure. These two ratings were then converted into a risk rating, which was used to categorize reaches into a flood priority list. The four categories of risk are low, moderate, high, and very high, as seen in Figure 5.

In addition to the drop structures, 17 existing riffles were identified. Some appear to be created by hand, perhaps annually, to develop deeper swimming holes. Since these riffles can be easily altered, by nearby residents or spring freshet, they were not given risk ratings.

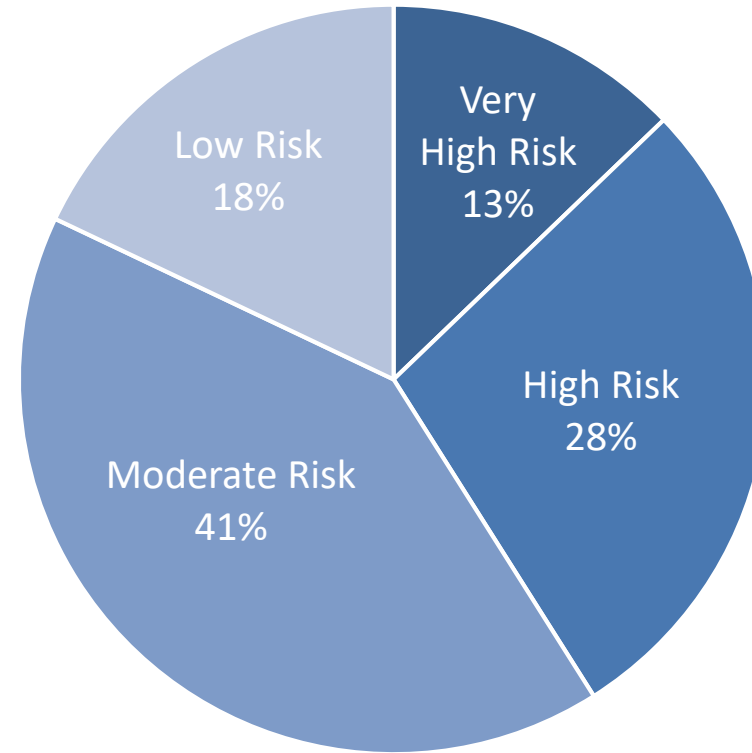


Figure 5: Risk of Structure Failure

BRIDGES AND UTILITY CROSSINGS

There are currently six vehicular bridges (Front Street, Ellis Street, Nanaimo Avenue, Eckhardt Avenue, Forestbrook Drive, and Penticton Avenue) and six pedestrian bridges (Art Gallery, Ellis Street, Wade Avenue, KVR, McNicoll School, and Bridgewater Development) over Penticton Creek. These bridges are important infrastructure, providing access for day-to-day traffic, emergency vehicles, pedestrians and cyclists and supporting utilities across the creek. The existing clearance between the Q₂₀₀ instantaneous and maximum daily flows is discussed further in the Existing Bridge Clearance section and shown in Annex F.

Two aboveground sewer crossings and an aboveground gas main were noted. In addition, there are many utilities attached to bridge crossings, utility crossings under the creek, and storm mains that empty into the creek. These will require further exploration in the detailed design stage of future projects.



Drop Structure with Riprap Apron



Drop Structure with Concrete Crest and Apron



Wood Crib Drop Structure with Rock and Concrete

HYDRAULIC ANALYSIS

Using the survey of the creek, a HEC-RAS hydraulic analysis was computed for the Q_{200} instantaneous flood (60 cms) and maximum daily flood (48 cms) to determine bank locations that lacked freeboard or bridges that lacked clearance.

Freeboard and Clearance Standards

In order to determine existing deficiencies along Penticton Creek, applicable guidelines were adopted. Although most the creek does not have dikes, the *Dike Design and Construction Guide: Best Management Practices for British Columbia* can be used to maintain and/or reduce the risk of flooding.

The guide suggests “[t]he standard for river dike crest elevation is the higher of 1 in 200 year instantaneous flow plus 0.3 m freeboard, or the 1 in 200 year maximum daily flow plus 0.6 m freeboard.” (BC Ministry of Water, Land and Air Protection, 2003)

For bridges over the creek, the guide states “the underside of a bridge shall have a minimum clearance of 1.5 m above the higher of the calculated peak instantaneous 1:200 year level or flood level of record, or higher as required for ice or debris passage; If demonstrated to be uneconomic or not feasible, clearance requirements may be varied if there is an acceptable debris/ice management program in effect or determination of acceptable risk of blockage. Under no circumstances will the underside of a bridge be lower than the higher of 0.3 m above the peak instantaneous 1 in 200 year level or 0.6 m above the 1 in 200 year mean daily flow.” (BC Ministry of Water, Land and Air Protection, 2003)

Existing Freeboard Analysis

Many locations that have less than the minimum freeboard targets were identified. Several of these coincide with the crest of a drop structure and will be addressed when the drop structure is replaced. Other locations that lack freeboard will require the banks to be raised or the creek lowered. A table showing the locations that lack bank freeboard can be seen in Annex F. The approximate stations, as well as which side of the creek lacks freeboard and a description of the areas are given.

The topographical survey conducted was suitable for a Master Plan level, however, it was not extensive enough to determine if there are berms or areas that should be considered as dikes. A preliminary review indicates Reaches 10b and 11c/d, and possibly other reaches, need further investigation.

Existing Bridge Clearance Analysis

When analyzed using HEC-RAS, many of the bridges were found to have less than 1.5 metres of clearance. At higher water levels, woody debris can catch on the girders, leading to removal requirements. Therefore, a debris management program is recommended for Penticton Creek. Once in place, the governing bridge clearance requirement is 0.6 m above the Q_{200} maximum daily flow (48 cms) for all twelve bridges. The resulting clearances between the underside of the bridge girders and the water level can be seen in Annex F. Two bridges were found to have 1.5 metres of clearance or more and four bridges have between 0.6 metres and 1.5 metres of clearance, which are considered acceptable. The remaining six bridges are deficient and two of these have no clearance. As can be seen in the photo below, the cross-sectional area narrows at Forestbrook Drive bridge, which is common at most of the bridges on Penticton Creek.



Channel Narrowing at Forestbrook Drive bridge

The options for improving bridge clearance are to increase the cross-sectional area beneath the bridge by widening or deepening the channel. Alternatively, bridge replacement, or removal could be considered. The recommendations for each deficient bridge are discussed in the Revitalization section.

Sediment Transportation

The lower portion of Penticton Creek is located on an alluvial fan created by deposition of sedimentary materials. The sediments are the result of stream erosion in the upland mountainous areas. Erosion usually occurs during peak spring flows and eroded material is then deposited when the stream reaches the lower gradient channel in the alluvial fan. Sedimentation in natural channels reduces capacity and eventually results in overtopping; however, as previously described, Penticton Creek is far from natural conditions.

A number of factors unique to Penticton Creek come into play that alter the natural processes. Firstly, the source of deposition material from the upper watershed is very limited due to the Penticton #2 Dam. The dam is located just upstream from the channelized section and any eroded material coming down the creek settles out in the large reservoir created by the dam.

Secondly, the 39 drop structures have flattened the grade of the creek, reducing water velocities and sediment transport potential. The channel banks are generally only a couple of metres high, so potential landslide areas that could create a large sediment source are limited. There is one high bank north of the creek and just downstream of the new Bridgewater development, however it is comprised of bedrock. Only Structures #38 & #39 show evidence of significant deposition after 65 years of operation.

Thirdly, since construction of the Greyback Mountain Dam, the additional storage volume reduces downstream peak flows and consequently reduces erosion potential.

During the detailed design stage, a HEC-RAS analysis would be completed to determine if the freeboard is adequate, should the pools be filled in.

FISHERIES HABITAT ASSESSMENT

The *Penticton Creek Fish and Riparian Habitat Assessment and Preliminary Restoration Recommendations Report* (Matthews, 2016) was produced to inform the PCRI Committee of the existing condition of fish and riparian habitat in each reach and to suggest potential restoration options. The target species for Penticton Creek are Kokanee, Rainbow Trout and Longnose Dace. This Master Plan does not include consideration of anadromous species due to the current fish barrier at Okanagan Lake, but completed and future restoration works on Penticton Creek may also benefit Sockeye, Chinook and Steelhead in the eventuality that fish passage is provided. The existing habitat limitations, contributions and quality ratings excerpt from Matthews’ report is outlined in Table 3.

Matthews’ notes that in the past, “Penticton Creek was an important producer of kokanee and a unique adfluvial rainbow trout population for Okanagan Lake.” (Matthews, 2016). After the channelization and lining of Penticton Creek, very few fish return to the creek for spawning and rearing.

Table 3: Velocities During 4 cms Flow

Reach	Station	Velocity (m/s)
1	0+050	0.5
2a	0+250	2.0
2b	0+370	3.7
3a	0+550	1.9
3b	0+825	2.3
4	0+920	0.6
5	1+010	3.8
6	1+170	1.2
7	1+370	2.4

In general, the greatest habitat limitation for fish are the migration barriers. These include structures with large elevation differences, and concrete lined sections with high velocities and no resting areas. Table 4 shows various velocities, calculated during an average May flow (4 cms). The stations were arbitrarily selected and may not represent the whole reach. Aside from Reach 2b (Structure #1 at 0+370), these stations do not represent velocities on a structure, as there are fish ladders located at Structures #2 through #10.

As can be seen in Figure 6, only a small portion of kokanee can swim to the spawning bed in Reach 4. Within the areas of creek that are accessible by fish, natural habitat areas for spawning and rearing are lacking.

Penticton Dam #2 prevents the natural augmentation of spawning gravels into the lower reaches. This has led to the addition of spawning gravels into Reaches 4 and 6 by the Penticton Flyfishers Club. These spawning beds have been somewhat successful; however, large flat spawning beds are not typically found in unaltered creeks. The future designs for Penticton Creek will attempt to mimic natural creeks and let the spring freshets dictate where the spawning gravels will end up.

Currently, there are no fish flow requirement for Penticton Creek from the Ministry of Forest, Lands and Natural Resources. The current low flow target for the creek is set by the City of Penticton and is based on maintaining a minimum of 20 Mld, or 0.23 cms throughout the year. It is recommended that a flow management strategy be developed for Penticton Creek, to establish a flow for future designs.

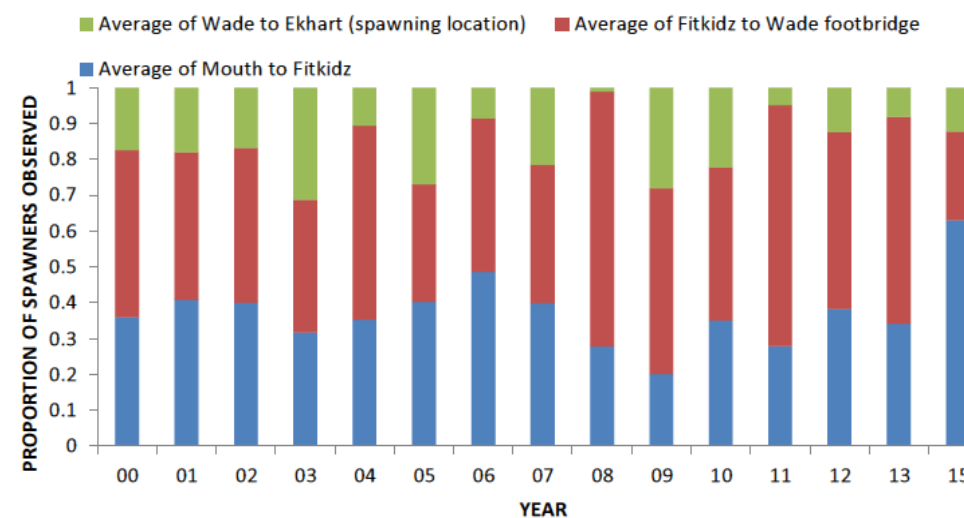


Figure 6: Proportion of Observed Kokanee Spawners in Different Areas of Penticton Creek (Askey, 2016)

Table 4: Existing Habitat Characteristics (excerpt from Matthews, 2016)

Reach	Habitat Limitations	Habitat Contributions	Habitat Quality Rating
1	No spawning; low quality rearing due to low gradient	No migration limitations	Low+
2	Concrete lined; All habitat types – no sp./rearing; low value migration and riparian; Structure #1 major migration obstacle	Minimal –no barriers but substantial migration obstacles	Low-
3	All habitat types – Structure #2 migration obstacle	Minimal; migration /rearing values in Showcase Project	Low- ¹
4	Access from lower reaches;	Spawning within artificial gravel platform – requires annual cleaning/gravel additions; some area specific rearing	Mod-
5	All habitat types – Structure #3 migration obstacle	Minimal	Low-
6	Access from lower reaches; barrier at weir structures	Area specific rearing	Low+
7	All habitat types	Minimal	Low-
8	Migration, spawning	Rearing and Riparian	Low+ ²
9	Spawning	Migration and some rearing	Mod-
10	All habitat types	Minimal	Low-
11	Migration, spawning	Rearing, riparian	Low+ ²
12	Migration, spawning	Rearing, riparian	Low+ ²
13	Spawning	Migration, rearing, riparian	Mod- ³

¹ Does not include Showcase Project

² Would be significantly higher if no intra and inter migration issues

³ Values currently limited to resident populations due to downstream barriers

In order to assess the quality of existing habitats, and create design targets for the future, preferred depth and velocities for a number of species were established. As mentioned above, the target species for Penticton Creek are Kokanee, Rainbow Trout and Longnose Dace; however, there are other species present in the Okanagan Basin. The design hydraulic and habitat characteristics that are beneficial for Rainbow Trout and Kokanee have been considered and also apply to other species, should they become present in Penticton Creek. Annex D compiles a wide variety of fish habitat preferences gathered across the United States and coastal BC. The range of habitat preferences for the target Penticton Creek species are based on Interior BC Habitat Suitability Indexes recommended by Paul Askey (Freshwater Fisheries Society of BC) and Ron Ptolemy (BC Ministry of Environment). These indices provide a likelihood that fish will be found at specific velocities and depths. The Committee decided to use the 0.50 percentile as the desired target.

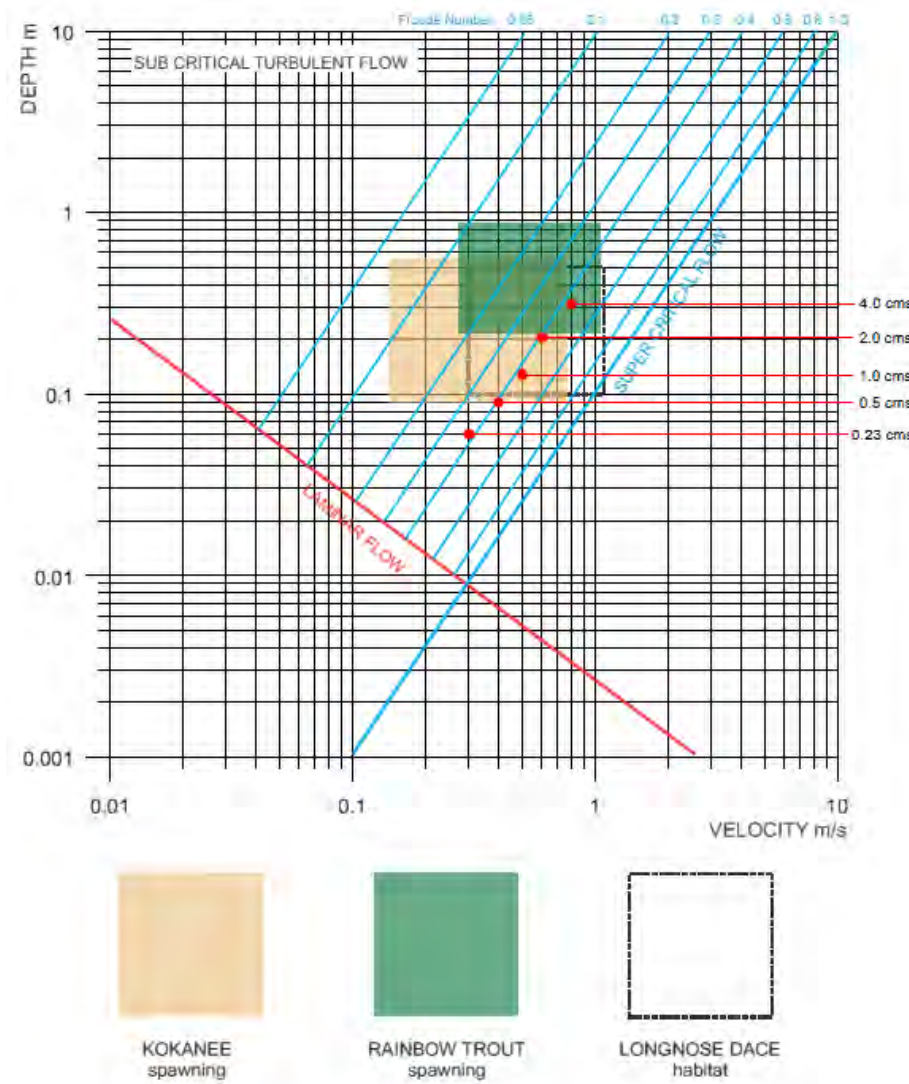


Figure 7: Existing Conditions for Several Reach 4 Flows

The values for the target Penticton Creek species are shown on a velocity vs. depth plot, provided by Dr. Bob Newbury. Figure 7 shows the existing Reach 4 spawning bed data as an example. At the lowest flow of 0.23 cms, which is typical for 8 to 10 months of the year, the current cross section of Reach 4 is not ideal for spawning. The current width results in lower depths than the targets.

CULTURAL AND HERITAGE INVENTORY MAPPING

A Cultural and Heritage Inventory Mapping (CHIM) assessment was carried out by 4 Seasons Heritage Consulting and Penticton Indian Band in July, 2016. The purpose was to complete a high-level survey to identify cultural heritage items of value to the Syilx people. The findings can be seen in Table 5.

Areas of 'Archaeological Potential' are "observed to have intact sediments, large trees indicating intactness of original landform or potential buried original landform." (4 Seasons Heritage Consulting & PIB, 2016) Where artifacts were found, the area was categorized as an 'Archaeological Site.' The description of features found in each reach are outlined on pages 24 to 39 and the specific details can be found in the CHIM report.

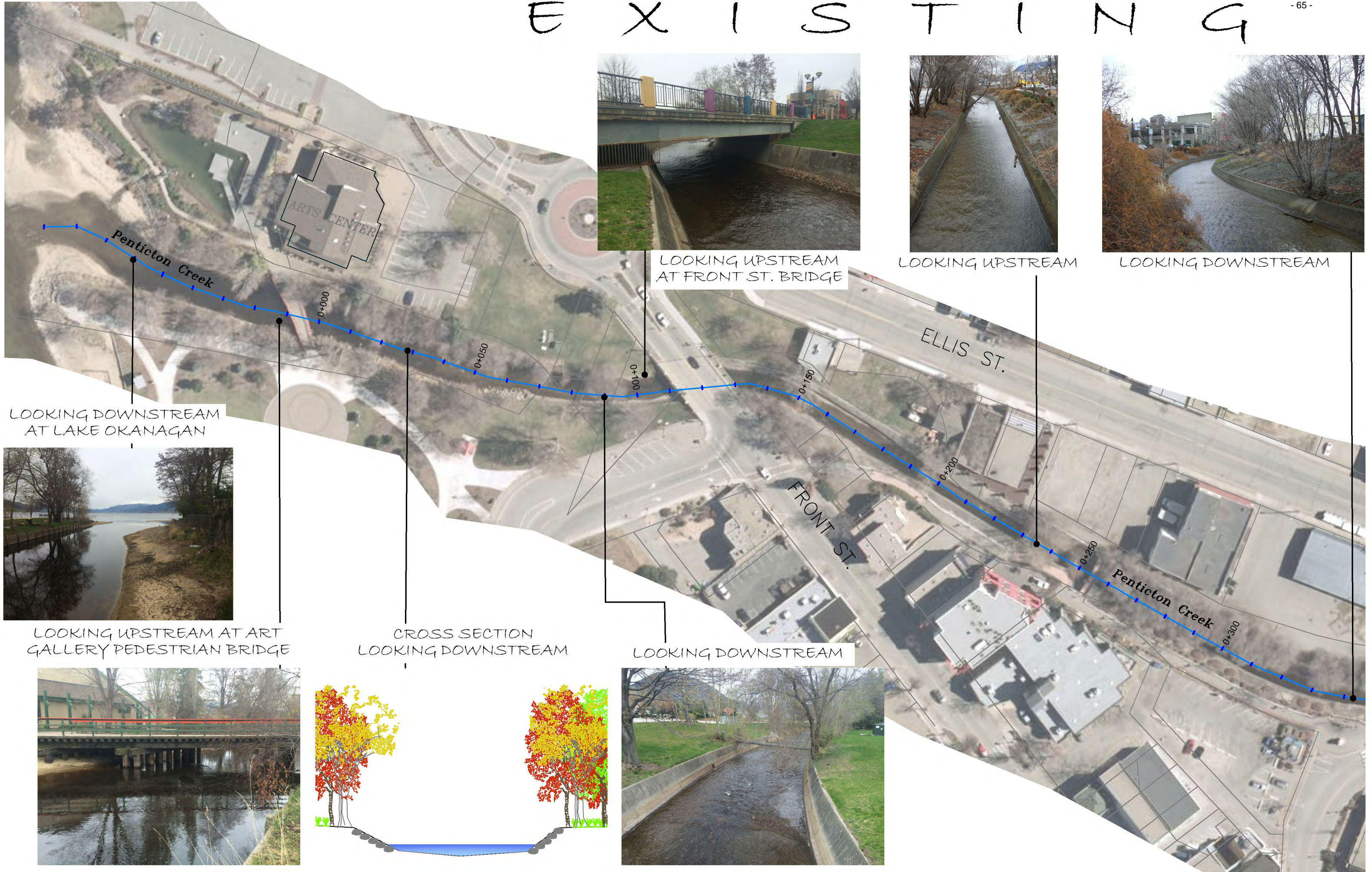
It is noted that any work around the archaeological sites requires a *Heritage Conservation Act* (HCA) Archaeological Impact Assessment and a Site Alteration Permit before construction, which may include provisions for monitoring or data recovery. Two heritage resources were found which require further investigation: a petroform (stone fishing weir or swimming area) and a culturally modified tree. These require an HCA permit to determine if they predate 1846; if so, they are automatically protected by legislation.

The report recommends applying for an annual HCA blanket permit for the entire creek which would assist with any potential land altering work. This would cover locations of archaeological potential; although these areas do not require a permit to perform work, construction could be held up if any archaeological items were found. A second recommendation is that an archaeological and/or cultural heritage resource management strategy guide be developed. This would include communications protocols for things like a chance finds procedure. Another recommendation is that HCA permitted testing of landforms' archaeological potential be undertaken in advance of development activities.

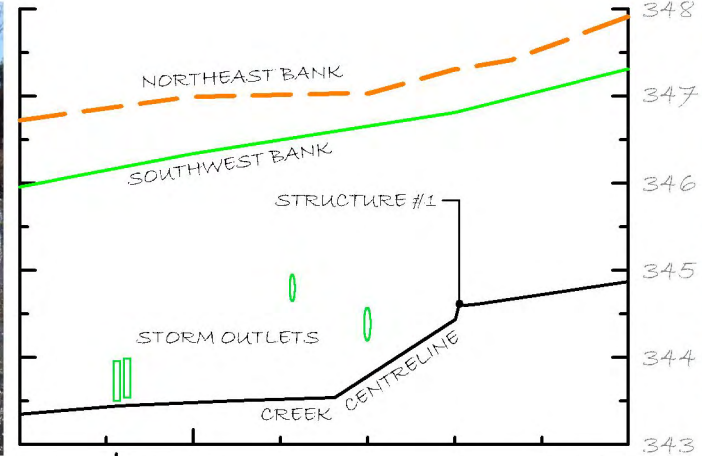
Table 5: Summary of Cultural Heritage Values Identified

Cultural Heritage Feature	Number Identified
Archaeological Potential	18
Archaeological Potential (area)	4
Archaeological Site	2
Cut and Fill	2
Deer	2
Fortis Pipeline Crossing	1
Limited Potential	7
Plant Communities or Plants of Significance	9
Culturally Modified Tree	2
Petroform (stone fishing weir or swimming area)	1
Remnant Wetland	1
Spawning Gravels	1
Vesicular Basalt	4
Natural/Limited	1
TOTAL	55

E X I S T I N G



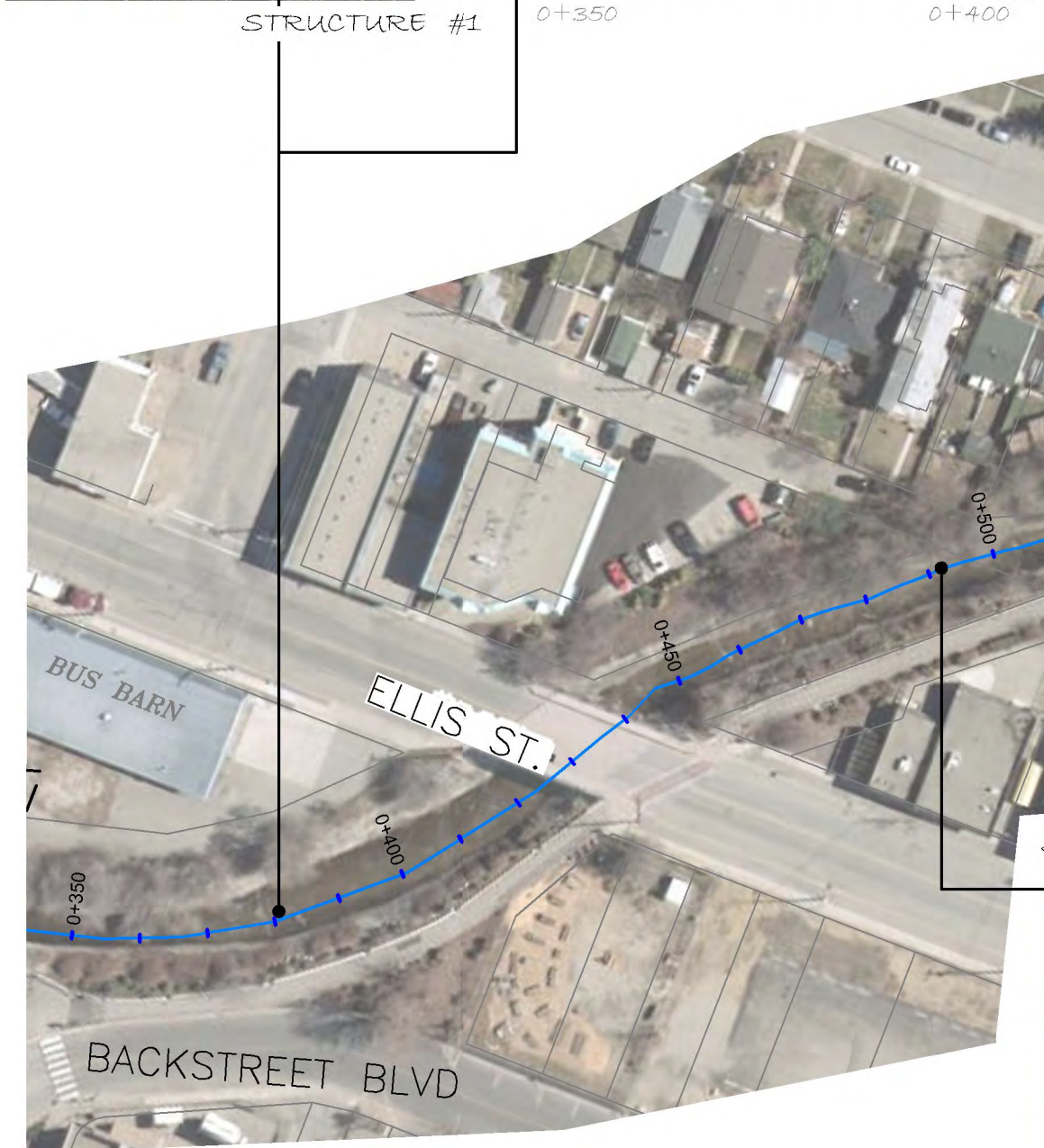
C O N D I T I O N



SHOWCASE, LOOKING DOWNSTREAM



LOOKING UPSTREAM



SHOWCASE, LOOKING DOWNSTREAM

LOOKING UPSTREAM AT NANAIMO BRIDGE

LOOKING UPSTREAM



CREEK REVITALIZATION

The Penticton Creek revitalization plan is a hybrid between natural stream characteristics and the present man-made channel. This is due to the fact that natural gravel bed streams of this size are less than one metre deep and more than 16 metres wide. In addition, floodplain widths in the range of 100 metres wide conduct flood flows that are greater than the median annual flood. In contrast, the man-made channel excavated in the 1940's is less than half the width and three times deeper. Without floodplains, it contains all of the flood flows and passes them as efficiently as possible in a narrow smooth canal.

Consequently, natural stream features to create fish habitats must be ruggedly designed to withstand the full range of flood flows. The habitat features to be added include gravel spawning areas for kokanee and rainbow trout, overwintering habitats for juvenile rainbow trout and suitable runs and pools to maintain a permanent population of longnose dace. Some reaches are better suited to adding natural features while others require re-configuring to allow for fish passage and minimum flow depths.

Generally where structures are deficient in freeboard, work needs to be done upstream of the crest, as discussed in the Structure Replacement section on the next page. Some of these structures fall on a reach boundary. When this occurs, project lengths may need to be adjusted and therefore, will not match the existing reach boundaries. Bank freeboard and bridge clearance deficiencies will be addressed using designs that meet the *Dike Design and Construction Guide: Best Management Practices for British Columbia*.

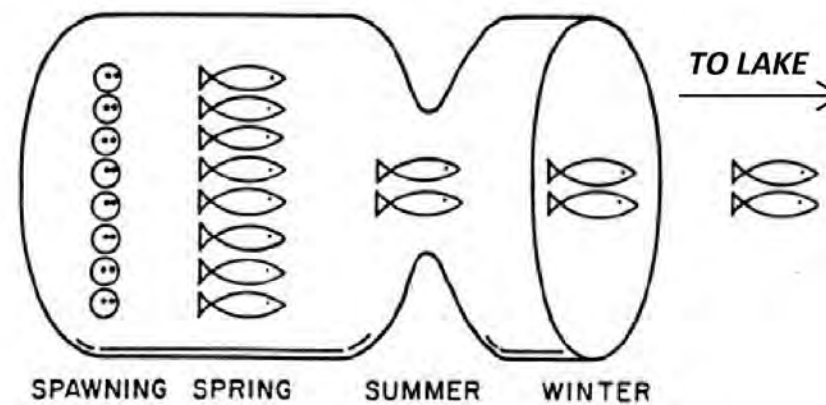
In general, the restoration options for the creek were limited, due to the many challenges. There is some opportunity for creative designs in Reaches 1 and 2, where there is room for expansion (Reach 1) and commercial land use (Reach 2). The Showcase design is proposed for residential areas where the creek corridor is narrow and the concrete is failing, in Reaches 3a, 7, and 10. A very long riffle and pool design is

needed to overcome large structures, such as in Reaches 3b, 5 and 12. Reaches 4, 6 and 8 have room to incorporate more fisheries features, such as meandering low flow channels, woody debris and deeper pools. The restoration for Reach 9 includes creating a fish passable channel, as the current creek is very steep with high velocities. Some deficiencies that need to be addressed exist in the remaining reaches (11, 12 and 13) but in general, the proposed work will not considerably alter the creek.

Other work to address deficiencies include replacing all structures with riffle and pool sequences, increasing bank freeboard, increasing bridge clearance, removing concrete lining and increasing rock lining size to be stable.

FISHERIES DESIGN TARGETS

The conceptual designs and prioritization of each reach from the fisheries perspective is expected to change over time, as restoration is completed and the amount of spawning, rearing and migration changes. It is important that each stage of the fisheries lifecycle is represented in the creek, as to not create bottlenecks. The guiding principles for reach design and prioritization from a fisheries perspective can be found in Annex E.



Potential Population Bottlenecks that Limit Production of Juvenile Migrants to the Lake (Askey, 2016)

The Committee indicated that where possible, reducing the amount of maintenance required was preferred. As stated in the Sediment Transport section, Penticton Creek does not have a natural supply of gravel. The committee has discussed augmentation of spawning gravels and was in favor of adding gravels at key locations that could be distributed through the system during spring freshet events. However, small gravels may not be stable in many areas during large spring freshets. Measures such as implementing floodplains can reduce the frequency of spawning gravel maintenance.

Formal spawning side channels are not preferred by the Committee as work is needed to ensure flows are divided properly and entrances do not get blocked. Small islands in the creek are acceptable, but it is understood that they will be left to Mother Nature and may change over time. Other features that can be included to increase habitat diversity include deeper pools, woody debris, meanders, back eddies, alcoves and pockets of spawning gravel.



Gravels trapped behind natural woody debris in the Showcase (Askey, 2016)

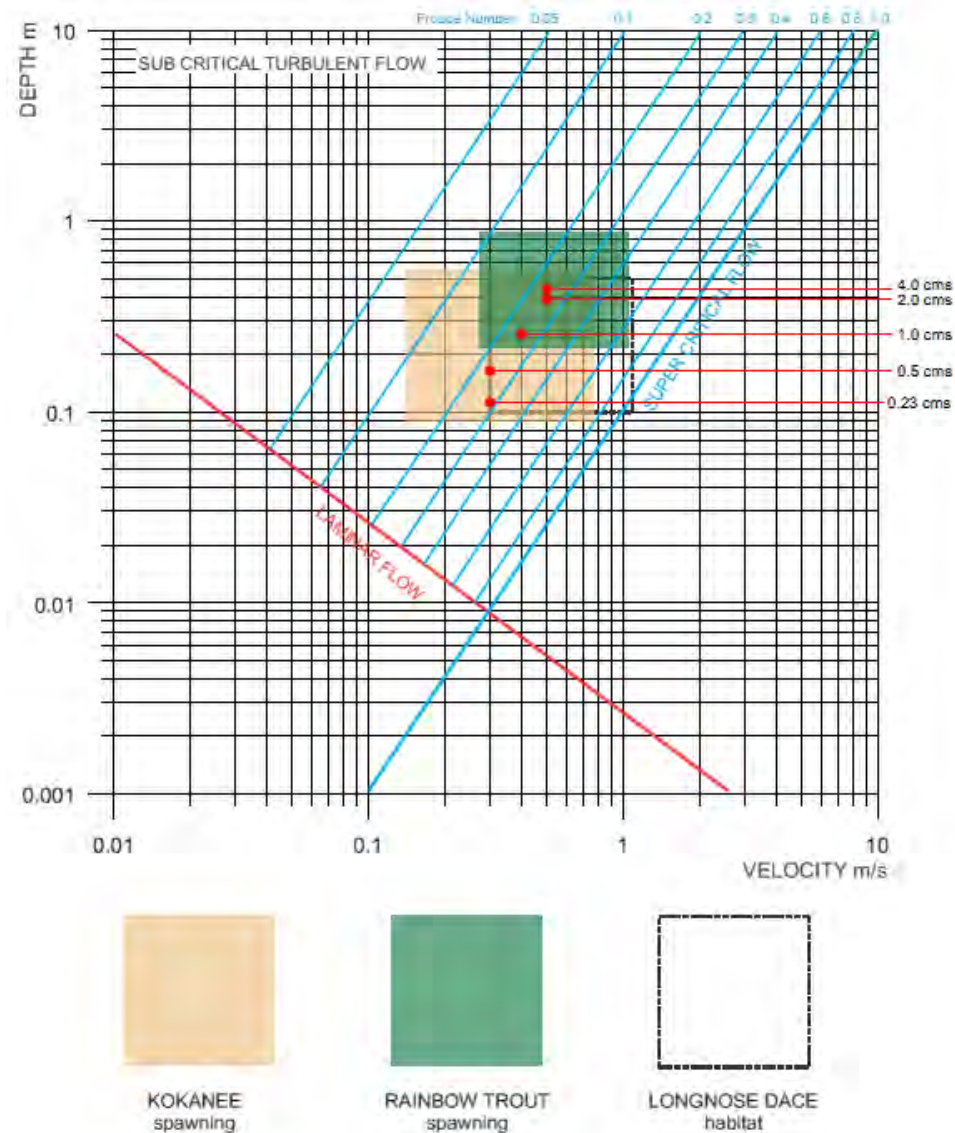


Figure 8: Proposed Conditions for Several Reach 4 Flows

Until a low flow management strategy is developed, designs will use 0.23 cms as the low flow in Penticton Creek. As discussed in the Existing Habitat Assessment section, future designs should target the depths and velocities established by the Habitat Suitability Index curves. Using the example of Reach 4, the proposed design (which is discussed on page 30) will increase depths, resulting in much more suitable habitat for spawning. Figure 8 shows the results of this.

STRUCTURE REPLACEMENT

When replacing drop structures, the specific design will depend on the freeboard at the drop structure crest.

The first structure replacement design (Type A) should be used for drop structures with adequate freeboard. For this type of design, the drop structure can be replaced with a riffle that has a crest in the same location as the existing crest. Depending on the height of the structure, a single or multiple pool/riffle scheme can be used.

When there is inadequate freeboard at the crest, the drop structure should be replaced by a riffle and pool sequence set further upstream than the existing crest (Type B).

In either case, detailed survey and HEC-RAS analysis will be needed to confirm freeboard issues exist and ensure that the proposed design resolves all problems.

REVITALIZATION OPTIONS

The following pages provide a brief description of the existing and proposed conditions within the thirteen reaches.

Land use on either side of the creek was a considerable factor in determining what restoration options were possible. Development includes park, commercial, residential, and public roads and walkways; some areas are more heavily developed than others, with road right-of-way and structures narrowing the creek corridor. Between 1948 and 1973, a series of five City of Penticton bylaws (929, 952, 1057, 2848 & 3008) were enacted related to the channelization of the creek. These bylaws outline three plans; the M-178, M-185 and M-195 plans which establish a creek corridor where flood infrastructure was constructed.

Further, much of the property adjacent to the channel has seen additional development and the City has constructed a linear walkway along the majority of the study length. This limits the available corridor to approximately 20 m wide, significantly less than required for natural conditions.

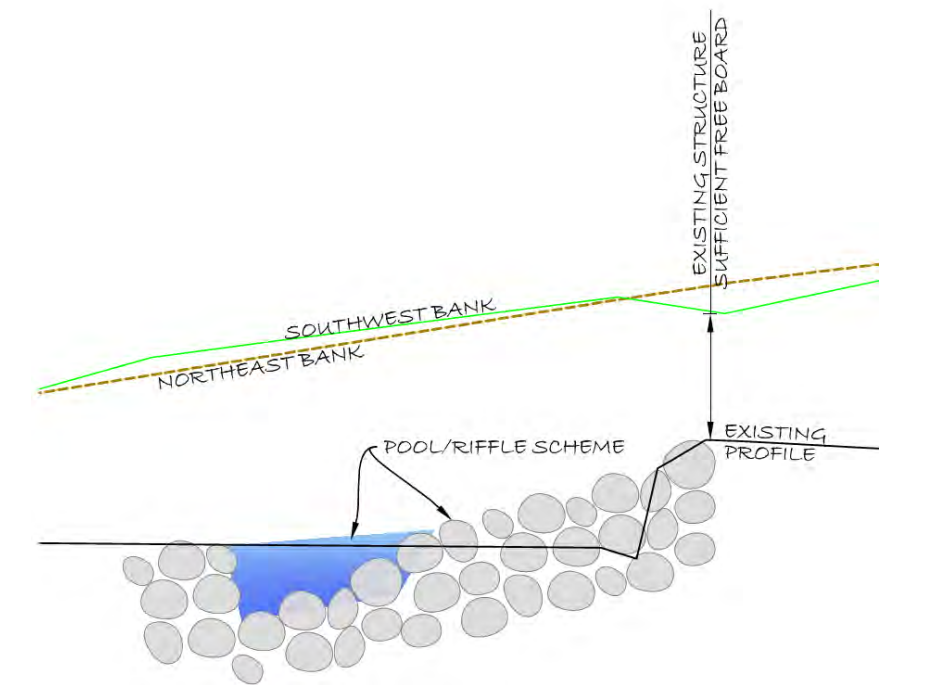


Figure 9: Type A Structure Replacement where Adequate Freeboard

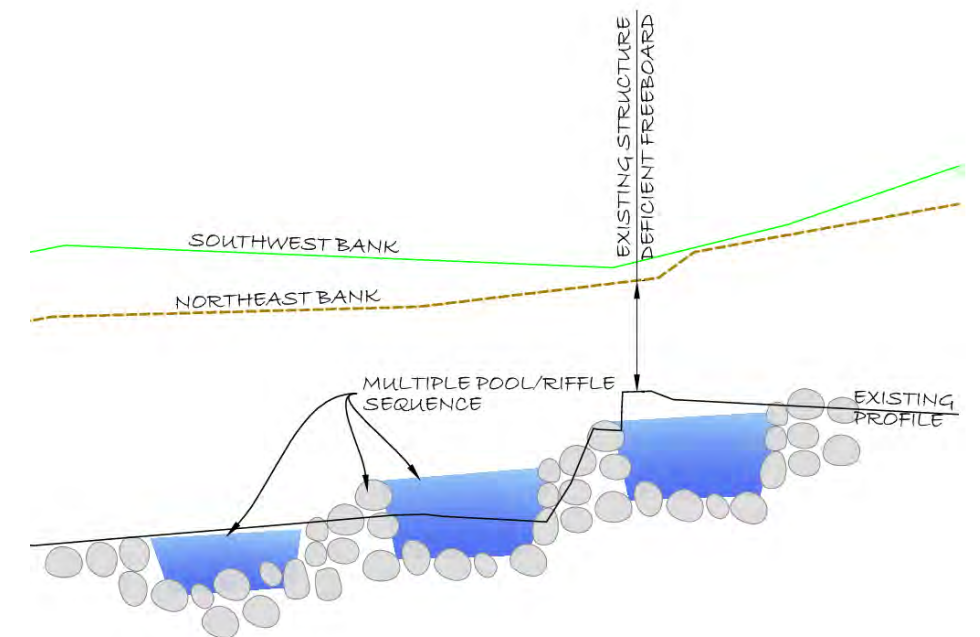


Figure 10: Type B Structure Replacement where Inadequate Freeboard

REACH 1

Existing Conditions

Length: 150 metres

Average Width: 11 metres

Average Slope: 0.0%

Existing Habitat Quality Rating: Low+

Reach 1 is located at the mouth of Penticton Creek and extends from Okanagan Lake to the beginning of the concrete lining below Front Street bridge. The channel bottom is natural and the bank material ranges from sandy banks to riprap armoring. This reach is currently fish passable.

The property on both sides of the creek are owned by the City of Penticton and are currently utilized as public space. The Art Gallery and Penticton-Ikeda Japanese Garden is located to the east of the creek while the Okanagan Lake Park is located to the west.



Mouth of Penticton Creek at Lake Okanagan



Upstream of the Art Gallery Pedestrian Bridge

A large alder stump was identified as a marker of archaeological potential. Thule reeds were also found on the banks and are considered valuable to the Syilx people.

There is considerable variation in bank armoring and some of the smaller sized material will be unstable at higher flows. The short retaining wall on the west side of the creek is currently failing and the Art Gallery pedestrian bridge does not have the required clearance at high flows.

The Okanagan Lake level has considerable influence on the creek flows and elevations in this reach. The full pool elevation (342.48 m) often backwaters the creek to the Front Street bridge. As a result, some variations of lake level and creek flow result in a standing wave and a lack of bank freeboard at multiple locations.

REACH 1

Proposed Revitalization

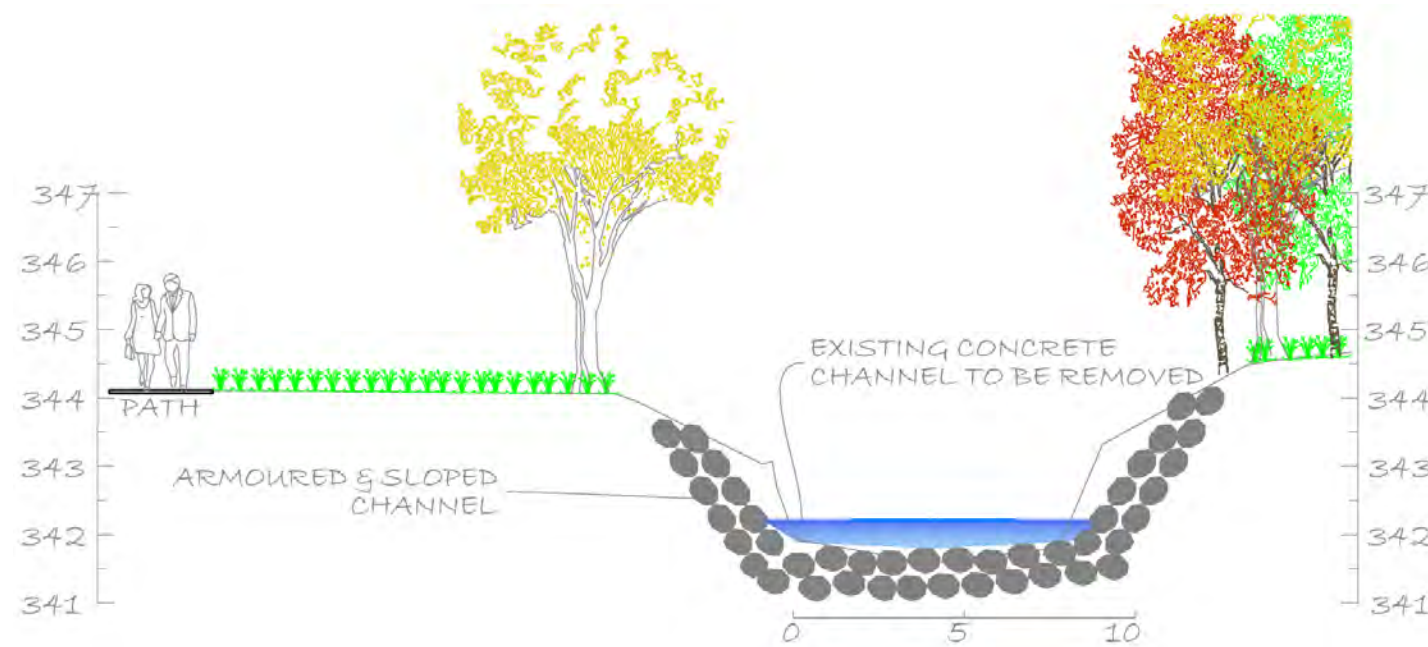
The proposed restoration of Reach 1 includes the lower 45 metres of Reach 2, so that the Front Street bridge becomes the boundary. This short length immediately downstream of the bridge has many of the characteristics of Reach 1, including the ability to expand the creek width due to adjacent City owned properties.

Many options were explored for this Reach, resulting in two potential designs. Further development of these designs is needed in order to refine the cost estimates and allow an option to be selected. In addition, as other projects are completed, the type of habitat desired, such as spawning or rearing, may change. Both potential options include the relocation of the aboveground sanitary sewer crossing to Front Street bridge and include the replacement of the Art Gallery pedestrian bridge, as it does not meet the clearance standards.

The first option includes removing the concrete lining immediately downstream of Front Street bridge, and replacing the bank material with riprap. The existing bank slopes will be altered, creating a slightly wider top-of-bank to top-of-bank width; however, this option does not significantly expand the creek footprint.

In areas with small diameter bank material, rock size will be increased to ensure stability during high flows. Bank heights will also be increased to ensure minimum freeboard standards are met. This option is more cost effective; however, it does not significantly improve the quality of fish habitat.

The second possible option takes advantage of the City owned property on either side of the creek and widens the floodplain in order to create a braided creek with gravel deposition areas. In addition, the creek bottom could be elevated to reduce backwatering of the reach by Okanagan Lake during spawning seasons. The plan view of this option can be seen in Annex A.



A potential revitalization option within the existing footprint

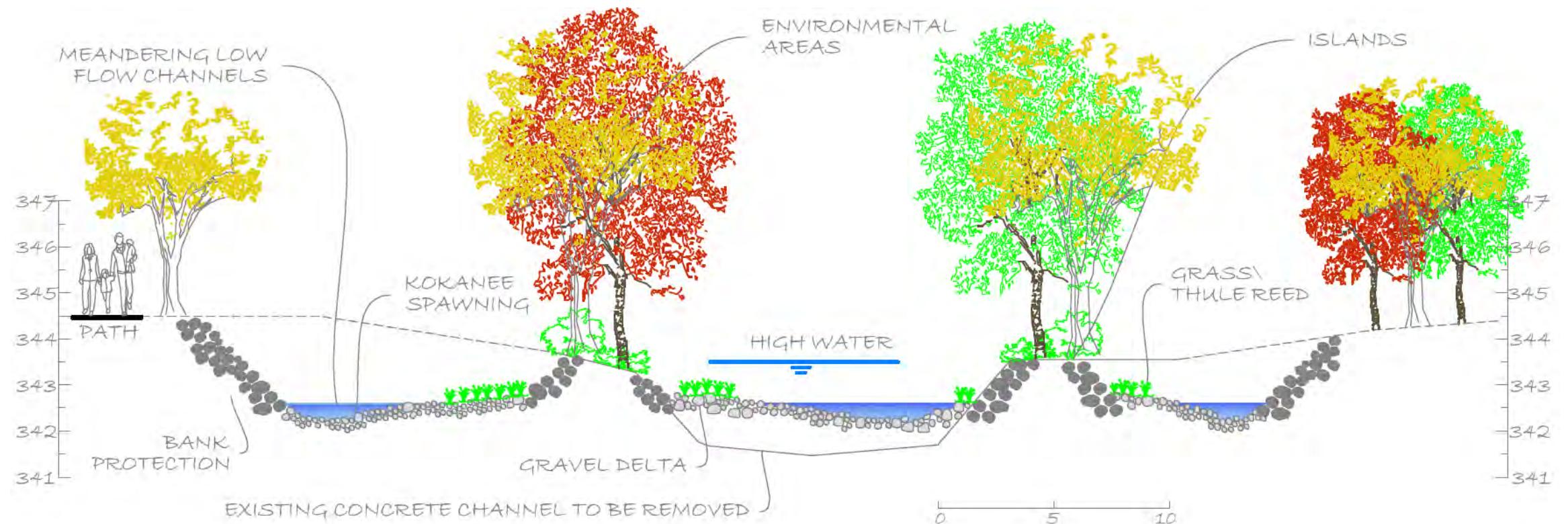
The new elevated creek profile will be stabilized with several riffles, including one at the creek mouth, and above and below Front Street bridge, to ensure the bed will not downgrade

The existing path on the west side of the creek can remain in its current location. On the east side of the creek, utilities, including water, storm, electrical and communications infrastructure, will require relocation. The width of riparian area on the east side of the creek could be expanded with additional vegetation planted.

This option would create a unique feature in the downtown core that contrasts the urban landscape upstream and highlights the creek, rather than simply creating a necessary flood corridor.

This option would leave the existing bank vegetation as islands in the creek with three low flow channels. The lower gradient of the creek bottom and additional width will create optimal depths and velocities for potential spawning. The gravel delta will be able to retain much of the smaller material during spring freshets, due to the wide floodplain and lower water depths.

As part of the expanded floodplain option, a ramp could be installed for collecting the accumulated gravels that will be reintroduced into the system at a higher elevation. A sedimentation management strategy is discussed in the Recommendations section on page 42 and 43.



A potential restoration option with an expanded floodplain

REACH 2

Existing Condition

Length: 350 metres

Average Width: 6 metres

Average Slope: 0.7%

Existing Habitat Quality Rating: Low-

Restoration Sub-Reaches: 2a & 2b

Structure(s): #1



Looking upstream at Structure #1

Reach 2 is the narrowest, and most urban, section of creek with an average bottom width of 6 metres. The entire reach is concrete lined and differs from the other lined reaches as the concrete was formed, and is generally in better condition than the reaches that were not formed (Reaches 3, 5, 7 and 10). However, there are still many holes in the lining. As can be seen in the existing photos, vegetation including shrubs and

trees are growing through the concrete lining. There is a lack of freeboard along the right hand side of the creek, upstream of Front Street bridge.

The concrete liner itself is a deterrent to fish attempting to migrate upstream, as it provides no resting places. The Penticton Flyfishers have placed concrete curbs in this reach to add depth; however, the estimated percentage of kokanee passing Reach 2 is approximately 60% (Askey, 2016). The first major barrier to migration up Penticton Creek is Structure #1, pictured on the left. There is no fish ladder and the calculated velocity of 3.7 m/s during a typical spring flow (see Table 3) is a complete barrier to rainbow trout. (Askey, 2016)

The creek corridor through this reach is very restricted, with commercial land uses on each side. There are some City owned properties which may provide opportunities for a slight width expansion. The Ellis Street pedestrian and vehicular bridges have adequate clearance. However, the cross sectional area narrows under Front Street bridge and therefore, there is a lack of clearance.

Several areas of archaeological potential were identified in the CHIM report. These are associated with a well-defined landform and will require monitoring when work is done in this reach.



Formed concrete lining, facing upstream

REACH 2

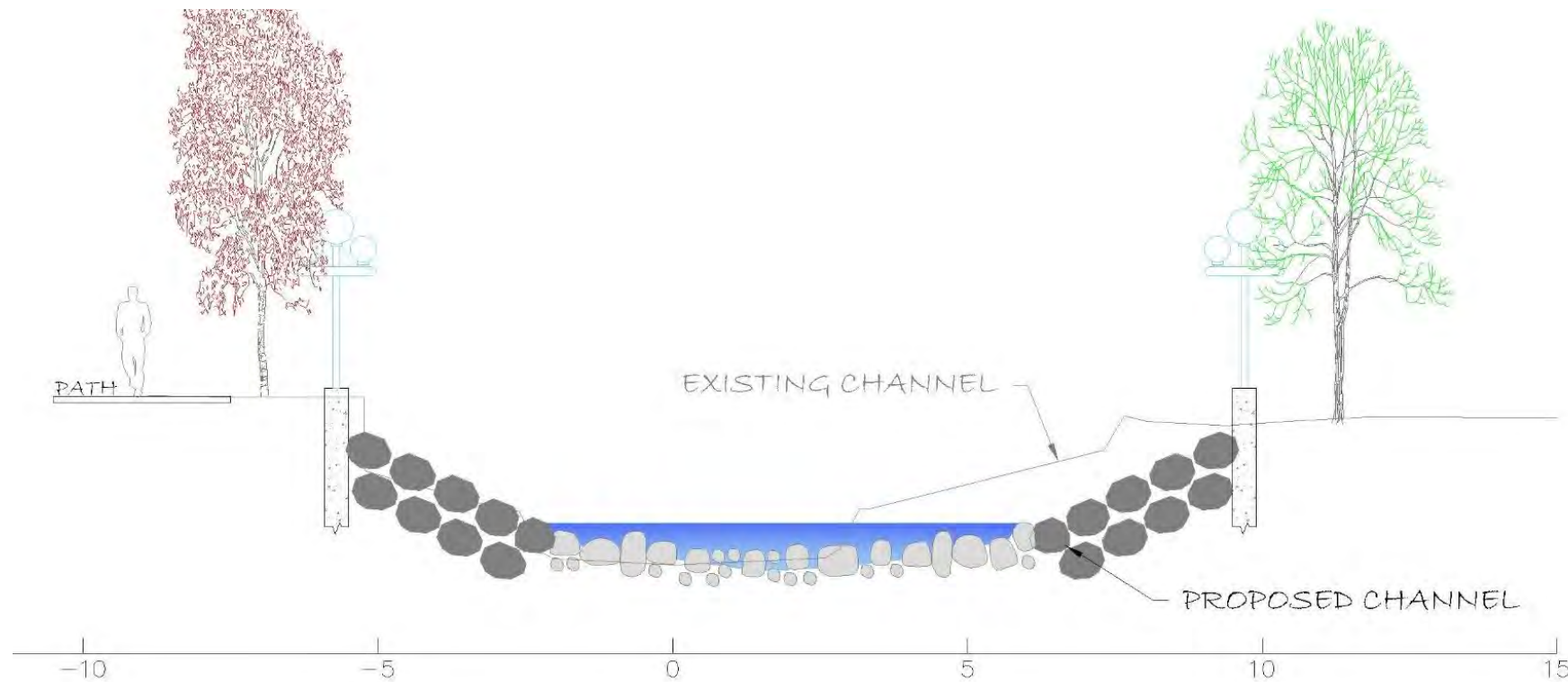
Proposed Revitalization

The proposed restoration of Reach 2 excludes the lower 45 m of creek, below Front Street bridge, and the remainder is divided into sub-reaches 2a and 2b. As with Reach 1, many options were explored for this reach, and two potential designs were identified. The overall proposed design will be very similar for both sub reaches. Some additional features can be incorporated into local areas where there may be additional width. Additional development of both options is needed to inform the Committee so that they can make a decision in this reach.

Due to the narrow creek right-of-way and inability to widen, the design through this reach must incorporate 'smooth' bank materials (with low 'n' values) to pass the Q₂₀₀ flood. Therefore, both designs incorporate retaining walls with a natural creek bottom, while keeping the existing pathway to the west of the creek. Although there is an existing low retaining wall on the west side of the creek, it is not suitable as a structural wall to protect from flooding. Therefore, the existing wall and concrete lining will be removed and a new retaining wall with an appropriate foundation will be built.

Both options include removing the concrete under Front Street bridge and widening the cross sectional area to increase the clearance. Since both options include creek widening, the Ellis Street pedestrian bridge will need to be replaced with a longer span. No work is currently required at the Ellis Street vehicular bridge as the concrete is in reasonable condition but it could be replaced in the future.

The first potential option is a simpler design that incorporates rock banks; however, concrete retaining walls are still needed to ensure that the minimum freeboard requirements are met. This option creates a low flow channel with small riffles to assist in migration. A series of riffles will be needed to replace Structure #1, in Reach 2b.

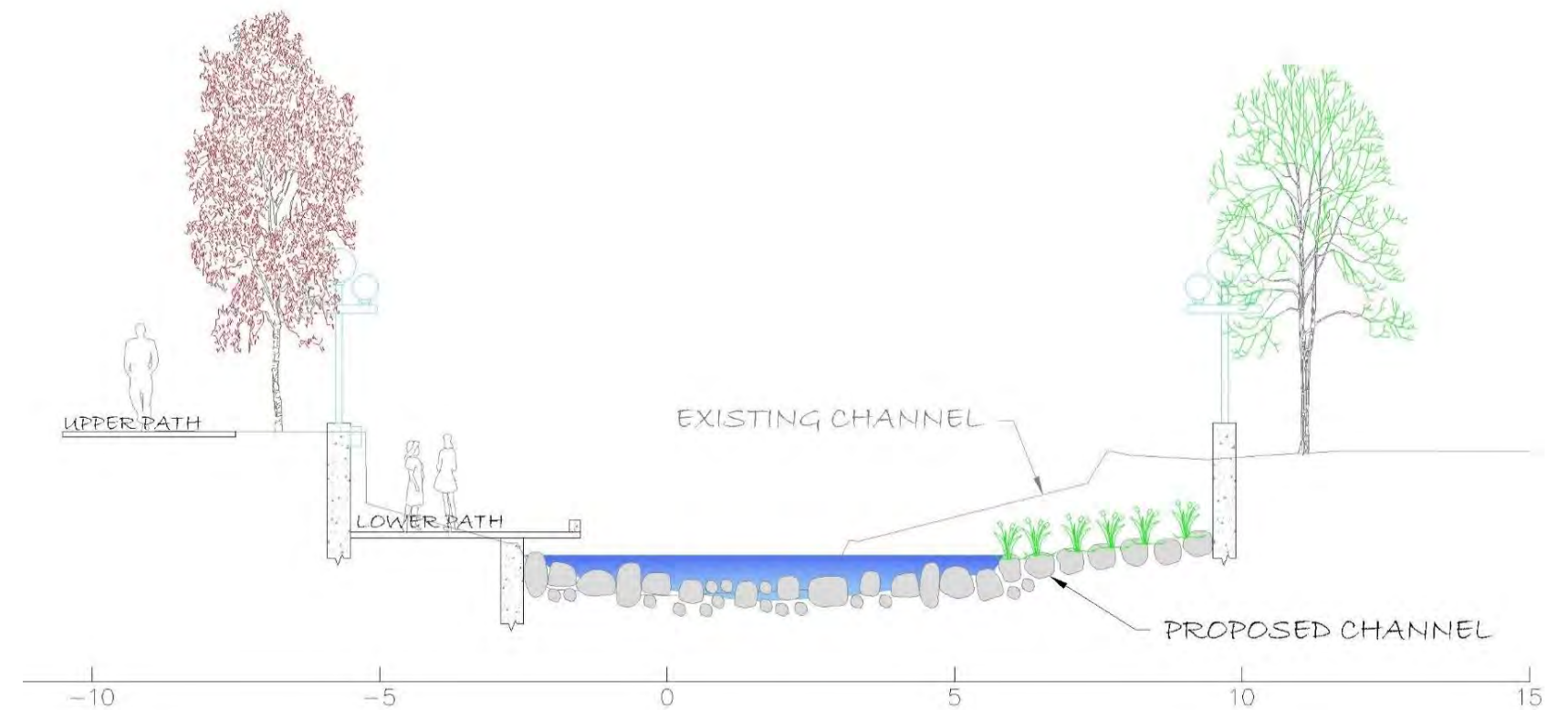


A potential restoration option with no pedestrian access to creek

The corner just below Ellis Street bridge has some additional width and opportunity for unique design features. A gravel bar could be incorporated into the inside corner, creating a small side channel. A riffle would be built to regulate the flows around the island. The higher spring freshet flows would naturally rearrange the gravel each year. Deeper pools could also be incorporated on the outside of the corner. A cross section of this can be seen on the Conceptual Design plan in Annex A.

Another feature that could be incorporated is a waterfall, on the inside corner. The sound of the waterfall is attractive to fish and the location would encourage fish to use the small side channel. The feature could be gravity fed by a pipe, with an inlet in a pool upstream.

The second option is an urban design that fits within the context of the downtown Penticton area. The land use on either side of this reach is commercial and provides a contrast to the rest of the more residential and natural areas along the creek. The creek bottom would be similar to the previous option, with small riffles to assist with migration. The proposed design includes a lower path for pedestrians on the west side of the creek. The access for this walkway would be provided by a ramp. Amphitheater style seating could be incorporated along the creek in areas where there is additional width. A cross section of this can be seen in the Conceptual Design plan in Annex A.



A potential urban restoration option with lower path

A low flow channel that will meander within the width of the retaining walls will provide some fisheries diversity. In addition, the path could be cantilevered over the creek to provide shade. At higher flows the lower path will need to be closed to the public.

REACH 3

Existing Condition

Length: 455 metres

Average Width: 7 metres

Average Slope: 2.1%

Existing Habitat Quality Rating: Low- (excl. Showcase)

Sub-Reaches: Showcase, 3a & 3b

Structure(s): #2

Reach 3 is narrow, concrete lined section of creek that includes Structure #2, the tallest structure measuring 2.7 m in height. The concrete lining is deteriorating, exposing a wire mesh in many locations. Approximately every 10 metres, a cutoff beam spans the creek. These beams measure approximately 0.4 metres wide and over one metre deep, and are presumed to have been constructed to add stability to the creek and prevent downgrading.



Looking upstream From Nanaimo Avenue Bridge



Looking upstream at Structure #2, From Wade Avenue Pedestrian Bridge

The land use on either side of the creek is mostly residential, with some City owned property and adjacent road right of ways. The path on the west side of the creek is continuous, except for a 45 metre gap where pedestrians must walk along an alley, just south of Nanaimo.

The Wade Avenue pedestrian bridge has adequate clearance. However, there is a lack of clearance at Nanaimo Avenue bridge and a lack of freeboard at two bank locations, and at the crest of Structure #2. The risk rating of Structure #2 is very high due to the height and current condition of the structure. The failing apron has created large holes where the material behind the structure can be seen.

Similar to Reach 2, there is no resting for fish in this Reach and concrete curbs are currently used to assist in migration. There is a fish ladder at Structure #2 but the success rate of fish trying to pass this barrier is very low.

The CHIM report identified two areas of archaeological potential, located between the Nanaimo and Wade Avenue bridges.

REACH 3

Reach 3 consists of the 2015 Restoration Showcase project (80 metres) and sub-reaches 3a and 3b. Due to the length of creek needed to overcome Structure #2, a separate design is needed for each sub-reach.

Sub-Reach 3a Proposed Revitalization

The restoration of Reach 3a will be a continuation of the 2015 Showcase design, including riffles and pools, to replace the failing concrete lining. The design will widen the creek on the east side, to accommodate the rock banks that will be rougher than the current concrete lining. Where the banks are required to be higher than natural ground, a 3 metre wide berm will be constructed to protect public and private land.

The design will include additional diversity for fish, such as sharp narrowing and widening of the creek. This will create back eddies and possible locations where gravel could accumulate.

Although there are no clearance deficiencies at the Wade Avenue pedestrian bridge, a longer span will be needed to accommodate any widening of the creek in this area. Also, the Nanaimo Avenue bridge is near the end of its life span and is currently lacking clearance. Any work to increase clearance by changing the channel or abutments would be costly. Consideration could be given to replacing the existing bridge with a pedestrian bridge, to ensure access and mobility is not reduced for cyclists and pedestrians. The area east of the creek could become a public green space and planted for riparian depth, while ensuring the alley between Abbott and Van Horne remains accessible. A conceptual plan of this area is shown in Annex A.



Looking upstream at the 2015 Restoration Showcase

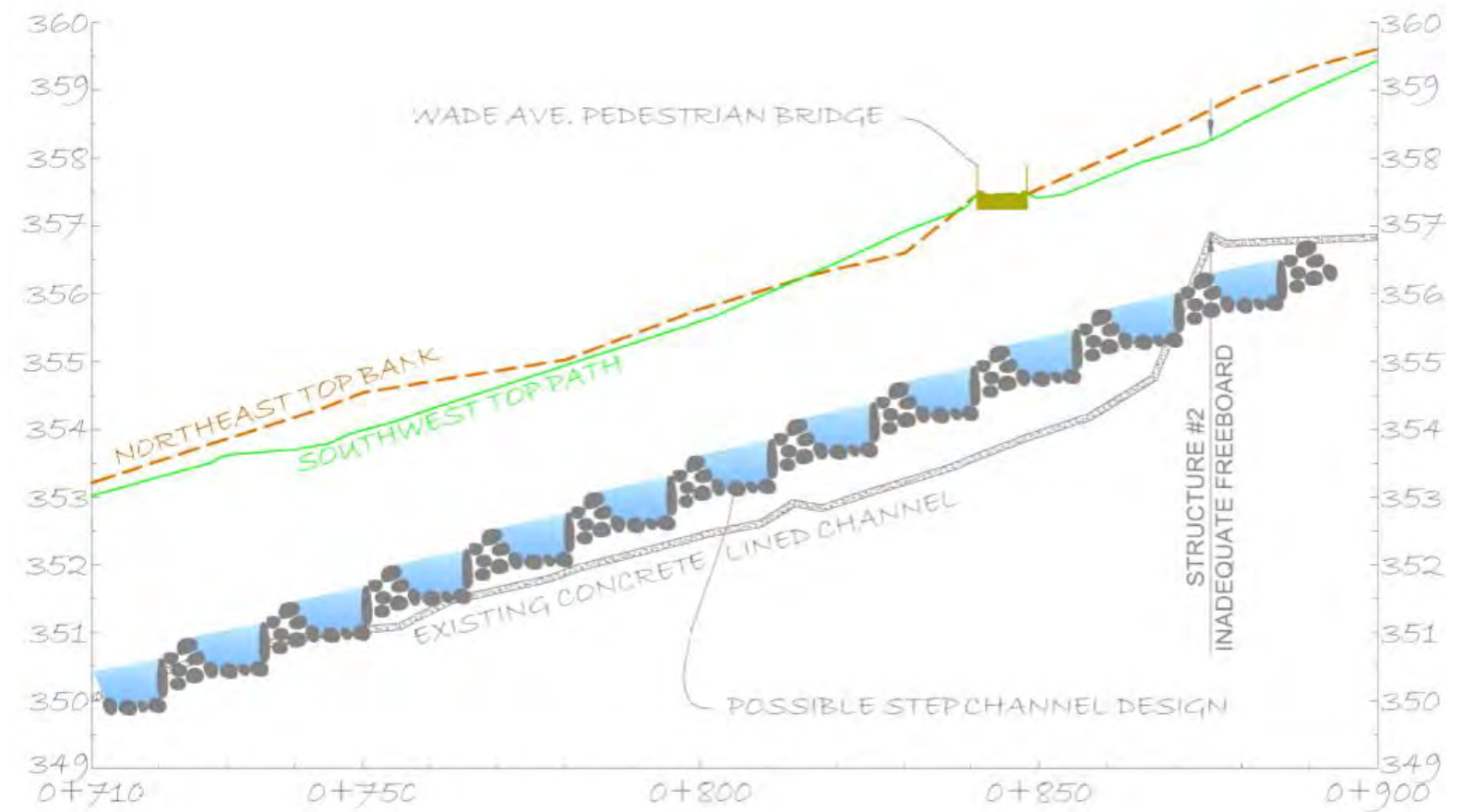
Sub-Reach 3b Proposed Revitalization

In order to replace Structure #2 and create a channel that is fish passable, the restoration design for Reach 3b will create a series of riffles and pools for approximately 180 metres. The overall slope of the design will be steeper than the existing channel, therefore taking advantage of the additional freeboard downstream of the structure. By raising the creek profile, the bottom width will increase, creating better habitat conditions for fish.

Because there is a lack of freeboard at the current structure crest, the crest of the top riffle will be located approximately 15 metres upstream, in the existing Reach 4. The viewing area just above the crest on the east side of the creek will be removed and a replacement viewing feature could be considered.

Each riffle and pool sequence will be approximately 15 m long, with an overall slope of approximately 3.6%. The maximum slope of each riffle will be 7% with a pool depth of approximately 0.4 metres.

There is a pinchpoint, located downstream of the Wade Avenue pedestrian bridge, which will require some creek widening. Thus, the bridge will need to be replaced with a longer structure, but could be installed again in another location.



A profile view of the possible Reach 3b design to replace Structure #2

REACH 4

Existing Condition

Length: 75 metres

Average Width: 14.5 metres

Average Slope: 0.4%

Existing Habitat Quality Rating: Mod-

Reach 4 is a wider, flat reach that is currently used as an artificial spawning bed by the Penticton Flyfishers Club. The channel banks and bottom are not lined, and are artificially augmented with gravels after a large freshet event. The creek bottom is very flat and combined with the width, creates a very low depth of water. Parking curbs are placed across the crest of Structure #2 to create greater depths for spawning.

The only flood deficiency in this reach is at the crest of Structure #2, as mentioned in the Reach 3b writeup. There are no structures or lining. The CHIM report observed limited archaeological potential in Reach 4.



Looking upstream at Reach 4

There are some grasses and shrubs located within the low flow channel and a narrow riparian area of trees, located higher up the banks.

REACH 4

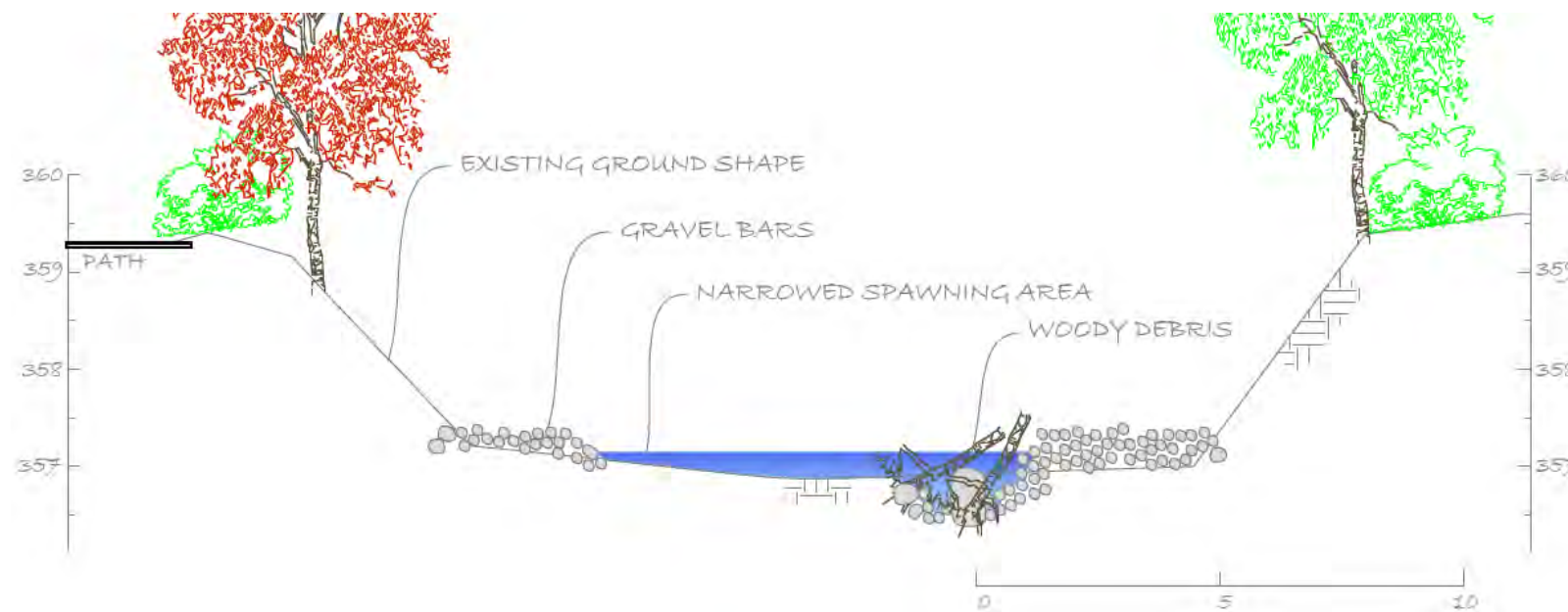
Proposed Revitalization

This reach has been used as a spawning bed, with small material augmented due to the lack of natural gravels in the channel. In order to create a maintenance free channel that retained small gravels during annual floods, a 40 metre floodplain would need to be created, which is unrealistic given the land use around this reach.

One possible design widened the creek to the east, creating a small floodplain; however, this would not produce a noticeable difference in the amount of gravel retained and the design would eliminate the established riparian area.

Therefore, the proposed design would create a narrower low flow channel, within the existing banks, that would provide additional water depth and a more natural channel shape. This channel could meander and include woody debris and larger rocks to improve habitat diversity. Rather than creating a designated spawning bed in Reach 4, more natural pockets of spawning areas were desired by the PCRI Committee. The low flow channel is designed to create preferred spawning depths and velocities. Gravel augmentation will still be required in this area, as the overall channel width will not change. The lower Reach 4 boundary will need to be revised, as the replacement of Structure #2 will move the crest upstream approximately 15 metres.

Any restoration created in Reach 4 will be difficult to maintain unless an energy dissipating riffle is built between Reaches 4 and 5. The channel in Reach 5 is steep and narrow and most of the hydraulic energy will be directed down the center of Reach 4 if this feature is not built. Therefore, Reaches 4 and 5 should be constructed together, as one project.



A proposed cross section with a narrowed low flow channel

REACH 5

Existing Condition

Length: 110 metres

Average Width: 10.5 metres

Average Slope: 3.3%

Existing Habitat Quality Rating: Low-

Structure(s): #3

Reach 5 is the steepest and most entrenched section of creek, with bank heights up to 5.6 metres. The entire reach is narrow and concrete lined, with a pinch point and aboveground sewer crossing just below Structure #3 at the upper end. There are some City of Penticton properties on the east side of the creek which could accommodate some width expansion. The west side of the creek is lined by a walkway and Government Street.

The flood infrastructure deficiencies in this reach include the lining and Structure #3. The lining is deteriorating with many holes showing mesh lining and growing vegetation. Structure #3 is the second tallest drop structure in the creek, measuring 2.3 metres. There are many holes in the apron and woody debris was observed caught on the structure and lining below.

The channel below Structure #3 is a fish barrier due to the creek velocity and smooth concrete lining, lacking resting places. Structure #3 does have a fish ladder; however, it is understood that it is rarely utilized by migrating fish due to the numerous downstream barriers.

Limited archaeological potential was observed in Reach 5, as it has already been heavily impacted.



Looking upstream at the aboveground sewer crossing and Structure #3



Looking downstream from the crest of Structure #3, during spring freshet

REACH 5

Proposed Revitalization

The proposed design for Reach 5 is the same riffle and pool design as proposed for Reach 3b. The height of Structure #3 requires raising the creek bed throughout the entire reach to create a fish passable channel. As the centreline profile is raised, extra width is created; however, additional widening is recommended on the east side to remove the pinchpoint. Because there is adequate freeboard at the crest of Structure #3, the crest of the new riffle design can be located at the same elevation and location as the existing crest.

Widening of the creek at the pinch point will require the relocation or replacement of the 200 mm sanitary sewer crossing, which runs east to west over the creek. There are numerous options for the sewer and Investigation will be necessary to determine the preferred design.

As discussed in Reach 4, a riffle is needed to dissipate the energy at the lower end of Reach 5. This riffle will spread the water from the narrow chute across a wider surface area in Reach 4 and incorporate large rocks to dissipate the scour energy.

REACH 6

Existing Condition

Length: 190 metres

Average Width: 12 metres

Average Slope: 0.8%

Existing Habitat Quality Rating: Low+

Structure(s): #4 and #5

Reach 6 is a wider reach with a natural bottom and low grade. The grade is broken up with Structures #4 and #5 and a few rock riffles. The area above Structure #2 has similar characteristics to Reach 4 and has been augmented with gravels by the Penticton Flyfishers in the past. However, the use of this artificial spawning area is low due to the downstream migration barriers.

Reach 6 is bounded by road right-of-way on both sides: Pickering Street to the east, and Government Street to the west. The walkway continues along the west side of the creek through this reach. There is a viewing area just upstream of the crest of Structure #3 on the west side.

Some shrubs and small trees line the channel, overhanging the water. Larger trees exist at the top of the banks, with no impact on the water during low flows.

A vesicular basalt cobble and a remnant landform retaining archaeological potential were found in Reach 6. These items should be avoided or collected during restoration work.



Looking upstream from Structure #2



Looking upstream at the concrete crest and apron of Structure #4

REACH 6

Proposed Revitalization

Because there are no freeboard or lining deficiencies, most the restoration work in Reach 6 will be to remove and replace the concrete structures. Each will be replaced with a fish passable, single riffle of approximately 8% slope. These riffles will have a larger footprint than the existing structures, as the slope will be much lower than the concrete apron.

When Structure #3 is replaced, just downstream of Reach 6, the viewing area will be removed. During the detailed design stage of this reach, consideration could be given to incorporating a replacement viewing space in another location.

Pockets of spawning gravel can be added to the upstream side of the riffles. Because the upstream face of the riffles will have a negative slope, some spawning gravel will be retained but the gravel will be unstable during high flow freshet years. Reach 6 has the width and freeboard to incorporate other diverse habitat features, such as woody debris or deeper pools.

REACH 7

Existing Condition

Length: 170 metres

Average Width: 7.5 metres

Average Slope: 1.9%

Existing Habitat Quality Rating: Low-

Structure(s): #6 and #7

Reach 7 is another concrete lined section of channel. It is in similar condition to Reach 3, with vegetation growing through holes in the concrete and wire mesh exposed. The reach has two structures and one riffle, and includes the KVR pedestrian bridge and Eckhardt Avenue bridge. Both structures are equipped with fish ladders.

The creek is surrounded by City of Penticton property and road right of way in this reach. The walkway on the west side of the creek follows Government Street and moves away from the creek near Eckhardt Avenue. This is the lowest reach where the pathway is not continuous. Pedestrians and cyclists could continue along Ontario Street but they would share the road with vehicles as there is no separated walkway.

There is a lack of freeboard in the area around the crest of Structure #7, on the west side of the creek. Both the KVR pedestrian bridge and Eckhardt Avenue bridge have adequate freeboard compared to the adopted standard. However, the bridge at Eckhardt Avenue is considered a major transportation route for the City and work should be done to increase the existing clearance.

Limited archaeological potential was observed in Reach 7, as it has already been heavily impacted.



Looking upstream at Structure #6, from the KVR pedestrian bridge



Looking downstream at Eckhardt Avenue bridge

REACH 7

Proposed Revitalization

The work to improve Reach 7 will be very similar to the Showcase Restoration Design, completed in Reach 3 in 2015, with the exception of the structure replacements. The concrete lining will be removed and between the structures, a series of pools and riffles will be created with the same overall existing grade. This will assist in fish migration and create diverse habitat. The replacement of each structure will be three smaller, steeper riffles. The footprint for these replacements will be about 60 metres each; therefore, the Showcase design will be incorporated into the remaining 50 metres of this reach.



The Showcase design is an example of what could be done in Reach 7

The redesign of Structure #7 will move the crest further upstream, to increase freeboard (see Figure 7: Type A replacement). If a freeboard issue still exists, the banks must be heightened on the east side of the creek. To increase the clearance under Eckhardt Avenue bridge to a target of 1.5 metres, the concrete banks under the bridge should be removed as they restrict the cross-sectional area. The KVR pedestrian bridge does not require any work at this time.

REACH 8

Existing Condition

Length: 265 metres

Average Width: 17.5 metres

Average Slope: 0.6%

Existing Habitat Quality Rating: Low+

Structure(s): #8 to #11



Looking upstream at creek braiding in Reach 8

Reach #8 is the most natural lower reach, with a wide cross section and a small floodplain. The slope is quite flat between structures and the rock size of the banks is stable during high flows. Some braiding has created a vegetated island, as seen above.

Reach 8 includes four structures, one of which has already failed and attracted public attention during floods in 2006. As mentioned in the Reach 7 write-up, there is a lack of freeboard at the crest of Structure #7, which is on the border of the two reaches. Work to replace the structure will extend into Reach 8. Structure #10 is the last structure that has a fish ladder, and also has a lack of freeboard around the crest.

The land use around Reach 8 includes some residential properties, City owned land, and Ontario Street. Once Ontario Street veers away from the creek, there is no public walkway along the water. The Official Community Plan identified the Penticton Creek Trail as a pathway that should be a construction priority and future designs should incorporate this.

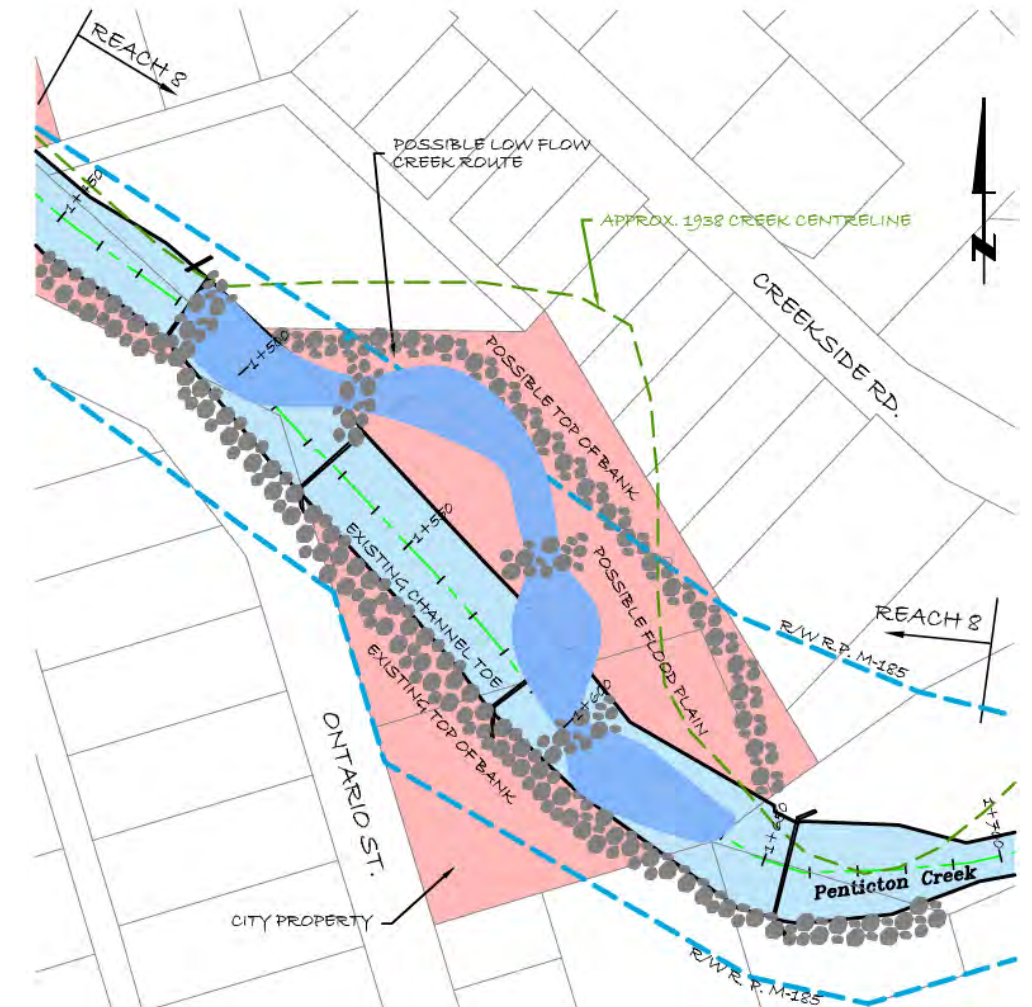
A number of plant communities, areas of archaeological potential, and an archaeological site were identified in the CHIM report. It is recommended that the site be reported and investigated, prior to any restoration work.

REACH 8

Proposed Revitalization

This reach is one of the few opportunities to create a wide floodplain, due to the land owned by the City of Penticton adjacent to the creek. A meandering low flow channel with preferred spawning depths and velocities could be created with enhanced features like woody debris and deep pools, to diversify the creek. The additional floodplain width will reduce water depths during spring freshet, making small spawning gravels more stable. The lower boundary with Reach 7 will likely be changed to accommodate the replacement of Structure #7. In addition, some work may be needed to increase bank heights on the right side of the reach, above the structure.

In order to make the reach fish passable, each structure will be replaced by a single riffle of approximately 8% slope that spans the entire width of the floodplain.



Plan view of an expanded floodplain and meandering low flow channel

The cost estimate for this reach does not include the installation of a public walkway along the creek, but this is an addition that should be considered when at the design stage. The City of Penticton's GIS mapping shows a proposed multi use trail along the west side of the creek.

REACH 9

Existing Condition

Length: 75 metres

Average Width: 8 metres

Average Slope: 2.8%

Existing Habitat Quality Rating: Mod-

Structure(s): #12 to #14

Reach 9 is a short and steep section of channel that has been repaired with riprapped banks by the City in the past. The structures in this reach have already failed and no longer have an impact on the water surface, although the concrete wingwalls still exist. The west side of the creek is bounded by a retaining wall for the parking areas of adjacent apartment buildings. On the east side, there are residence set slightly further back. The creek runs through private property for the entirety of this reach and within the M-185 Plan.

During the maximum daily and instantaneous flood flows, the slope and depth of water cause the size of the riprap to be unstable. There are no freeboard issues and no bridges in this reach.

Although most of Reach 9 has limited archaeological potential due to land altering impacts, the eastern portion of a Reach 8 remnant landform overlaps into this reach.



Looking upstream at Reach 9



A failed concrete structure in Reach 9

REACH 9

Proposed Revitalization

Due to the migration issues downstream of Reach 9, it is suggested that any upper restoration focus on flood infrastructure issues. As projects are completed that allow fish to travel to Reach 8 and the Master Plan is updated, future conceptual designs could be developed for Reaches 9 to 13. Any work done to remove concrete and replace structures in the meantime will be completed with fish migration in mind.

The restoration of Reach 9 will address the flood deficiencies by stabilizing the riprap and creating riffle and pool sequences to overcome the large elevation change. In addition, it is proposed that Reach 9 be widened to shift from a narrow channel to the broader floodplain of Reach 8. This will create an energy transition to ensure that a center torrent from Reach 9 will not destroy the works below.

REACH 10

Existing Condition

Length: 240 metres

Average Width: 7 metres

Average Slope: 1.7%

Existing Habitat Quality Rating: Low-

Sub-Reaches: 10a & 10b

Structures: #15 to #17



Looking upstream from Forestbrook Drive bridge

Reach 10 is very similar to the conditions seen in Reaches 3 and 7. The channel is narrow and concrete lined, with very low quality fish habitat. The land use around this reach is mostly residential, with some City owned properties adjacent to the creek. As with Reaches 8 and 9, the north part of Reach 10 is lacking a pedestrian and cyclist trail. The paved trail picks up again south of Forestbrook Drive bridge, on the west side of the creek.

The walkway between Forestbrook Drive and Kensington Street appears to be a dike, but detailed survey was not picked up in this area. This should be investigated to ensure dike standards are met. There are no freeboard issues in this Reach; however, the concrete lining is deteriorating with many visible holes. The existing clearance under Forestbrook Drive bridge meets the adopted guideline.

A remnant landform was identified as an area of archaeological potential to the south of Forestbrook Drive bridge on the western bank of the creek.



A concrete lining hole with visible mesh

REACH 10

Proposed Revitalization

The concrete in this reach will be removed and it is proposed to use the Showcase Restoration design. The riffles and pools will provide a fish passable reach, with increased habitat quality for fish. There is limited potential to retain pockets of gravel, as in the original Showcase project. Due to the narrow corridor, it is unlikely that additional features could be built in Reach 10.

It is proposed that there will be no change under Forestbrook Drive bridge and the concrete liner will remain. However, it should be inspected at the time of work.

Each structure will be replaced with two to three riffles.



Proposed riffle and pool design for Reach 10

REACH 11

Existing Condition

Length: 800 metres

Average Width: 16.5 metres

Average Slope: 0.8%

Existing Habitat Quality Rating: Low+

Sub-Reaches: 11a, 11b, 11c & 11d

Structures: #18 to #36

Reach 11 has eighteen structures, which is nearly half of the total number of structures on the creek. Some of these structures have already failed and have no impact on the water surface. The concrete crest has been removed for several, while the crest is still visible for others. In some cases, the concrete aprons of the structures have failed and the City has repair them with riprap aprons. Home owners along the creek reported noticing deterioration of a couple structures in the last five years.

There is a lack of freeboard at the crest of five different structures, and a lack of clearance under the McNicoll pedestrian bridge. In addition, the size of the rock lining the banks is unstable at flood flows.

The land use in this reach is mostly residential on the north side, with a large amount of City owned land on the south side. The paved path on the west side continues throughout the entirety of this reach and is well used by residents, visitors, and students in the area.

Numerous cultural heritage features were identified in this area, mostly along the south side of the creek. These include “discreet areas retaining archaeological potential, vesicular basalt, fish spawning gravels, well established vegetation throughout with a significant establishment of Thule and one fairly large area of kinnikinnick.” (4 Seasons Heritage Consulting & PIB, 2016).



Looking upstream from the McNicoll pedestrian bridge



View of McNicoll pedestrian bridge and Structure #26 from downstream

REACH 11

Proposed Revitalization

The main restoration of Reach 11 will be to remove the concrete and wood crib structures and wing walls and replace them with single or multiple riffles, depending on the height of the structure. This will address the freeboard deficiencies.

McNicoll pedestrian bridge is located just above Structure #26, as seen in the photo to the left. One proposed option is that the structure be replaced with a riffle and moved upstream, to increase the area under the bridge to gain adequate clearance. Several other design options were discussed and further investigation will be needed during the detailed design phase.

In the future, there is opportunity to expand the floodplain on the south side of this reach, and to incorporate meanders or side channels to create a high level of rearing diversity. It appears that some areas on the south side may at a lower elevation than the path. Investigation should be done to determine if this should be considered a dike and upgraded to dike standards.

REACH 12

Existing Condition

Length: 400 metres

Average Width: 20 metres

Average Slope: 0.8%

Existing Habitat Quality Rating: Low+

Sub-Reaches: 12a & 12b

Structures: #37 to #39



View of a structure, looking upstream

Reach 12 is a very wide, more natural section of the creek. There is some braiding and catchment of cobble deposition from upstream.



Water flowing under the concrete apron of Structure #36

Reach 12 is bounded by private property and City owned property on the north side, and Penticton Avenue on the south side. Near the top of the reach, the banks on the north side are quite steep and create a pinchpoint.

Reach 12 has three very large structures that are visibly failing and deterioration was seen during the preparation of the Master Plan. In addition, there is a lack of freeboard on the outside corner of the creek, near the pinchpoint of Penticton Avenue. This is on the border of Reaches 12 and 13, where there is currently a log boom.

There were three significant plant communities identified, as well as numerous trails on the north bank that have continued use by community members. A Fortis pipeline also exists in this area and future design will need to take these into consideration.

REACH 12

Proposed Revitalization

It is proposed that each of the three large concrete structures will be replaced with a single riffle with a slope of 8%, which will be quite long due to the height of the structures (over 2 metres tall).

At the upper end of Reach 12, creek improvements, such as widening, are needed increase the freeboard available. This area is currently quite confined, due to the proximity to Penticton Avenue on the south side and steep banks to the north side.

Once restoration projects have been completed and barriers to fish migration no longer exist, there is the potential to create a wide floodplain in Reach 12. This would reduce water depths during flood flows, stabilizing spawning gravels so they would not need artificial augmentation. A meandering channel, or side channel could be created. Conceptual designs were not developed in detail as the current fish populations cannot access Reach 12. However, this is an option that could be explored in future updates to the Master Plan.

REACH 13

Existing Condition

Length: 1180 metres

Average Width: 9 metres

Average Slope: 3.0%

Existing Habitat Quality Rating: Mod-

Sub-Reaches: 13a, 13b & 13c

Reach 13 has no structures and has a consistently steep slope with a natural bottom and banks. The reach is lined with Penticton Avenue to the south and mostly residential areas to the north. The walkway along the south side continues past the end of Penticton Avenue, beside the water treatment plant, and ends around 80 metres downstream of Penticton Dam #2.

The natural rock in this area is too small to be stable at flood flows. Evidence of downgrading can be seen in areas where concrete was poured and is now not supported by the soils. The lack of freeboard discussed in Reach 12 continues into the lower part of Reach 13, along the outside corner. There are also two additional locations lacking bank



Evidence of Creek Downgrading Below Penticton Dam #2

freeboard. There is a lack of clearance at both the Bridgewater pedestrian bridge to the new development on the north side of the creek, and the Penticton Avenue bridge.

Many cultural heritage values were found in this reach, despite land altering activities. A wetland, well established petroform (swimming hole), a blazed cottonwood tree, large boulder, trail marker tree and large pine were identified in this area. These items should be avoided during restoration activities.



Looking upstream at Reach 13

REACH 13

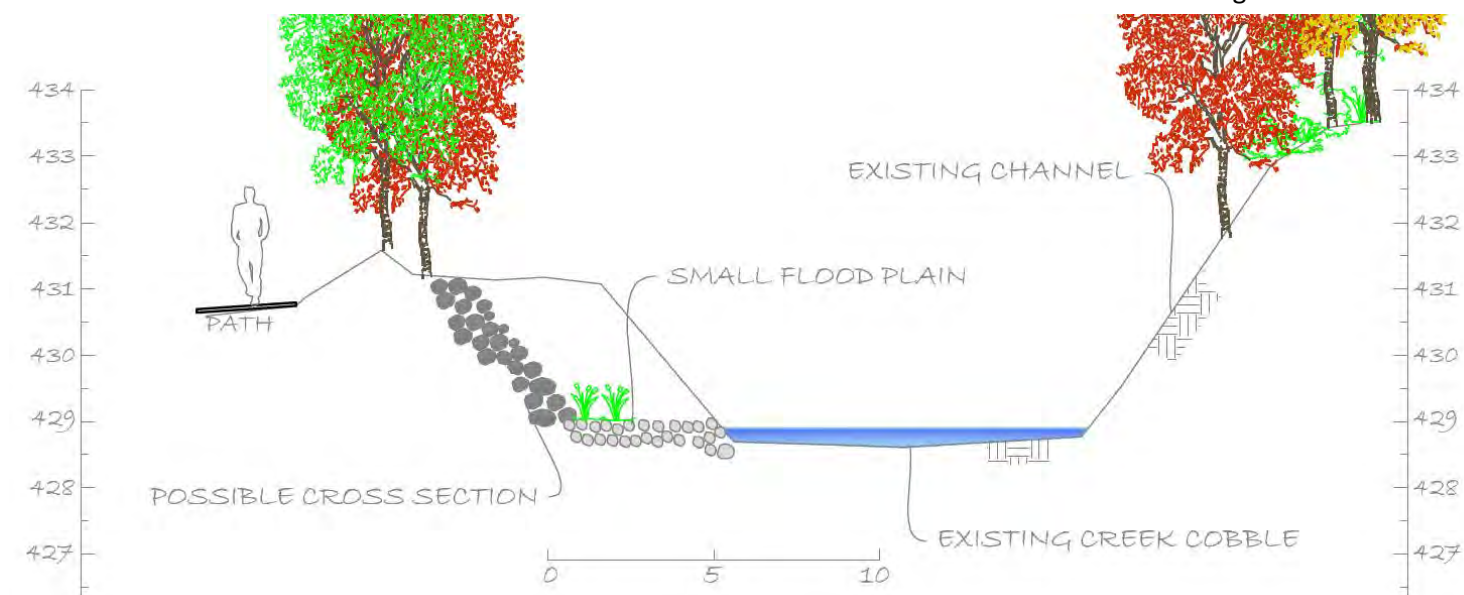
Proposed Revitalization

As discussed in Reach 12, widening should be undertaken at the Penticton Avenue corner to increase freeboard and prevent flooding. Additional areas lacking freeboard were found and should be addressed by increasing bank heights.

In order to create a stable channel lining, a widened floodplain is proposed for the south side of the creek. This widening will not affect the original channel bottom. Where widening is not possible due to the proximity of the path or road, larger riprap will be placed to ensure the channel is stable. Small riffles can also be added to stabilize the rock. It is expected that large river rock will be found when working on this reach, which is a valuable resource that can be used in flatter reaches where the stable rock size is smaller.

The cross-sectional area under both bridges will need to be increased to address the clearance issues. For the Bridgewater pedestrian bridge, channel improvements include widening or deepening under the bridge. There is room for channel modifications under the Penticton Avenue bridge as the headwalls are considerably wider than the creek.

As noted with the other upper reaches, restoration work for fisheries in Reach 13 will be most beneficial once migration barriers are addressed.



Proposed floodplain widening on the south side of the creek

PROJECT PRIORITY LIST

The prioritization of projects was completed, according to flooding and fisheries criteria. The individual lists were then grouped into five priority categories. This allows for some flexibility in selecting projects, due to land use issues, funding availability, conflict with cultural and heritage areas of archaeological potential, or continuity with other projects.

The **flood priorities list** was originally created using the following guiding principles:

1. In an emergency, failing infrastructure and bank erosion is more difficult to fix than localized lack of freeboard or woody debris blockages. Bridges and traffic flow are also very important, specifically bridges that represent the only entrance/exit for an area. Therefore, flood priorities are ordered as follows:
 - ◆ Drop structure failure
 - ◆ Lack of bridge clearance
 - ◆ Lining failure
 - ◆ Lack of bank freeboard
2. Perception, as public want to know their life and property are protected by flood infrastructure that is being maintained.
3. Continuity between projects.
4. River rock requirements, as it is becoming a valuable resource needed for restoration.

Table 6 shows the latest flood priority list, which was updated following the 2017 Spring Erosion & Deposition inspection. The changes made are a result of increased weighting for damage caused by smaller, more frequent events (i.e. 1:10 to 1:20 year events), rather than heavily weighted to a large 1:200 year event. The Master Plan is an active document, and priorities will change as flood events occur.

The documents considered to create the **fisheries priority list** were:

- ◆ *Quantitative benchmarks to inform Penticton Creek restoration priorities* (Askey, 2016); and
- ◆ *Penticton Creek Fish and Riparian Habitat Assessment and Preliminary Restoration Findings* (Matthews, 2016).

In addition, the fisheries representatives from the Committee have provided the guiding principles for the fisheries prioritization, as seen in Annex E. In general, fisheries input recommends that reaches be restored in a bottom-to-top order, rather than restoring upper reaches that fish

may not be able to migrate to for some time. As projects are completed and fisheries response data is collected, the priority list (Table 6) will likely change, to adapt to population bottlenecks that may occur.

Table 6: Flood and Fisheries Prioritization (updated Nov. 2017)

Priority	Flood Priorities	Fisheries Priorities
1	Reach 3b* Reach 4 + 5 Reach 3a Reach 13a	Reach 2b Reach 2a Reach 3b*
2	Reach 11c Reach 11d Reach 12a Reach 12b	Reach 3a Reach 1** Reach 4 + 5
3	Reach 6* Reach 7* Reach 11b Reach 11a	Reach 6* Reach 7* Reach 8 Reach 9 + 10a Reach 10b
4	Reach 9 + 10a Reach 8 Reach 13c Reach 10b	Reach 11a Reach 11b Reach 11c Reach 11d
5	Reach 13b Reach 2b Reach 2a Reach 1	Reach 12a Reach 12b Reach 13a Reach 13b Reach 13c

* These reaches indicate where flood and fisheries priorities align.
 ** The relatively high fisheries prioritization of Reach 1 in the table is based on a specific restoration option (expanded floodplain), which significantly increases the available Kokanee spawning habitat from the current state. However, the reach is currently passable to fish, has limited potential value to Rainbow Trout, and thus other restoration options completed upstream could diminish the relative value of Kokanee spawning habitat in this reach (details in Askey, 2016).

PRELIMINARY COST ESTIMATES

Preliminary Class C cost estimates were prepared for each reach of the creek. The Association of Professional Engineers and Geoscientists of BC (APEGBC) and Consulting Engineers of BC (CEBC) state that Class C cost estimates are “prepared with limited site information and based on probable conditions affecting the project.” The Class C estimate is to be prepared within 25% to 40% of the final cost and is “used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval.” (CEBC & APEGBC, 2009)

The estimates include:

- ◆ Construction;
- ◆ Environmental monitoring;
- ◆ Cultural & heritage monitoring;
- ◆ Engineering;
- ◆ Administration;
- ◆ Construction management; and
- ◆ Contingencies

For Reaches 1, 2a and 2b, a single option was selected in order to present a cost estimate. The option selected for estimation in each reach was the more extensive and costly of the options. The cost estimates for all subreaches are presented in 2016 dollars in Table 7 on the next page.

The estimates do not include costs related to transition lengths, that may vary due to sequencing of reach improvements. In many cases, there is an impact on hydraulics, aesthetics and cost when an upstream reach is revitalized before a lower reach. Other exclusions from the cost estimates include land purchases/easements and creating additional paths/crossings, as recommended in the City of Penticton’s Official Community Plan and Downtown Plan.

The site surveys and drawings in this report, which the cost estimates are based on, are conceptual in nature and not intended to be used for construction. The breakdown of each cost estimate can be found in Annex G.

Table 7: Summary of Preliminary Cost Estimates (in 2016 dollars)

Reach	Preliminary Cost Estimate
Reach 1 (Expanded Floodplain Option)	\$2,200,000
Reach 2a (Urban Option)	\$2,300,000
Reach 2b (Urban Option)	\$2,350,000
Reach 3a Lower	\$630,000
Reach 3a Upper	\$1,350,000
Reach 3b	\$2,000,000
Reach 4	\$250,000
Reach 5	\$1,650,000
Reach 6	\$700,000
Reach 7	\$1,450,000
Reach 8	\$1,950,000
Reach 9	\$750,000
Reach 10a	\$850,000
Reach 10b	\$1,300,000
Reach 11a	\$850,000
Reach 11b	\$1,500,000
Reach 11c	\$1,800,000
Reach 11d	\$1,800,000
Reach 12a	\$950,000
Reach 12b	\$600,000
Reach 13a	\$550,000
Reach 13b	\$650,000
Reach 13a	\$550,000
TOTAL	\$28,980,000

FUNDING STRATEGY

Costs for each reach of Penticton Creek have been estimated, with the Committee, advisors and consultants assessing and determining priorities for infrastructure risk and fisheries benefits. A separate Implementation Strategy is intended to provide a detailed plan that explicitly outlines the timeline, cost, and funding sources for each of the prioritized reaches to be restored, and contingency funds for any emergency works required in between proactive projects. The costs of restoring the failing infrastructure and improving fisheries values within Penticton Creek are too large for a single agency or source of funding so a program of diverse funding options needs to be sought.

Penticton Creek provides significant ecological services to the City of Penticton. In recognition of this, the City will incorporate the role the creek plays in receiving and safely conducting storm flows through the community as it finalizes an update of the Storm Water Master Plan. The City is also engaging a consultant in 2017 to create a Storm Water Utility Rate Structure to charge for the provision of Storm Water services. The City will examine the possibility of adding a portion of Penticton Creek restoration costs into the rate structure as part of the project.

The City also recently unveiled a Capital Asset Management Study outlining an infrastructure deficit of up to \$175 Million dollars. This reflects the value of infrastructure that has passed its expected useful life, but is still providing service to the community. The concrete flood protection works in Penticton Creek was not considered part of the infrastructure assessed within this study. It is difficult to consider the creek as an asset within the context of regular infrastructure that includes for example, roads, pipes and buildings. However in the future, staff will look at amending the Asset Management Investment Plan to create a new category of asset, “natural features” that will include creeks and waterfront/foreshore and other important ecosystems that provide ecological services to the community. Recognition of the importance and function of Penticton Creek in these documents will allow the City of Penticton to consider Penticton Creek restoration needs when budgeting in the future.

The City of Penticton and supportive partner organizations will undertake the following fundraising activities to meet the goals of each of the priority areas over the life of the project:

- Outside grant and Foundation Funds:** The City of Penticton will take advantage of any provincial/federal funding available, and will write grants directly, and partner with stewardship and non-profit organizations, to access private and government foundations and granting bodies for fisheries habitat restoration and flood protection, emergency management and infrastructure works.
- Reserve Establishment and Contributions:** The City of Penticton could establish a Reserve to retain all the funds for Penticton Creek that are garnered from various sources. Then, the City of Penticton could create an annual reserve contribution for Penticton Creek restoration and maintenance that would provide an anchor source of funding with which to address emergency works, and leverage outside funds and grants. This is a recommendation the Committee will make to Council.
- Public Donations:** This project is important to the citizens of Penticton. Establishing an endowment fund for Penticton Creek restoration would allow for private donations and private sector sponsorships. The City of Penticton is able to establish an endowment itself, partner with a local conservation group, or work with a community foundation. Municipalities can accept donations from the public through traditional financial contributions, as well as through estate planning in the form of publicly traded securities, estate gifts, and life insurance benefits. The City of Penticton or partner organization can provide individuals and private companies charitable tax receipts for donations.
- South Okanagan Conservation Fund:** The City of Penticton is a participating local government in this regional fund established in December of 2016 to undertake “activities, projects and works that will include water, environment, wildlife, land, habitat conservation efforts to protect natural areas within the participating areas of the RDOS”. The conservation fund will redistribute requisitioned dollars through an application-based process. The first application intake is planned for September 2017.
- Property Tax Incentives:** The Community Charter allows municipalities to provide tax incentives or exemptions for landowners who steward, conserve or donate land, or an eligible interest or right in land that is ecologically important. The Committee recommends that the City of Penticton explore options for tax incentive programs and additional conservation and stewardship tools that would enable and encourage landowners to maintain the natural value of creek and riparian habitat.

RECOMMENDATIONS

The Committee has efficiently utilized funds available to accomplish as much as possible. However, during the process of developing the Penticton Creek Master Plan, several items have been identified regarding the planning and future construction aspects that require additional attention.

Planning:

1. It is recommended that an Implementation Strategy be developed, to determine the timeline and funding sources for each restoration reach, as well as identify the source of contingency funds for emergency works required between projects.
2. While the Official Community Plan and Downtown Plan have been considered during preparation of the Master Plan, additional creek crossings and linear pathways mentioned in these documents have not been incorporated. If these features are still desired and the costs not incorporated elsewhere, consideration should be given to adding them to the Master Plan.
3. For future planning, cost estimating and design purposes, it would be useful to complete additional topographic surveying to establish a practical boundary defining past flood works (berms, etc.), within the M-178/185/195 Plan, where the City has authority to use the land for changes along the creek.
4. Future development approvals should restrict building within Registered Plans M-178/185/195 or any other flood easements. A riparian buffer zone should also be considered for developing properties adjacent to the creek.
5. The City of Penticton should plan to secure key properties along the creek for future restoration purposes.
6. The Cultural and Heritage Inventory Mapping report recommends applying for an annual Heritage Conservation Act blanket permit, as well as testing of landforms to determine their archaeological potential prior to revitalization activities.
7. Establishing the Environmental Flow Needs for the creek and creating low and seasonal flow management strategies would be beneficial for the fisheries and habitat design aspects.
8. A vegetation and debris/ice management program needs to be developed to minimize flooding risks related to bridge clearances, creek freeboard and channel flood capacity, while respecting the benefits of vegetation in and around the creek. This could include a high flow management strategy.
9. It is recommended that the drop structures be labelled in the field, so that they can be referenced with the Master Plan and identified when conducting inspections.
10. Before the revitalization design of Reaches 1 and 2 can begin, additional study is needed in order to select a final plan that can be developed into construction drawings. The Master Plan currently outlines two options for each reach.
11. Guidelines should be developed to direct the addition and removal of spawning gravel throughout the creek. The document should include which flow events would trigger the augmentation of gravel and the methods and locations where these deposits should be removed.
12. Erosion and degradation of the Penticton Creek infrastructure will be impacted the greatest by large freshet events or freezing temperatures that break up the concrete lining and drop structures. Therefore, thorough inspections and a review of priorities are recommended following freshets greater than 20 cms and temperatures lower than -15°C.
13. Applying for a water license on Penticton Creek to cover the revitalization works outlined in the Master Plan would be beneficial and address the requirement for multiple approval applications for Section 11 of the Water Sustainability Act (Changes In and About a Stream).
14. It is recommended that the Master Plan be updated on a 10-year interval.
15. It is recommended that a fisheries monitoring program be implemented to collect data regarding fish habitat suitability, quantify numbers and migration limits. Additional information is needed to better understand the limiting factors of fish production and monitor how this changes as creek improvements are made.
16. It is recommended that Penticton Creek's role in conveying storm water through the city be recognized in an update of the Storm Water Master Plan, with a portion of the restoration costs included in the rate structure of the plan.
17. It is recommended that a "natural features" asset category be incorporated into the Capital Asset Management Investment Plan to allow the City to consider Penticton Creek restoration needs when budgeting in the future. Consideration could also be given to supporting costs from the Parks' DCC program, as mentioned in the Downtown Plan.
18. The City of Penticton and supportive partner organizations should undertake fundraising activities to meet the goals of the Master Plan, including: writing grant applications; establishing a reserve to contribute and retain funds; establishing an endowment fund for public donations and sponsorships; applying to the South Okanagan Conservation Fund; and providing property tax incentives for landowners.
19. It is recommended that the City of Penticton engage in public consultation to provide City Council, Penticton Indian Band and related organizations, and residents with information regarding the Master Plan as well as the priority of upcoming projects.

Construction:

1. The PCRI Committee has selected Lower Reach 3A as the priority project for 2018. Landowner discussions, site survey and design details were completed in 2017 and the PCRI Committee is working on obtaining final provincial approvals.
2. It is recommended that the City purchase the creek diversion pipe as it is costly and common to the majority of projects. Pipe of this size and type is not typically available to the contractors within the 'Notice to Proceed' time frame allotted and as a result, creates an immediate project delay.
3. Drop structure replacement projects in wider sections of the creek utilize a temporary bailey bridge to accommodate construction, which the City may also consider purchasing.
4. Large river rock is becoming harder to find and therefore a valuable resource. It would be cost effective to source, and perhaps stockpile, river rock closer to site during slower construction seasons.
5. Due to the short instream work window and high cost of construction delays, it is recommended that a strategy be developed to address the possibility of funding items of Cultural and Heritage value.
6. Projects will vary in size, but it is recommended that a minimum of 12 months be allotted for the land owner notifications, detailed survey, design, review, approvals, and construction tendering process. This would also help address riparian and nesting issues.



REFERENCES

- 4 Seasons Heritage Consulting & Penticton Indian Band (PIB) (2016). *Letter Report: Results of the Penticton Indian Band and 4 Seasons Heritage Consulting, Cultural Heritage Inventory Mapping (CHIM) of Penticton Creek, July 27 – 29, 2016.*
- Askey, P. (2016). *Quantitative benchmarks to inform Penticton Creek restoration priorities (A document prepared for the Penticton Creek Restoration Committee).*
- Bell, M.C. (1990). *Fisheries Handbook of Engineering Requirements and Biological Criteria.* US Army Corps of Engineers, North Pacific Division.
- Bovee, K.D. (1978). *Probability of Use Criteria for the Family Salmonidae.* Instream Flow Information Paper No. 4. US Fish and Wildlife Service.
- British Columbia Ministry of Water, Land and Air Protection, Flood Hazard Management Section, Environmental Protection Division (2003). *Dike design and construction guide: Best Management Practices for British Columbia.* Retrieved from: http://www.env.gov.bc.ca/wsd/public_safety/flood/pdfs_word/dike_des_cons_guide_july-2011.pdf
- Consulting Engineers of British Columbia (CEBC) & Association of Professional Engineers and Geoscientists of BC (APEGBC) (2009). *Budget Guidelines for Consulting Engineering Services.* Retrieved from: <https://www.apeg.bc.ca/getmedia/c31c2f50-83fe-4cc2-83a6-f3d9f81c6905/APEGBC-Budget-Guidelines-for-Consulting-Engineering-Services.pdf.aspx>
- City of Penticton (2002). *Official Community Plan Bylaw No. 2002-20.* Retrieved from: <http://www.penticton.ca/assets/City~Hall/Bylaws/Land~Use/Bylaw%202002-20-OCP-%20current%20to%20March%202014.pdf>
- City of Penticton (2012a). *Downtown Revitalization – 200 Block Nearly Complete.* Retrieved from: <http://www.penticton.ca/EN/main/community/vibrant-penticton/our-downtown.html>
- City of Penticton (2012b). *City of Penticton Downtown Plan.* Retrieved from: [http://www.penticton.ca/assets/Community/Documents/COP%20-%20Downtown%20Plan%20\(Proposed%20Document\)%20Reduced.pdf](http://www.penticton.ca/assets/Community/Documents/COP%20-%20Downtown%20Plan%20(Proposed%20Document)%20Reduced.pdf)
- City of Penticton (2015a). *Penticton Creek Showcase Project Complete.* Retrieved from: http://www.penticton.ca/EN/meta/city-news/news-archives/2015_Archives/penticton-creek-showcase-project-complete.html
- City of Penticton (2015b). *Downtown Revitalization | Penticton Creek.* Retrieved from: <http://www.penticton.ca/EN/main/community/vibrant-penticton/our-downtown/penticton-creek.html>
- City of Penticton (2017). *Shape Your City | Penticton Creek.* Retrieved from: <https://www.shapeyourcitypenticton.ca/penticton-creek>
- Edwards, E.A., Li, H. and Schreck, C.B. (1983). *Habitat Suitability Index Models: Longnose Dace.* US Fish and Wildlife Service.
- Hudson, G.H.E. (Photographer) (1908). *Fishing at Penticton Dam* [Digital Image]. Retrieved from: <http://www.oldphotos.ca/archivos/record.php?collectionID=2&recordID=1310246526>
- Long (Alex) K. and Rivard-Sirois, C. (2010). *Aquatic monitoring of the Okanagan River restoration initiative post construction 2009.* Okanagan Nation Alliance.
- Matthews, S. (2016). *Penticton Creek Fish and Riparian Habitat Assessment and Preliminary Restoration Findings (A Document Prepared for the Penticton Creek Restoration Committee).*
- Miller, James (2017). *Penticton Creek restoration is popular with public.* The Penticton Herald. Retrieved from: http://www.pentictonherald.ca/news/article_58b8d22e-a96a-11e7-b586-e79815d6e41a.html
- Ptolemy, R. (2016). *HSI Curves.* Personal Communication with Paul Askey. Excel file attached to email dated July 26, 2016. Rivers Biologist/Instream Flow Specialist, Fisheries and Aquatic Conservation Science Ecosystems Protection & Sustainability Branch, Ministry of Environment.
- Raleigh, R.F., Hickman, T., Solomon, R.C., and Nelson, P.C. (1984). *Habitat Suitability Information: Rainbow Trout.* US Fish and wildlife Service.
- Roed, M.A. & Fulton, R. (2011). *Okanagan Geology South.*
- Stocks, L. (Photographer) (1942). *Creek Flood, Penticton, B.C* [Digital Image]. Retrieved from: <http://www.oldphotos.ca/archivos/record.php?collectionID=2&recordID=811198168>
- Slaney, P.A. and Zaldokas, D. (1997). *Fish Habitat Rehabilitation Procedures.* BC Ministry of Environment, Lands and Parks. Vancouver.

TABLE OF ANNEXES

ANNEX A REACHES 1 – 3 CONCEPTUAL DESIGN OPTION

ANNEX B PCRI COMMITTEE ORGANIZATIONAL CHART

ANNEX C REACH DESCRIPTIONS

ANNEX D FISHERIES DESIGN TARGETS

ANNEX E GUIDING PRINCIPLES FOR FISHERIES ASPECTS

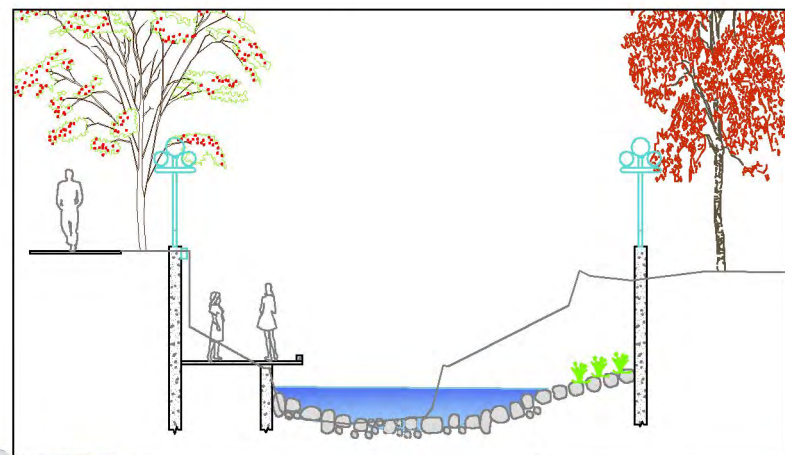
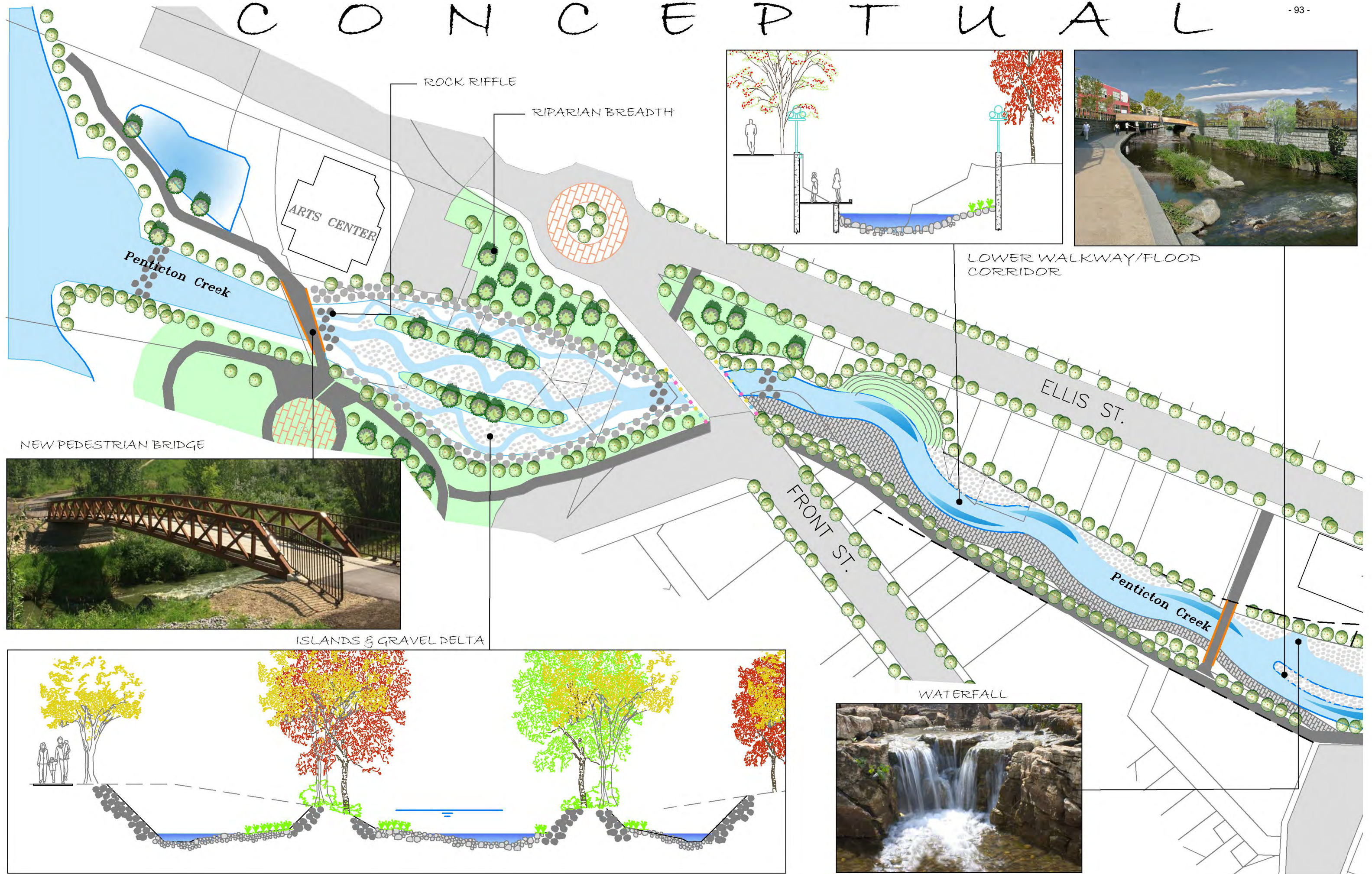
ANNEX F EXISTING INFRASTRUCTURE DEFICIENCIES AND RATIONALIZATION OF FLOOD PRIORITIZATION

ANNEX G DETAILED COST ESTIMATES

ANNEX H DRAWINGS

ANNEX A: REACHES 1 – 3 CONCEPTUAL DESIGN OPTION

C O N C E P T U A L



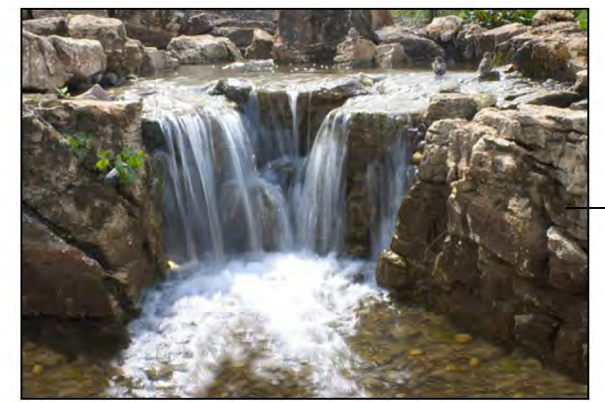
NEW PEDESTRIAN BRIDGE



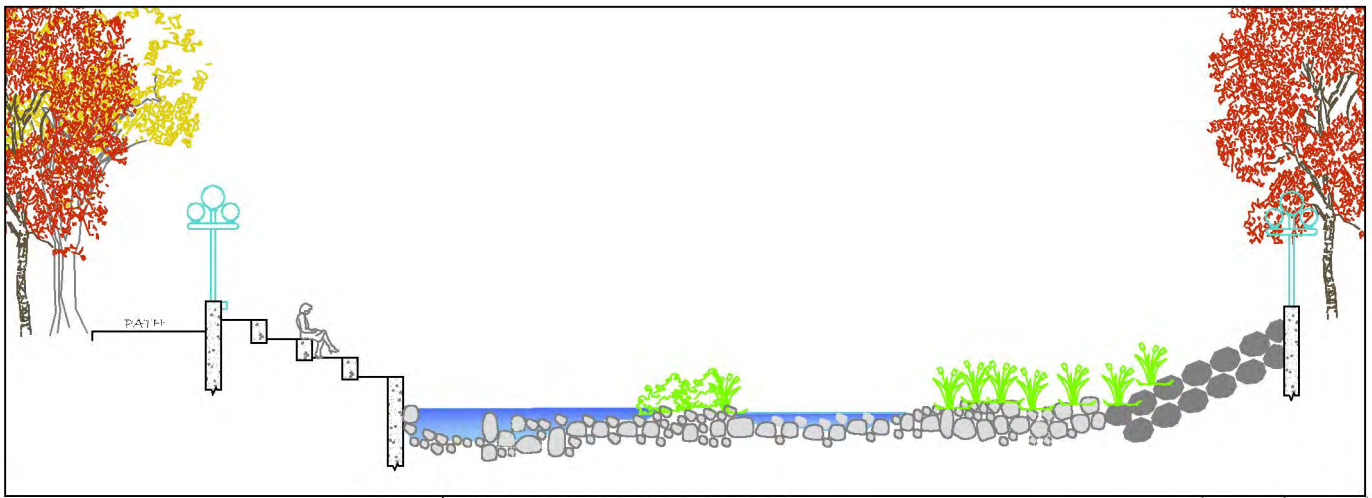
ISLANDS & GRAVEL DELTA



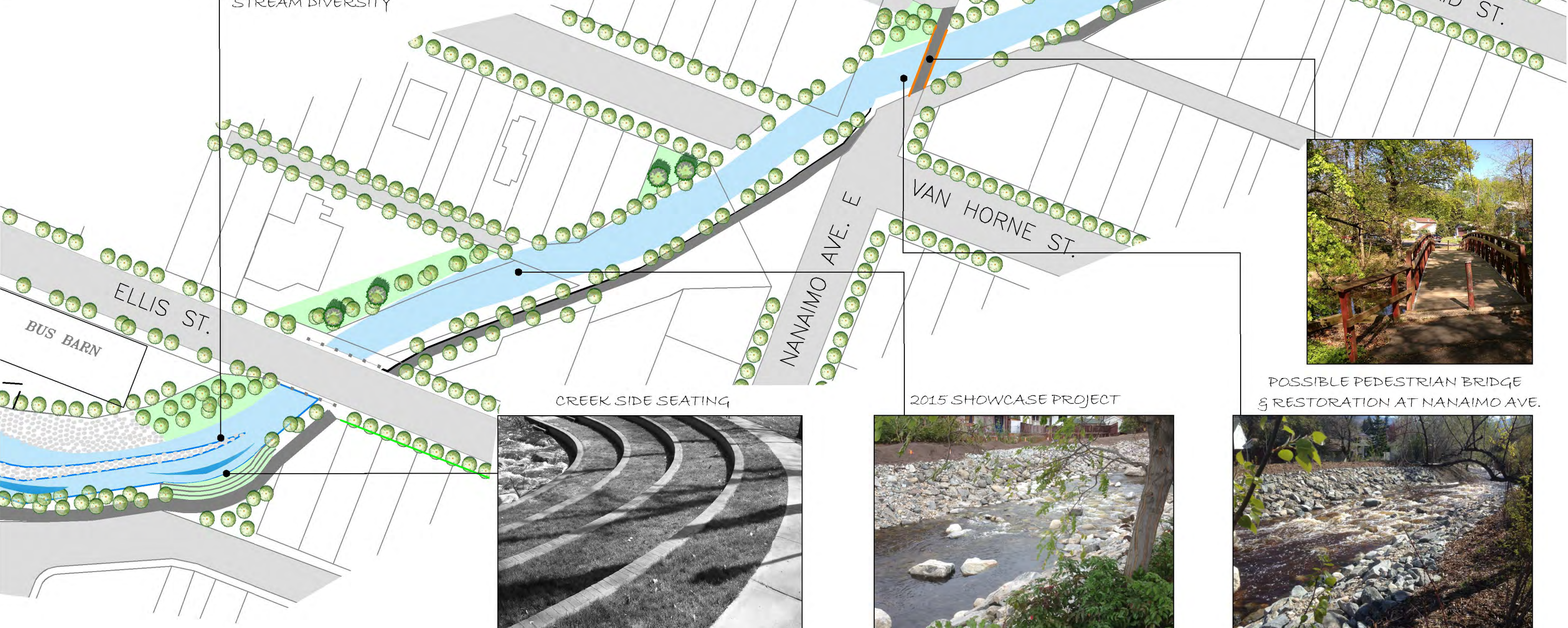
WATERFALL



DESIGN OPTION



STREAM DIVERSITY



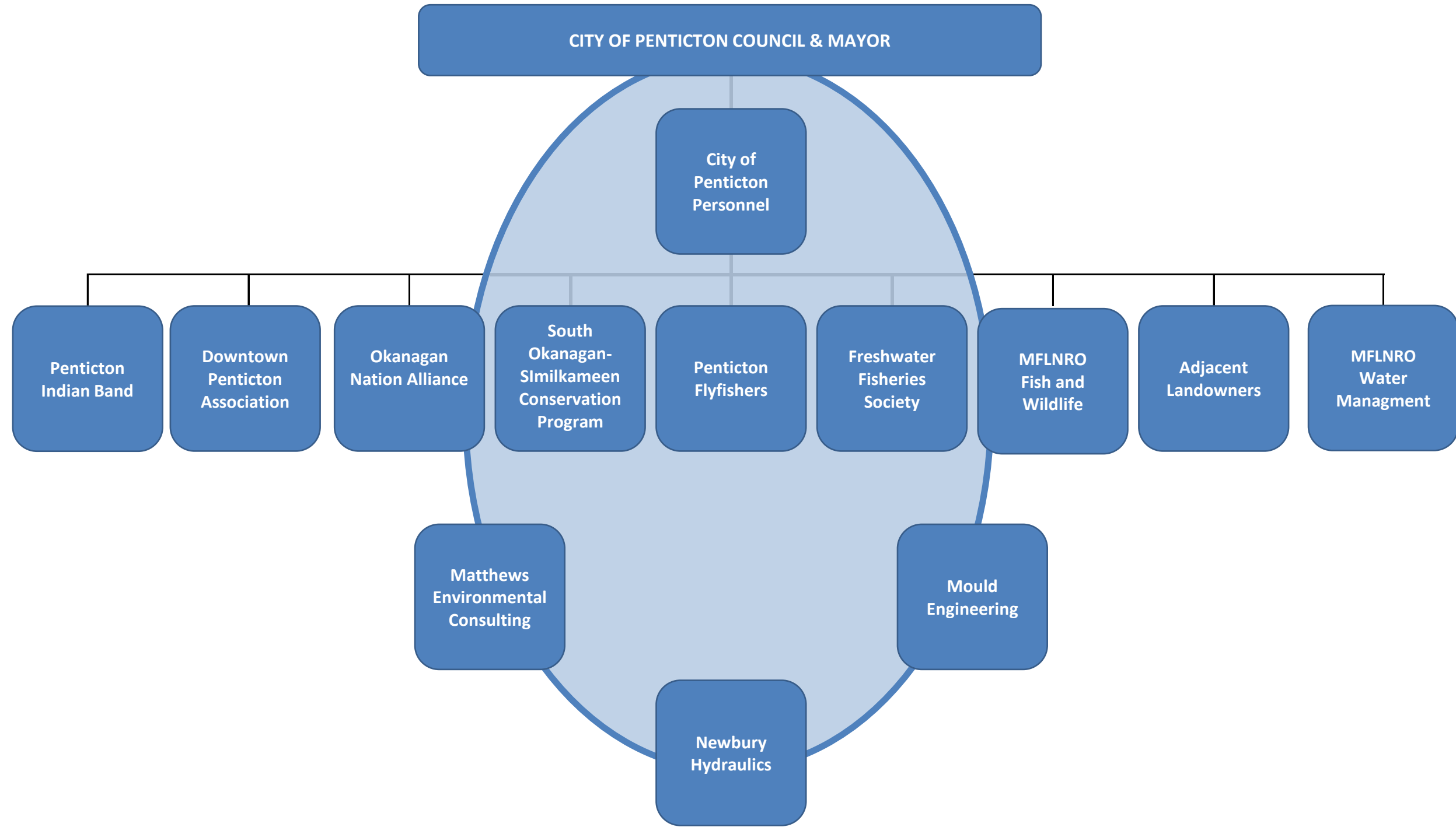
CREEK SIDE SEATING

2015 SHOWCASE PROJECT

POSSIBLE PEDESTRIAN BRIDGE & RESTORATION AT NANAIMO AVE.



ANNEX B: PCRI COMMITTEE ORGANIZATIONAL CHART



ANNEX C: REACH DESCRIPTIONS

Penticton Creek Reach Descriptions													
Section Number	Reach #	Sta. Start	Sta. End	Length (m)	Creek Channel Lining	Land Use		Typ. Water Surface Width* (m)	Entrenched Depth (m)		Channel Slope Between Structures	Vegetation Impact	Comments
						North	South		Min.	Max.			
1	1	0+080	0+070	150	Natural channel bottom, deposition area, riprap sides	Art Gallery	Park	11	1.8	2.6	0.0%	-Some grasses located below top of bank -Trees located along top of bank -No impact on water during low flow conditions	-Impacted by lake levels, high meets low velocity -Potential standing wave scenario -Very public -Deposition area, substrates are affected by lake
	2	0+070	0+420	350	Formed concrete channel, likely reinforced	Commercial/Urban	Commercial/Urban	6	2.2	3.1	0.7%	-Some trees/shrubs located in concrete channel, mostly along upper banks -Vegetation breaking up concrete -Generally no impact on water during low flow conditions	-Includes Structure #1 -Very structurally sound, no holes/cracks -Apron of shotcrete/asphalt, width: -Structurally formed, flatter slope
	3	0+420	0+875	455	Concrete w/reinforced grid	Residential	Residential	7	1.8	3.3	2.1%	-Shrubs and small trees located along edge of low flow -Vegetation restricting flow in various locations	-Includes Structure #2 -Includes Showcase section
	4	0+875	0+950	75	Natural channel	Road	Road	14.5	1.2	3.9	0.4%	-Some small trees located within low flow -Grasses and larger trees located below top of bank provide stabilization	
	5	0+950	1+060	110	Concrete w/reinforced grid	Road	Road	10.5	3.9	5.6	3.3%	-Trees located below top of bank, no impact on low flow -Vegetation breaking up concrete	-Includes Structure #3
	6	1+060	1+250	190	Natural channel	Road	Road	12	1.4	3.1	0.8%	-Few small trees and shrubs located within low flow -Grasses and larger trees located below top of bank provide stabilization	-Includes Structures #4 and 5
	7	1+250	1+420	170	Concrete w/reinforced grid	Road	Road	7.5	1.3	5	1.9%	-Some shrubs and small trees located at edge of low flow, overhanging water -Larger trees located at top of bank, no impact at low flow	-Includes Structures #6 and 7 -No linear path along upper third of reach (east of KVR bridge)
	8	1+420	1+685	265	Natural bottom, sides lined from Structures #7 to #8	City Owned	City Owned	17.5	1.2	3.3	0.6%	-Some shrubs and trees located at edge of low flow, restricting flow -Small trees in creek flow, located on island around Sta. 1+625	-Includes Structures #8 - 11 -Most natural section, some braiding -Riffle #11 blown out -No linear path
	9	1+685	1+760	75	Rip rapped channel	Residential	Residential	8	1.8	3.4	2.8%	-Some shrubs located in riprap -Trees located above riprap banks -Vegetation has no impact on low flow	-Includes Structures #12 - 14 -No linear path
	10	1+760	2+000	240	Concrete w/reinforced grid	Residential	Residential	7	1.2	2.6	1.7%	-Some large trees located within concrete banks -Vegetation breaking up concrete	-Includes Structures #15 - 17 -No linear path along lower reach (west of Forestbrook)
2	11	2+000	2+800	800	Natural channel	Residential	Schools/City	16.5	1.6	3.1	0.8%	-Many shrubs and small trees located in and along edge of low flow -Vegetation restricting flow -Larger trees located below top of bank	-Includes Structures #18 - 36 -Backyards may be below dyke on south side
	12	2+800	3+200	400	Natural channel, some riprap	Landscape	Road	20	1.2	2.7	0.8%	-Many grasses and shrubs located in and along edge of low flow -Some trees located along edge of low flow -Vegetation restricting flow	-Includes Structures #37 - 39 -Most natural section (like Reach 8) -Some braiding, catchment of cobble deposition -Artificially narrowed floodplain
3	13	3+200	4+382	1180	Natural channel	Residential	Road/Treatment Plant	9	1.2	3.9	3.0%	-Trees located below top of bank -Shrubs located along edge of low flow, minimal restrictions	-Larger cobble than Section 9 -Also narrower and steeper

ANNEX D: FISHERIES DESIGN TARGETS

Species	Age	Depth (m)	Velocity (m/s)	Substrate*	Spawning Season	Habitat	Reference
Kokanee	spawning	0.07 – 0.22	0.09 – 0.38	gravel, small cobble<5 cm*	August - November	riffles	Bovee (1978)
		0.06 min.	0.15 – 0.91				Slaney (1997)
		0.09 – 0.54	0.15 – 0.78				Ptolemy (2016)
Rainbow Trout	spawning	0.20 – 1.50	0.35 – 0.91	coarse gravel cobble <10 cm	March - June	runs, riffles & persistent pools >1.5 m	Raleigh et al. (1984)
		0.18 min.	0.48 – 0.91	6 – 52 mm			Slaney (1997)
		0.22 – 0.87	0.28 – 1.04				Ptolemy (2016)
	adults	>1.50					Raleigh et al. (1984)
Longnose Dace	spawning	0.10 – 1.05	0.20 – 0.90	gravel, cobble & small rock	June – July	clean cobble, rock cover	Edwards et al. (1983)
		0.10 – 0.50	0.30 – 1.10				Ptolemy (2016)
Sockeye	spawning	0.15 – 0.30	0.20 – 0.80	coarse gravel, cobble*	August- November	riffles and runs	Long (2010)
		0.15 min.	0.21 – 1.07				Slaney (1997)
Fast-water Insects		0.08 – 1.50	0.35 – 1.52	gravel, cobble, boulder		pools, riffles, runs	Waters (1975)

* Slaney 1997 substrate size 13 – 102 mm not species specific (Bell 1990).

ANNEX E: GUIDING PRINCIPLES FOR FISHERIES ASPECTS

The guiding principles for selecting fisheries priorities and restoration design was compiled and provided by members of the PCRI Committee, representing Penticton Indian Band, Okanagan Nation Alliance, Freshwater Fisheries of BC, Penticton Flyfishers and Matthews Consulting:

- ◆ *The PCRI Committee will play the lead role in fish and riparian habitat restoration planning and implementation.*
- ◆ *Ecosystem based approach that focuses on needs of Rainbow Trout and Kokanee, but incorporates requirements of other aquatic and riparian species*
- ◆ *Restoration designs will utilize a diversity of natural features and materials to maximize habitat quality and complexity.*
- ◆ *Integrate the seasonal diversity of environmental flow needs (as opposed to simple minimum flow requirements) into fish habitat designs.*
- ◆ *Identify and prioritize all areas (of any size) where a broader vision of stream naturalization and ecosystem function could be met (channel widening, restoration of historical meanders, natural features – deep pools, alcoves, woody debris, etc.).*
- ◆ *In restricted areas, aim to maximize habitat values within flood protection constraints, recognizing any level of naturalization is a step forward and the cumulative effects from this approach are large.*
- ◆ *A science based prioritization of fisheries restoration is an iterative process that must examine quantitative benchmarks for life-stage specific habitat needs of the target species (depending on the current state of the stream).*
- ◆ *Effectiveness monitoring and adaptive management are key components of the long-term restoration process.*
- ◆ *Prioritization of near term projects must alleviate fish population bottlenecks (such as lower reach migration limitations), however, there must also be action to immediately protect upstream areas that achieve a longer-term vision as fish are able to move upstream.*
- ◆ *Aim to minimize restoration maintenance requirements (e.g. artificial side channels), but plan for potentially unavoidable, inherent maintenance (e.g. dams cutting off all natural gravel supply).*
- ◆ *Outreach and communications will be an integral component of future restoration planning to facilitate a higher level of awareness and support*

FISHERIES PRIORITIZATION

An initial fisheries prioritization list was created using a bottom-to-top approach. Using the fisheries design targets and guiding principles, some adjustments were made, as seen in the table below.

Priority	Fisheries Priorities
1	Reach 2b Reach 2a Reach 3b
2	Reach 3a Reach 1** Reach 4 + 5
3	Reach 6 Reach 7 Reach 8 Reach 9 + 10a Reach 10b
4	Reach 11a Reach 11b Reach 11c Reach 11d
5	Reach 12a Reach 12b Reach 13a Reach 13b Reach 13c

** The relatively high fisheries prioritization of Reach 1 in the table is based on a specific restoration option (expanded floodplain), which significantly increases the available Kokanee spawning habitat from the current state. However, the reach is currently passable to fish, has limited potential value to Rainbow Trout, and thus other restoration options completed upstream could diminish the relative value of Kokanee spawning habitat in this reach (details in Askey, 2016).

ANNEX F: EXISTING INFRASTRUCTURE DEFICIENCIES AND RATIONALIZATION OF FLOOD PRIORITIZATION

BRIDGE CLEARANCE

Table of Bridge Clearances at 48 cms

Sub-Reach	Bridge	Clearance to Bottom Girder (m)
1	Art Gallery Pedestrian Bridge	-0.2
2a	Front Street Bridge	0.4
2a	Ellis Street Pedestrian Bridge	0.9
3	Ellis Street Bridge	0.8
3a	Nanaimo Avenue Bridge	0.1
3b	Wade Avenue Bridge	1.6
7	KVR Pedestrian Bridge	2.7
7	Eckhardt Avenue Bridge	1.0
10b	Forestbrook Drive Bridge	0.9
11c	McNicoll School Pedestrian Bridge	0.1
13a	Bridgewater Pedestrian Bridge	0.5
13b	Penticton Avenue Bridge	-0.4

Note: Bridge clearances were analyzed using the maximum daily flow (48 cms) and the instantaneous flow (60 cms) and compared to the standard clearances of 0.6 metres and 0.3 metres respectively. The maximum daily flow (48 cms) governed for all bridges, and is shown in the table above.

BANK FREEBOARD

Table of Locations Lacking Bank Freeboard

Sub-Reach	Approximate Stations	Affected Side of the Creek	Description
1	0-015 to 0+55	Both	Area between Front Street bridge and the Art Gallery
2a	0+130 TO 0+210	Right	Area just upstream of Front Street
3a	0+540 to 0+580	Both	Area between Showcase and Nanaimo Avenue bridge
3a	Around 0+620	Left	Area just upstream of Nanaimo Avenue bridge
3b	Around 0+875	Both	Crest of Structure #2
7	Around 1+420	Right	Crest of Structure #7
8	1+525 to 1+590	Right	Crest and area downstream of Structure #10
11b	Around 2+270	Right	Crest of Structure #22
11c	Around 2+540	Both	Crest of Structure #28
11d	2+710 to 2+770	Left	Crest and area between Structures #33 to 35
12b/13a	3+060 to 3+240	Left	Area around the Penticton Avenue pinchpoint
13a	Around 3+425	Right	Area approx. 80 m upstream of Bridgewater pedestrian bridge
13a	Around 3+455	Left	Area approx. 110 m upstream of Bridgewater pedestrian bridge

Note: Bank freeboard was analyzed using the maximum daily flow (48 cms) and the instantaneous flow (60 cms) and compared to the standard freeboard of 0.6 metres and 0.3 metres respectively. The maximum daily flow (48 cms) governed for all banks, and is shown in the table above.

STRUCTURES

Each drop structure was rated according to their 'Potential to Fail' and 'Consequence of Failure.' These ratings were then used to find a structure risk rating.

Drop Structure Potential to Fail

Potential to Fail	Definition
Low	Quality concrete with no signs of surface defects. Structure is competent with no undermining, etc. Includes structures with no effect on water surface.
Moderate	Low to moderate signs of surface defects. Low potential for rock movement (riprap structure).
High	Portions of the structure have failed. Moderate potential for rock movement (riprap structure).
Very High	Large portions of the crest and apron are in the process of failing. High potential for rock movement (riprap structure).

Drop Structure Consequence of Failure

Consequence of Failure	Definition
None	Failure of structure will have no impact.
Low	Structure is below 1.0 metres in height and would produce minimal amount of bedload. Minimal bank erosion potential.
Moderate	Structure is 1. to 2.0 metres in height. Minimal/unstable adjacent bank protection, possible bank erosion.
High	Structure is greater than 2 metres in height. Bedload created by failure could be significant. Probable bank erosion.

Drop Structure Risk Rating

		Potential for Structural Failure			
		Low	Moderate	High	Very High
Consequence of Structural Failure	None	Low		Moderate	
	Low	Moderate		High	
	Moderate	High		Very High	
	High	Very High		Very High	

Table of Drop Structure Descriptions and Rating

Structure Number	Station	Notes	Marking on Wingwall	Height of Structure (m)	Length of Structure (m)	Potential for Structural Failure	Consequence of Failure	Risk
1	0+380	-Concrete sill and apron, no large concrete failure -Some concrete curbs placed on structure	N/A	1.1	16	Low	Moderate	Moderate
2	0+874	-Concrete apron and sill with concrete curbs at crest, concrete fish ladder (north) -Holes in apron along sill -Woody debris on structure	35	2.7	9	Very High	High	Very High
3	1+059	-High concrete structure with parking curbs at crest, concrete fish ladder (south side) -Holes visible in apron -Woody debris caught on structure and in fish ladder	34	2.3	6	High	High	Very High
4	1+137	-Concrete sill and apron with holes at crest, concrete fish ladder (north side) -Apron failed at toe of structure -Some woody debris -Hydraulic jump occurring at high flows	33	2.0	16	High	Moderate	High
5	1+204	-Steeper structure with concrete sill and apron, concrete fish ladder (south side) -Apron in decent condition, failed at toe	32	1.7	9	Moderate	Moderate	Moderate
6	1+307	-Concrete sill and apron, concrete fish ladder (south side) -Some holes in lining above structure -Apron failed at toe	31	1.9	17	Moderate	Moderate	Moderate
7	1+420	-Concrete sill and apron, concrete fish ladder (north side) -Apron failed at toe	30	1.6	10	Low	Moderate	Moderate

Structure Number	Station	Notes	Marking on Wingwall	Height of Structure (m)	Length of Structure (m)	Potential for Structural Failure	Consequence of Failure	Risk
8	1+481	-Concrete sill and apron, concrete fish ladder (south side) -Apron failed at toe -Cracks and holes visible halfway up the apron	29	2.0	13	Moderate	Moderate	Moderate
9	1+525	-Short structure, concrete sill and apron, concrete fish ladder (south side) -Apron failed at toe and sill	28	1.1	6	Moderate	Moderate	Moderate
10	1+586	-Concrete apron and sill, metal fish ladder (south side) -Apron failed at toe, concrete visually in poor condition	27	2.0	10	Moderate	Moderate	Moderate
11	1+655	-Concrete sill with broken concrete apron -Large sections of concrete resting below structure, creating drops -Rip-Rap along bank above structure	26	0.7	7	High	Low	Moderate
12	1+677	-Structure's failed weir no longer has an effect on water surface	25	No effect	0	Low	None	Low
13	1+711	-Structure's failed weir no longer has an effect on water surface	24	No effect	0	Low	None	Low
14	1+735	-Structure's failed weir no longer has an effect on water surface	23	No effect	0	Low	None	Low
15	1+770	-Smaller structure -Concrete apron in good condition	22	0.8	0	Low	Low	Low
16	1+810	-Longer structure with two smooth drops -Concrete apron in good condition, some hydraulic jump created at toe	21	1.4	13	Low	Moderate	Moderate
17	1+999	-Concrete sill and apron with toe drains, no obvious failures	20	1.2	9	Low	Moderate	Moderate
18	2+040	-Crest gone, replaced with river rock -Rock structure on north side failed, high velocity flow along the north bank	19	0.8	10	Very High	Moderate	High
19	2+086	-Crest with riprap apron, no undermining visible	18	0.9	6	Very High	Low	High
20	2+150	-Concrete sill and apron -Flow fairly calm above structure -Concrete visibly in decent condition	17	1.3	8	Moderate	Moderate	Moderate
21	2+215	-Concrete sill and apron -Wood deflector on far side -South side of apron failed, rip rap added	16	1.0	8	High	Moderate	High
22	2+257	-Wood crib stepped structure, large sections missing and apron gone -Multiple drops with long pool above structure	15	1.4	10	High	Moderate	High
23	2+333	-Wood crib stepped structure, half failed structure -Woody debris hung up on riprap, boil created on north side	14	1.2	9	High	Moderate	High
24	2+389	-Concrete sill and apron -Some apron failure, large hydraulic jump off apron itself -Creek narrows above and below structure -High wing wall on north side	13	1.1	4	Moderate	Moderate	Moderate
25	2+430	-Concrete sill and apron -Some apron failure on south side and at toe of structure	12	1.3	6	High	Moderate	High

Structure Number	Station	Notes	Marking on Wingwall	Height of Structure (m)	Length of Structure (m)	Potential for Structural Failure	Consequence of Failure	Risk
26	2+453	-Hole in apron on south side, bottom of apron eroded on north side -Landscape wall base failing on the north side under the pedestrian bridge	11	0.9	5	Moderate	Moderate	Moderate
27	2+502	-Concrete sill and apron -Some apron failure near top, bottom still fairly level -Slower approach velocity on south side	10	1.6	11	Low	Moderate	Moderate
28	2+540	-Concrete sill and apron -Apron has failed, bottom portion missing -Boil at the toe of structure	9	1.0	5	High	Low	Moderate
29	2+589	-South half of apron has failed, replaced with riprap -Apron levels out at bottom creating different tailwater, large hydraulic jump	8	1.1	7	Very High	Moderate	High
30	2+640	-Structure's failed weir no longer has an effect on water surface -North wingwall not visible	7	No effect	0	Low	None	Low
31	2+662	-Wood with rock backing -Lots of woody debris -Retaining structure instead of wingwall	N/A	1.8	8	Very High	Moderate	High
32	2+685	-Concrete sill with eroded apron -Wingwall not visible, path lowered between Str. 32 and 33 -Slightly wider, straight drop off structure	6	0.8	2	High	Low	Moderate
33	2+712	-Wood crib drop structure, about 10m upstream is concrete sill -Riprap apron, woody debris caught on apron -Retaining structure instead of wingwall	N/A	1.2	9	Very High	Moderate	High
34	2+723	-Structure's failed weir no longer has an effect on water surface -South wingwall is downstream of north wingwall -South properties behind dyke may be below high water levels	5	No effect	0	Low	None	Low
35	2+769	-Riprap apron-Calmer approach water-Less slope and potential for scouring-Retaining structure instead of wingwall	N/A	1.4	11	Very High	Moderate	High
36	2+784	-Structure's failed weir no longer has an effect on water surface	4	No effect	0	Low	None	Low
37	2+849	-Concrete sill and apron -Most bedload behind structure with longer pool above structure -Some apron failure, problems undermining at toe	3	2.2	12	High	High	Very High
38	2+935	-Concrete sill and apron -Potential for undermining at bottom of apron -Minimal concrete failure on south upper apron -Fines behind structure, more bedload than Str. #39 -Woody debris caught on structure	2	2.3	6	High	High	Very High
39	2+989	-Concrete sill and apron -Some material behind structure, not a lot of fines -Minor apron failure behind crest	1	2.1	4	High	High	Very High

REACH LINING

The lining of each reach was rated according to their 'Potential for Bank Erosion' and 'Consequence of Bank Erosion.' These ratings were then used to find a lining Risk rating.

Potential for Bank Erosion

Potential to Fail	Definition
Low	Bank well armoured with riprap/concrete with little signs of surface defects.
Moderate	Low to moderate signs of surface defects in concrete/rock bank protection. Cutoff walls in bank prevent erosion. Small hydraulic capacity to move material.
High	Portions of concrete/rock bank protection is missing. Portions of the bank will erode. Moderate hydraulic capacity to move material.
Very High	Large portions of the bank will erode. Inadequately sized bank protection. High hydraulic capacity to move material.

Consequence of Bank Erosion

Consequence of Failure	Definition
None	Failure of bank protection will have no impact.
Low	Failure of bank protection could result in minimal bank erosion.
Moderate	Failure of bank protection could result in bank erosion affecting adjacent property and deposition downstream.
High	Failure of bank protection could result in significant damage to adjacent properties and deposition downstream.

Lining Risk Rating

		Potential for Bank Erosion			
		Low	Moderate	High	Very High
Consequence of Bank Erosion	None	Low		Moderate	
	Low	Moderate		High	
	Moderate	High		Very High	
	High	Very High		Very High	

Table of Reach Ratings

Reach Number	Creek Channel Material	Potential for Bank Erosion	Consequence of Bank Erosion	Risk
1	Natural, sandy bottom	Moderate	Low	Moderate
2	Formed concrete channel, likely reinforced	Low	High	Moderate
3	Concrete w/reinforced grid and cutoff beams	Moderate	High	High
4	Natural channel material	Low	Low	Low
5	Concrete w/reinforced grid	Moderate	Moderate	Moderate
6	Natural channel material	Moderate	Low	Moderate
7	Concrete w/reinforced grid	Moderate	Moderate	Moderate

Reach Number	Creek Channel Material	Potential for Bank Erosion	Consequence of Bank Erosion	Risk
8	Natural bottom, sides lined from Structures #7 to #8	Low	Low	Low
9	Rip rapped channel	High	Moderate	High
10	Concrete w/reinforced grid	Low	High	Moderate
11	Natural channel material	Moderate	High	High
12	Natural channel material	Low	Low	Low
13	Natural channel material	High	Moderate	High

FLOOD PRIORITIZATION

Using the deficiencies from the bridge clearance and bank freeboard analysis, and the risk ratings from the structures and reach lining, the following flood infrastructure priority list was created. As stated in the report, the weightings for each category of infrastructure were developed with City of Penticton engineering staff and were used to create a preliminary list. Some adjustments were made for public perception, continuity between projects, and materials requirements.

1. Reach 3b (incl. Structure 2, Wade Avenue pedestrian bridge)

- ◆ Very tall, failing structure
- ◆ Large volume of bedload behind structure
- ◆ Failing concrete lining
- ◆ Lack of freeboard at structure crest

2. Reach 4 + 5 (incl. Structure 3)

- ◆ Very tall, failing structure
- ◆ Large volume of bedload behind structure
- ◆ Failing concrete lining

3. Reach 3a (incl. Nanaimo Avenue bridge)

- ◆ Lack of clearance under bridge
- ◆ Failing concrete lining
- ◆ Localized lack of freeboard

4. Reach 13a (incl. Bridgewater pedestrian bridge)

- ◆ Actively eroding outside corners (unstable rock lining)
- ◆ Important watermains along Penticton Ave
- ◆ Widening of creek could produce rock material for other reaches
- ◆ Localized lack of freeboard in some locations

5. Reach 11c (incl. Structures 26 to 29, McNicoll pedestrian bridge)

- ◆ Lack of clearance under bridge
- ◆ Failing riprap and concrete structures
- ◆ Potential for bank erosion (unstable rock lining)
- ◆ Localized lack of freeboard at some structure crests

6. Reach 11d (incl. Structures 30 to 36)

- ◆ Provides continuity from Reach 11c
- ◆ Failing riprap and concrete structures
- ◆ Potential for bank erosion (unstable rock lining)
- ◆ Localized lack of freeboard at some structure crests

7. Reach 12a (incl. Structures 37 to 39)

- ◆ Tall failing concrete structures
- ◆ Stable rock lining

8. Reach 12b

- ◆ Provides continuity from Reach 12a
- ◆ Potential for bank erosion (unstable rock lining)

9. Reach 6 (incl. Structures 4 and 5)

- ◆ Failing concrete structures
- ◆ Stable rock lining

10. Reach 7 (incl. Structures 6 and 7, Eckhardt Avenue bridge and KVR pedestrian bridge)

- ◆ Failing concrete lining
- ◆ Lack of freeboard at structure crest
- ◆ Provides continuity from Reach 6

11. Reach 11b (incl. Structures 21 to 25)

- ◆ Failing riprap and concrete structures
- ◆ Provides continuity with Reach 11a
- ◆ Potential for bank erosion (unstable rock lining)

12. Reach 11a (incl. Structures 18 to 20)

- ◆ Failing riprap and concrete structures
- ◆ Potential for bank erosion (unstable rock lining)

13. Reach 9 + 10a (incl. Structures 12 to 16)

- ◆ Potential for bank erosion (unstable rock lining)
- ◆ Failing concrete lining

14. Reach 8 (incl. Structures 8 to 11)

- ◆ Lack of freeboard at structure crest
- ◆ Stable rock lining

15. Reach 13c

- ◆ Potential for bank erosion (unstable rock lining)
- ◆ Widening of creek could produce rock material for other reaches

16. Reach 10b (incl. Structure 17 and Forestbrook Drive bridge)

- ◆ Failing concrete lining
- ◆ Failing apron at toe of Structure #17 is top end of concrete lining

17. Reach 13b (incl. Penticton Avenue bridge)

- ◆ Lack of clearance under stable bridge
- ◆ Not actively eroding banks, although some downgrading
- ◆ Widening of creek could produce rock material for other reaches

18. Reach 2b (incl. Structure 1, Ellis Street Bridge)

- ◆ Formed concrete lining deteriorating more slowly
- ◆ No freeboard issues
- ◆ No undermining at structure

19. Reach 2a (incl. Front Street bridge and Ellis Street pedestrian bridge)

- ◆ Formed concrete lining deteriorating more slowly
- ◆ Lack of clearance under bridge

20. Reach 1 (incl. Art Gallery bridge)

- ◆ Lack of clearance under bridge
- ◆ Few areas of localized lack of freeboard
- ◆ Stable rock lining
- ◆ No structures

ANNEX G: DETAILED COST ESTIMATES

Reach 1

Construction Subtotal	\$ 1,430,000
Environmental Subtotal	\$ 40,000
Cultural & Heritage Subtotal	\$ 20,000
Engineering, Admin. & Project Mgmt.	\$ 490,000
Contingencies	\$ 220,000
	\$ 2,200,000

Reach 3a – Upper

Construction Subtotal	\$ 820,000
Environmental Subtotal	\$ 30,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 310,000
Contingencies	\$ 160,000
	\$ 1,350,000

Reach 6

Construction Subtotal	\$ 360,000
Environmental Subtotal	\$ 20,000
Cultural & Heritage Subtotal	\$ 20,000
Engineering, Admin. & Project Mgmt.	\$ 200,000
Contingencies	\$ 100,000
	\$ 700,000

Reach 2a

Construction Subtotal	\$ 1,490,000
Environmental Subtotal	\$ 40,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 510,000
Contingencies	\$ 230,000
	\$ 2,300,000

Reach 3b

Construction Subtotal	\$ 1,270,000
Environmental Subtotal	\$ 40,000
Cultural & Heritage Subtotal	\$ 40,000
Engineering, Admin. & Project Mgmt.	\$ 450,000
Contingencies	\$ 200,000
	\$ 2,000,000

Reach 7

Construction Subtotal	\$ 890,000
Environmental Subtotal	\$ 40,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 340,000
Contingencies	\$ 150,000
	\$ 1,450,000

Reach 2b

Construction Subtotal	\$ 1,520,000
Environmental Subtotal	\$ 40,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 520,000
Contingencies	\$ 240,000
	\$ 2,350,000

Reach 4

Construction Subtotal	\$ 100,000
Environmental Subtotal	\$ 20,000
Cultural & Heritage Subtotal	\$ 20,000
Engineering, Admin. & Project Mgmt.	\$ 70,000
Contingencies	\$ 40,000
	\$ 250,000

Reach 8

Construction Subtotal	\$ 1,270,000
Environmental Subtotal	\$ 30,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 440,000
Contingencies	\$ 180,000
	\$ 1,950,000

Reach 3a – Lower

Construction Subtotal	\$ 400,000
Environmental Subtotal	\$ 20,000
Cultural & Heritage Subtotal	\$ 10,000
Engineering, Admin. & Project Mgmt.	\$ 140,000
Contingencies	\$ 60,000
	\$ 630,000

Reach 5

Construction Subtotal	\$ 930,000
Environmental Subtotal	\$ 30,000
Cultural & Heritage Subtotal	\$ 30,000
Engineering, Admin. & Project Mgmt.	\$ 500,000
Contingencies	\$ 160,000
	\$ 1,650,000

Reach 9

Construction Subtotal	\$ 410,000
Environmental Subtotal	\$ 20,000
Cultural & Heritage Subtotal	\$ 20,000
Engineering, Admin. & Project Mgmt.	\$ 230,000
Contingencies	\$ 70,000
	\$ 750,000

Reach 10a

Construction Subtotal	\$	450,000
Environmental Subtotal	\$	30,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	250,000
Contingencies	\$	100,000
	\$	850,000

Reach 11c

Construction Subtotal	\$	1,150,000
Environmental Subtotal	\$	40,000
Cultural & Heritage Subtotal	\$	30,000
Engineering, Admin. & Project Mgmt.	\$	400,000
Contingencies	\$	180,000
	\$	1,800,000

Reach 13a

Construction Subtotal	\$	290,000
Environmental Subtotal	\$	20,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	170,000
Contingencies	\$	50,000
	\$	550,000

Reach 10b

Construction Subtotal	\$	790,000
Environmental Subtotal	\$	40,000
Cultural & Heritage Subtotal	\$	30,000
Engineering, Admin. & Project Mgmt.	\$	300,000
Contingencies	\$	140,000
	\$	1,300,000

Reach 11d

Construction Subtotal	\$	1,160,000
Environmental Subtotal	\$	40,000
Cultural & Heritage Subtotal	\$	30,000
Engineering, Admin. & Project Mgmt.	\$	410,000
Contingencies	\$	160,000
	\$	1,800,000

Reach 13b

Construction Subtotal	\$	330,000
Environmental Subtotal	\$	20,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	190,000
Contingencies	\$	90,000
	\$	650,000

Reach 11a

Construction Subtotal	\$	450,000
Environmental Subtotal	\$	20,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	250,000
Contingencies	\$	110,000
	\$	850,000

Reach 12a

Construction Subtotal	\$	500,000
Environmental Subtotal	\$	30,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	280,000
Contingencies	\$	120,000
	\$	950,000

Reach 13c

Construction Subtotal	\$	280,000
Environmental Subtotal	\$	20,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	160,000
Contingencies	\$	70,000
	\$	550,000

Reach 11b

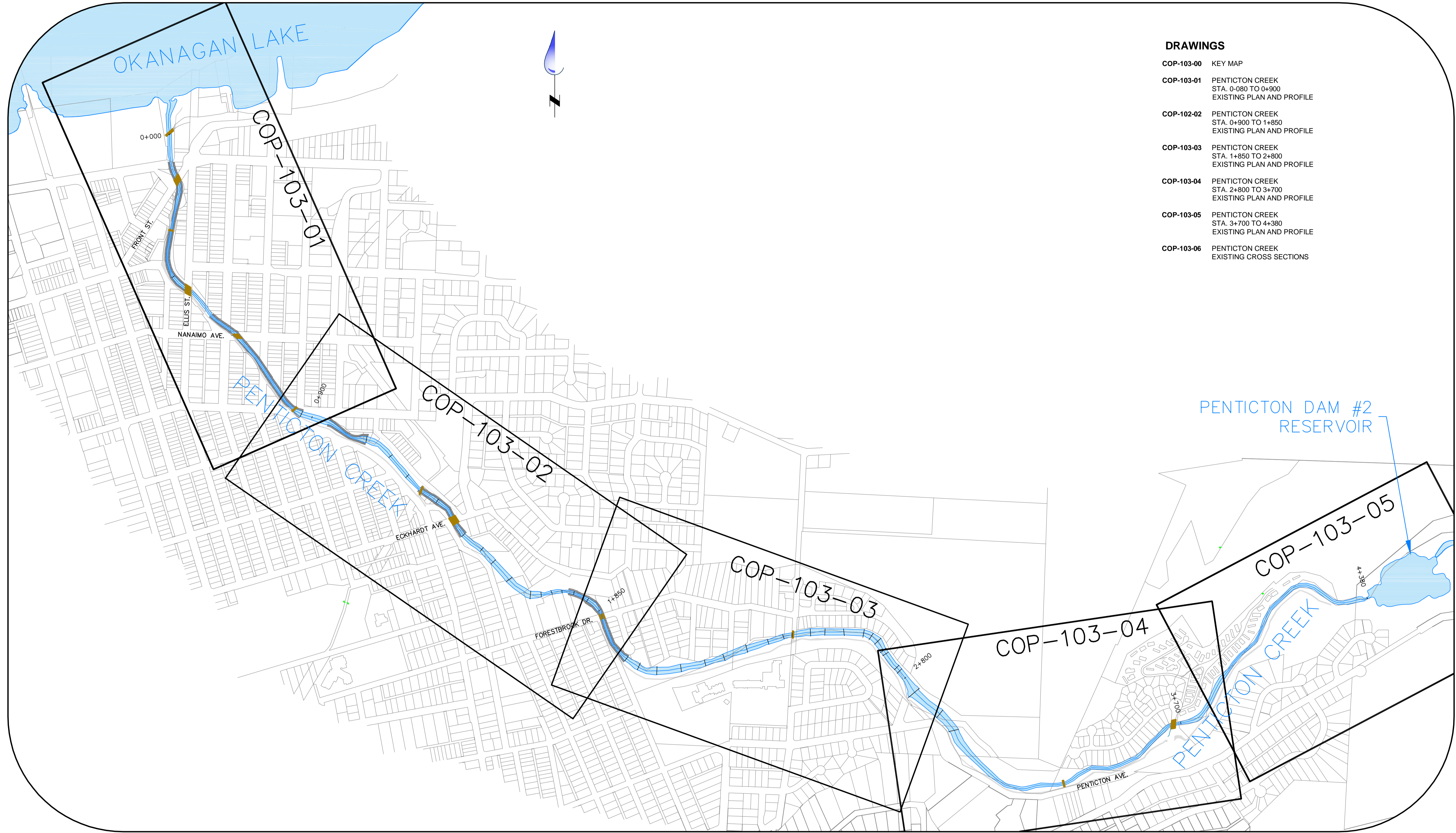
Construction Subtotal	\$	940,000
Environmental Subtotal	\$	30,000
Cultural & Heritage Subtotal	\$	30,000
Engineering, Admin. & Project Mgmt.	\$	330,000
Contingencies	\$	170,000
	\$	1,500,000

Reach 12b

Construction Subtotal	\$	320,000
Environmental Subtotal	\$	20,000
Cultural & Heritage Subtotal	\$	20,000
Engineering, Admin. & Project Mgmt.	\$	180,000
Contingencies	\$	60,000
	\$	600,000

ANNEX H: DRAWINGS

PENTICTON CREEK MASTER PLAN



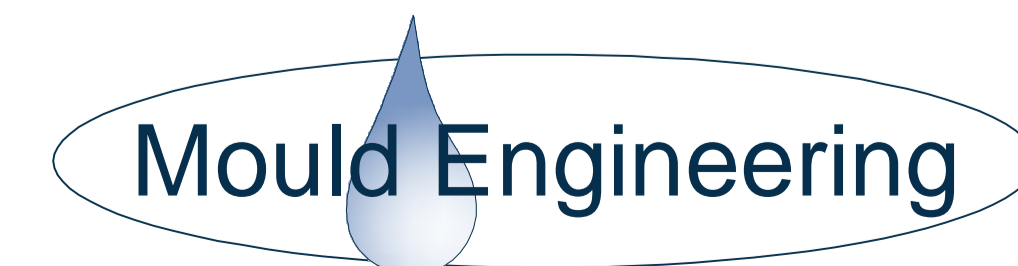
DRAWINGS

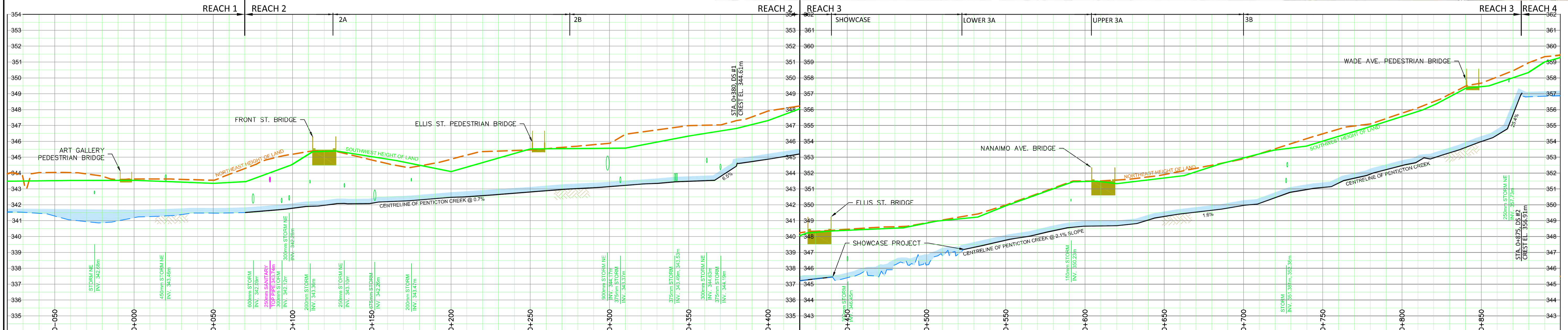
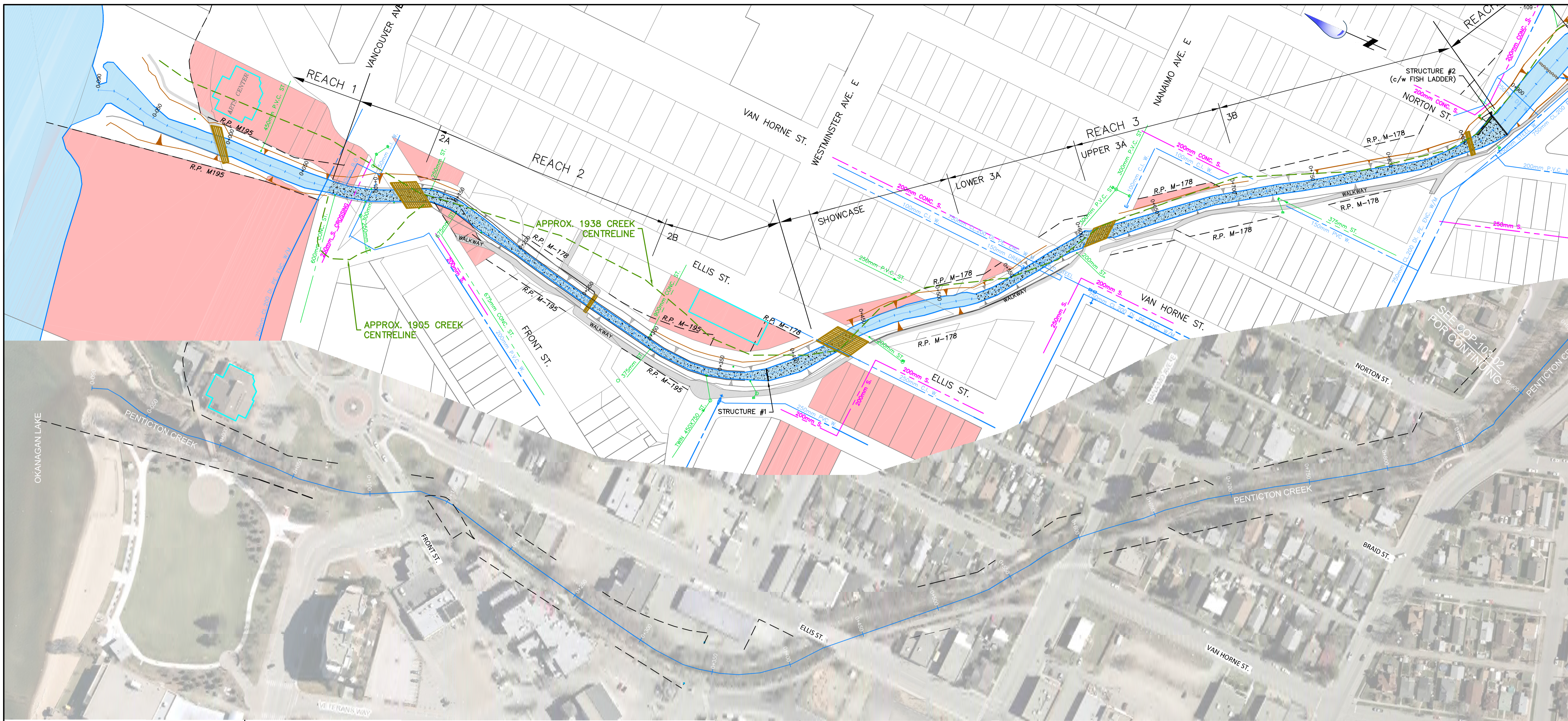
- COP-103-00 KEY MAP
- COP-103-01 PENTICTON CREEK
STA. 0+080 TO 0+900
EXISTING PLAN AND PROFILE
- COP-102-02 PENTICTON CREEK
STA. 0+900 TO 1+850
EXISTING PLAN AND PROFILE
- COP-103-03 PENTICTON CREEK
STA. 1+850 TO 2+800
EXISTING PLAN AND PROFILE
- COP-103-04 PENTICTON CREEK
STA. 2+800 TO 3+700
EXISTING PLAN AND PROFILE
- COP-103-05 PENTICTON CREEK
STA. 3+700 TO 4+380
EXISTING PLAN AND PROFILE
- COP-103-06 PENTICTON CREEK
EXISTING CROSS SECTIONS



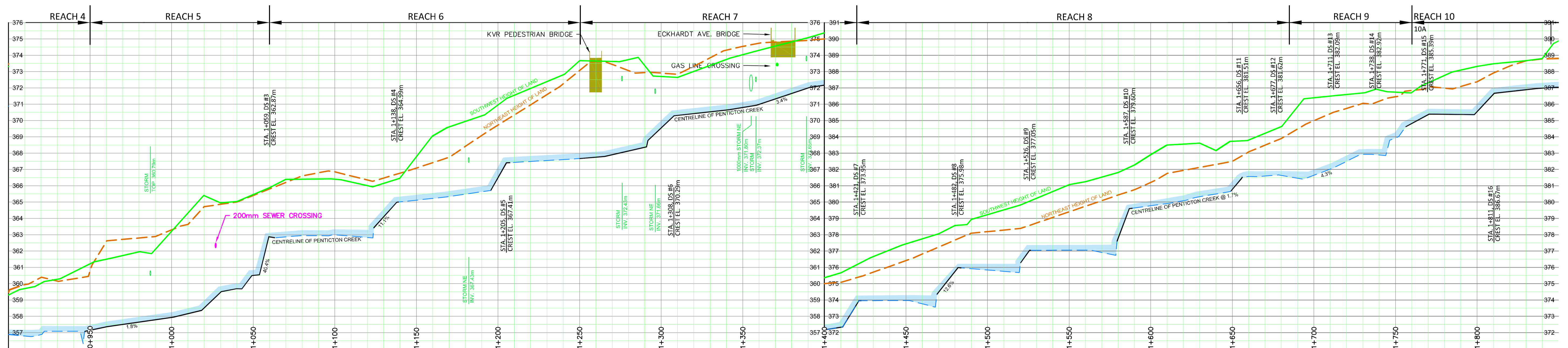
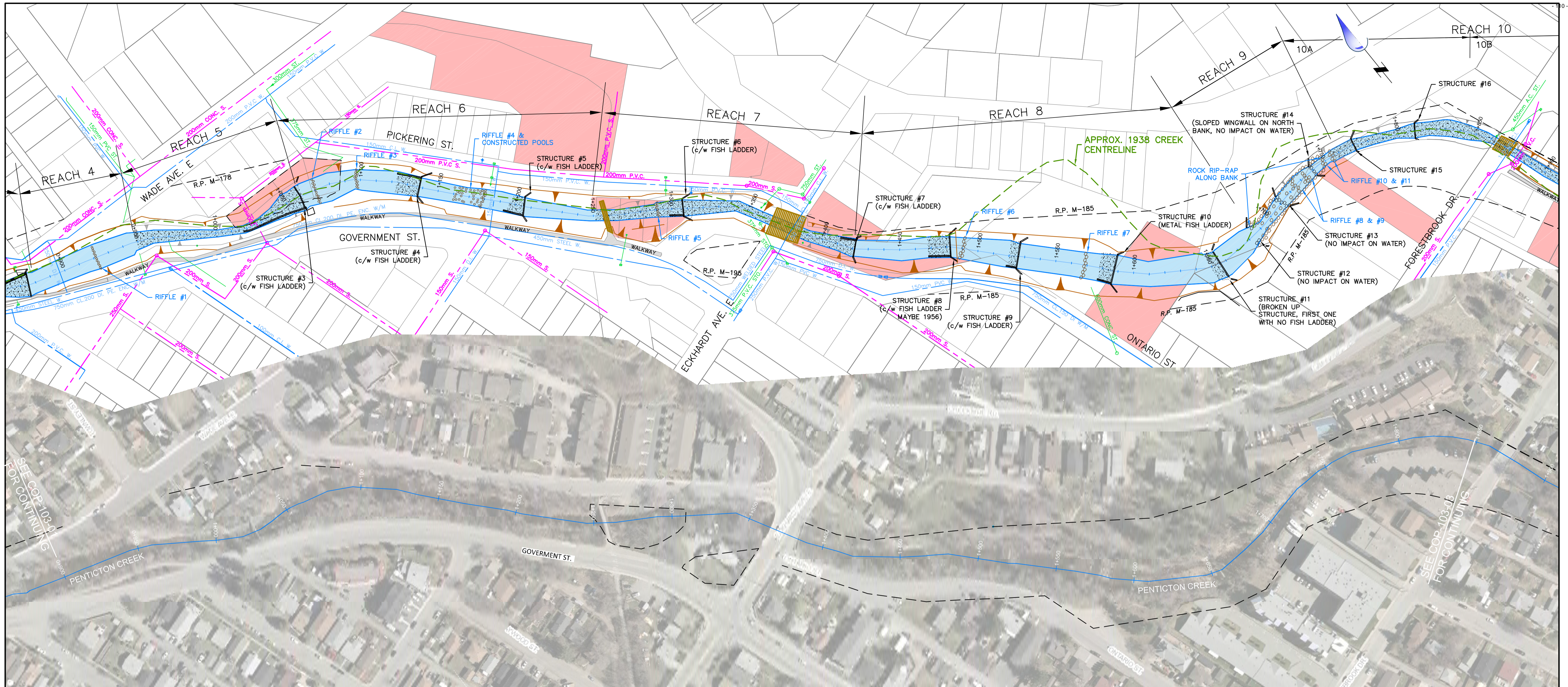
KEY MAP

SCALE: 1:5000





LEGEND: CITY OWNED LAND M-178, M-185, M-195 EASEMENT HISTORIC CREEK CENTRELINE NATURAL CHANNEL BOTTOM CONCRETE CHANNEL BOTTOM TOP OF CONCRETE NATURAL TOP OF BANK		CONCRETE CHANNEL CONCRETE CHANNEL RIP-RAP		NOTES: 1. SURVEY BY CITY OF PENTICTON. ELEVATION BASE ON MONUMENT 82H5345 EL=387.806m AND 80H2625 EL=390.812m. 2. WATER LEVEL SHOWN IS ARBITRARY AND FOR AESTHETICS. 3. IMAGE SOURCE - CITY OF PENTICTON, MAP - PUBLIC PARCEL VIEWER.																					
<table border="1"> <tr> <td>A</td> <td>DEC. 2017</td> <td>S.W.</td> <td>MINOR TEXT EDITS</td> <td>S.F.</td> </tr> <tr> <td>NO.</td> <td>DATE</td> <td>BY</td> <td>REVISION</td> <td>CH'KD ENG.</td> </tr> </table>		A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.	NO.	DATE	BY	REVISION	CH'KD ENG.	 567 Lawrence Avenue, Kelowna, B.C. V1Y 6L8 Telephone 868-2072		<table border="1"> <tr> <td>DRAWN</td> <td>S.W.</td> </tr> <tr> <td>DESIGN</td> <td></td> </tr> <tr> <td>APPROVED</td> <td></td> </tr> <tr> <td>DATE</td> <td>AUG. 2016</td> </tr> <tr> <td>SCALE</td> <td>H. 1:1250 V. 1:125</td> </tr> </table>		DRAWN	S.W.	DESIGN		APPROVED		DATE	AUG. 2016	SCALE	H. 1:1250 V. 1:125
A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.																					
NO.	DATE	BY	REVISION	CH'KD ENG.																					
DRAWN	S.W.																								
DESIGN																									
APPROVED																									
DATE	AUG. 2016																								
SCALE	H. 1:1250 V. 1:125																								
CITY OF PENTICTON PENTICTON CREEK STA. 0+080 TO 0+900 EXISTING PLAN AND PROFILE				<table border="1"> <tr> <td>DRAWING NO.</td> <td>REV. NO.</td> </tr> <tr> <td>COP-103-01</td> <td>A</td> </tr> </table>		DRAWING NO.	REV. NO.	COP-103-01	A																
DRAWING NO.	REV. NO.																								
COP-103-01	A																								



- LEGEND:**
- CITY OWNED LAND
 - M-178, M-185, M-195 EASEMENT
 - HISTORIC CREEK CENTRELINE
 - NATURAL CHANNEL BOTTOM
 - CONCRETE CHANNEL BOTTOM
 - TOP OF CONCRETE
 - NATURAL TOP OF BANK
 - CONCRETE CHANNEL
 - RIP-RAP

NOTES:
1. FOR GENERAL NOTES, SEE DWG COP-103-01.

NO.	DATE	BY	REVISION	CH'KD	ENG.
A	DEC. 2017	S.W.	MINOR TEXT EDITS		S.F.

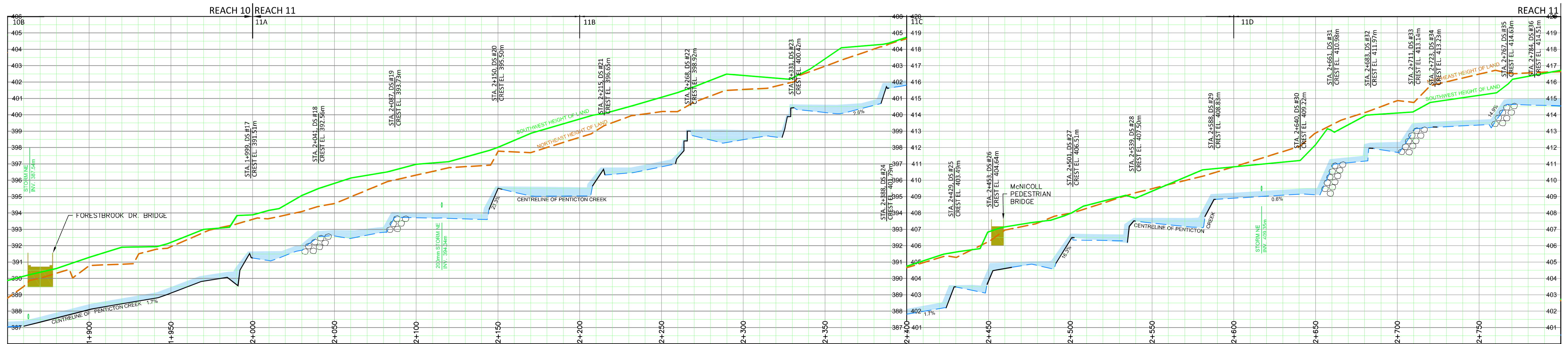
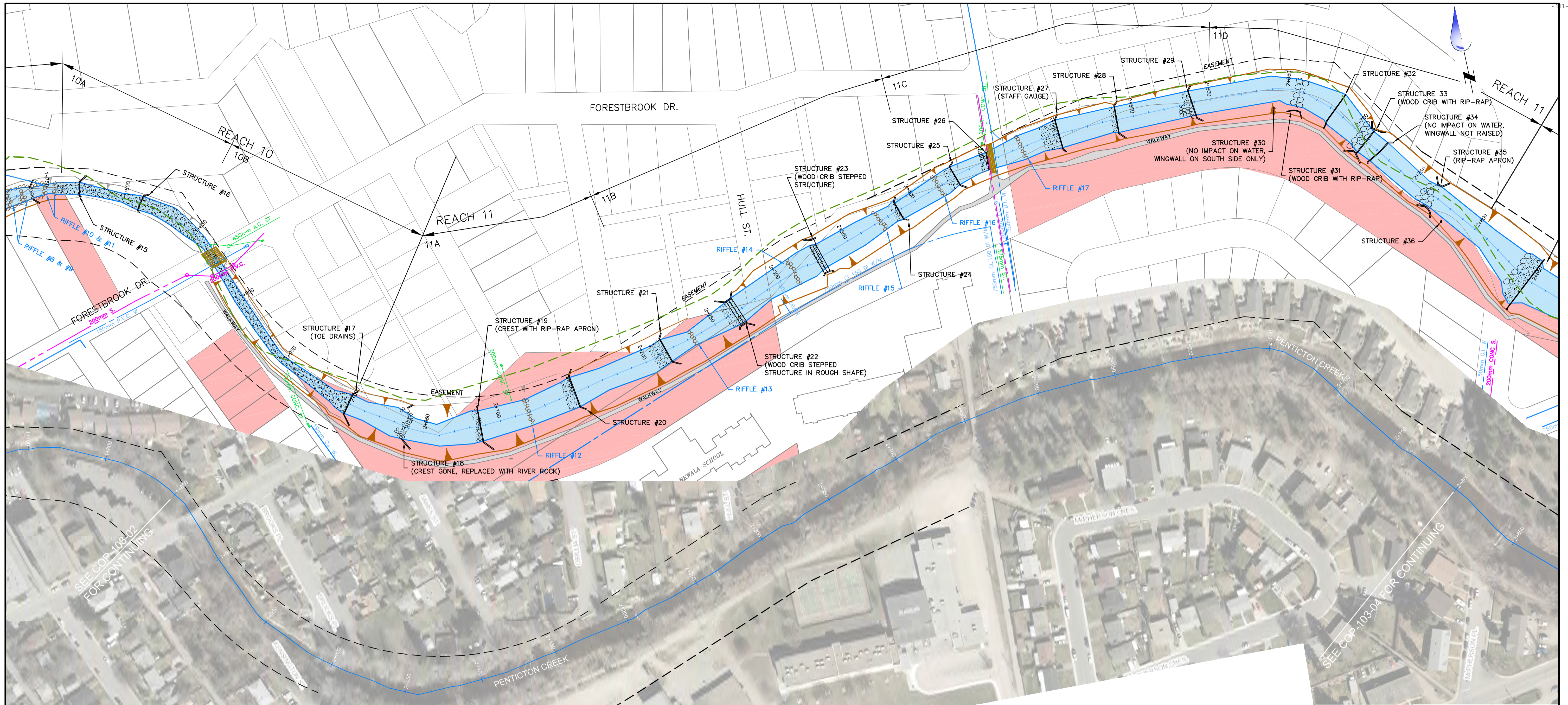


567 Lawrence Avenue,
Kelowna, B.C. V1Y 6L8
Telephone 888-2072

DRAWN	S.W.
DESIGN	
APPROVED	
DATE	AUG. 2016
SCALE	
	H. 1:1250 V. 1:125

CITY OF PENTICTON
PENTICTON CREEK
STA. 0+900 TO 1+850
EXISTING PLAN AND PROFILE

DRAWING NO.	REV. NO.
COP-103-02	A



LEGEND:

—	CITY OWNED LAND		CONCRETE CHANNEL
- - -	M-178, M-185, M-195 EASEMENT		RIP-RAP
- - -	HISTORIC CREEK CENTRELINE		
- - -	NATURAL CHANNEL BOTTOM		
—	CONCRETE CHANNEL BOTTOM		
	TOP OF CONCRETE		
	NATURAL TOP OF BANK		

NOTES:
1. FOR GENERAL NOTES, SEE DWG COP-103-01.

NO.	DATE	BY	REVISION	CH'KD	ENG.
A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.	

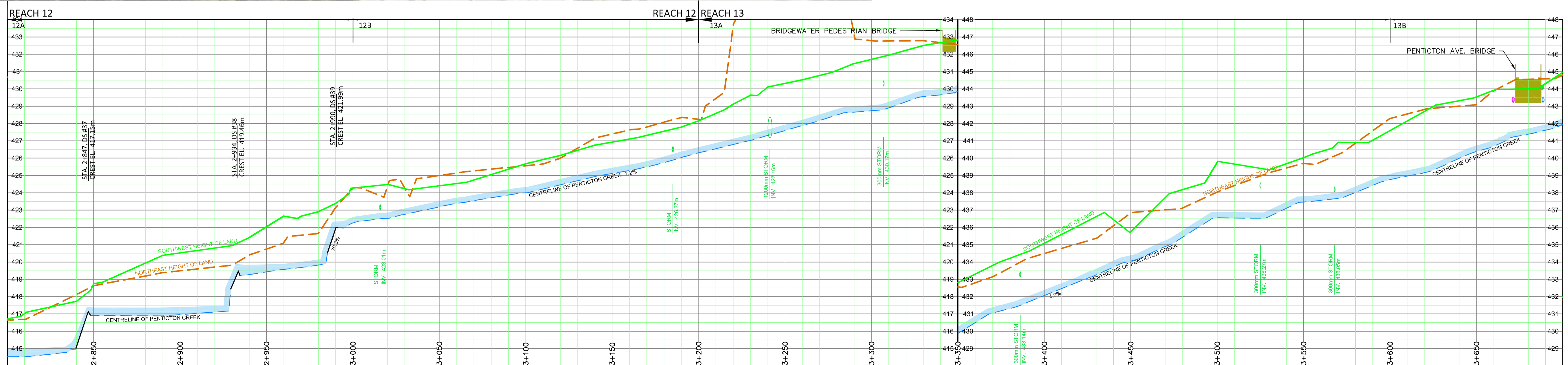
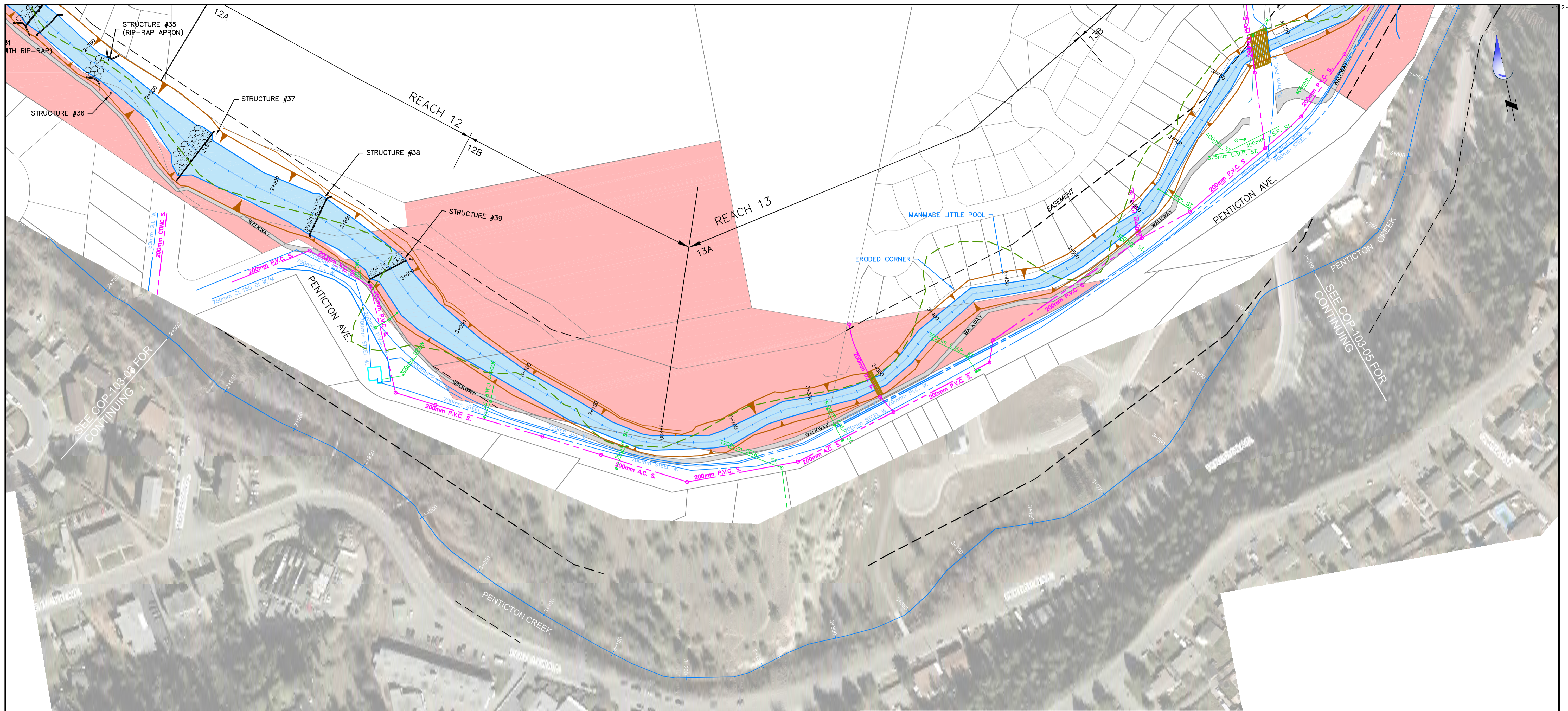


567 Lawrence Avenue,
Kelowna, B.C. V1Y 6L8
Telephone 888-2072

DRAWN	S.W.
DESIGN	
APPROVED	
DATE	AUG. 2016
SCALE	
	H. 1:1250 V. 1:125

CITY OF PENTICTON
PENTICTON CREEK
STA. 1+850 TO 2+800
EXISTING PLAN AND PROFILE

DRAWING NO.	REV. NO.
COP-103-03	A



LEGEND:

 CITY OWNED LAND	 CONCRETE CHANNEL
 M-178, M-185, M-195 EASEMENT	 RIP-RAP
 HISTORIC CREEK CENTRELINE	
 NATURAL CHANNEL BOTTOM	
 CONCRETE CHANNEL BOTTOM	
 TOP OF CONCRETE	
 NATURAL TOP OF BANK	

NOTES:
 1. FOR GENERAL NOTES, SEE DWG COP-103-01.

NO.	DATE	BY	REVISION	CH'KD	ENG.
A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.	

Mould Engineering

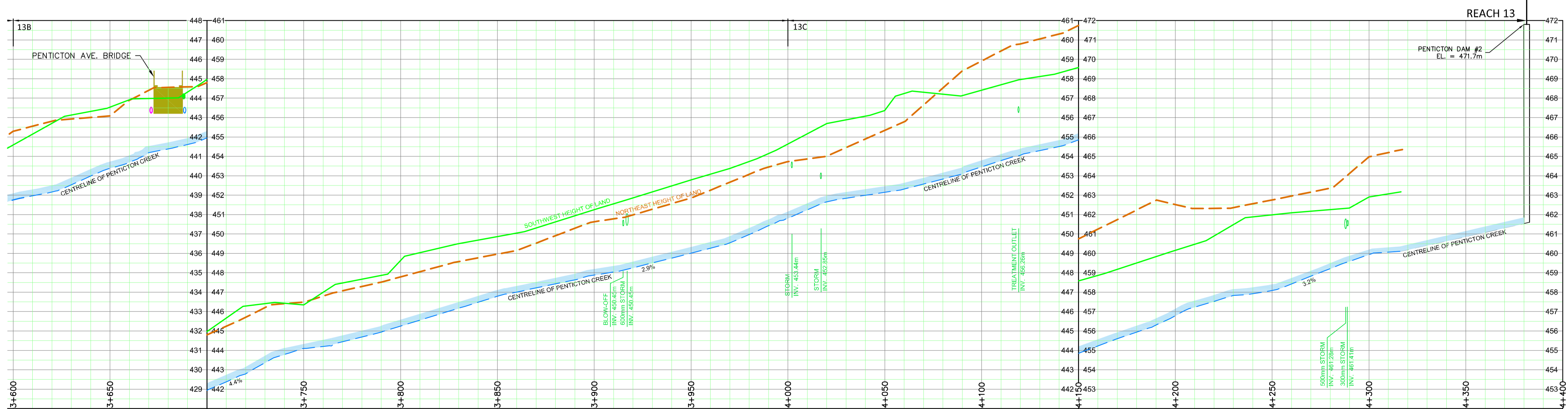
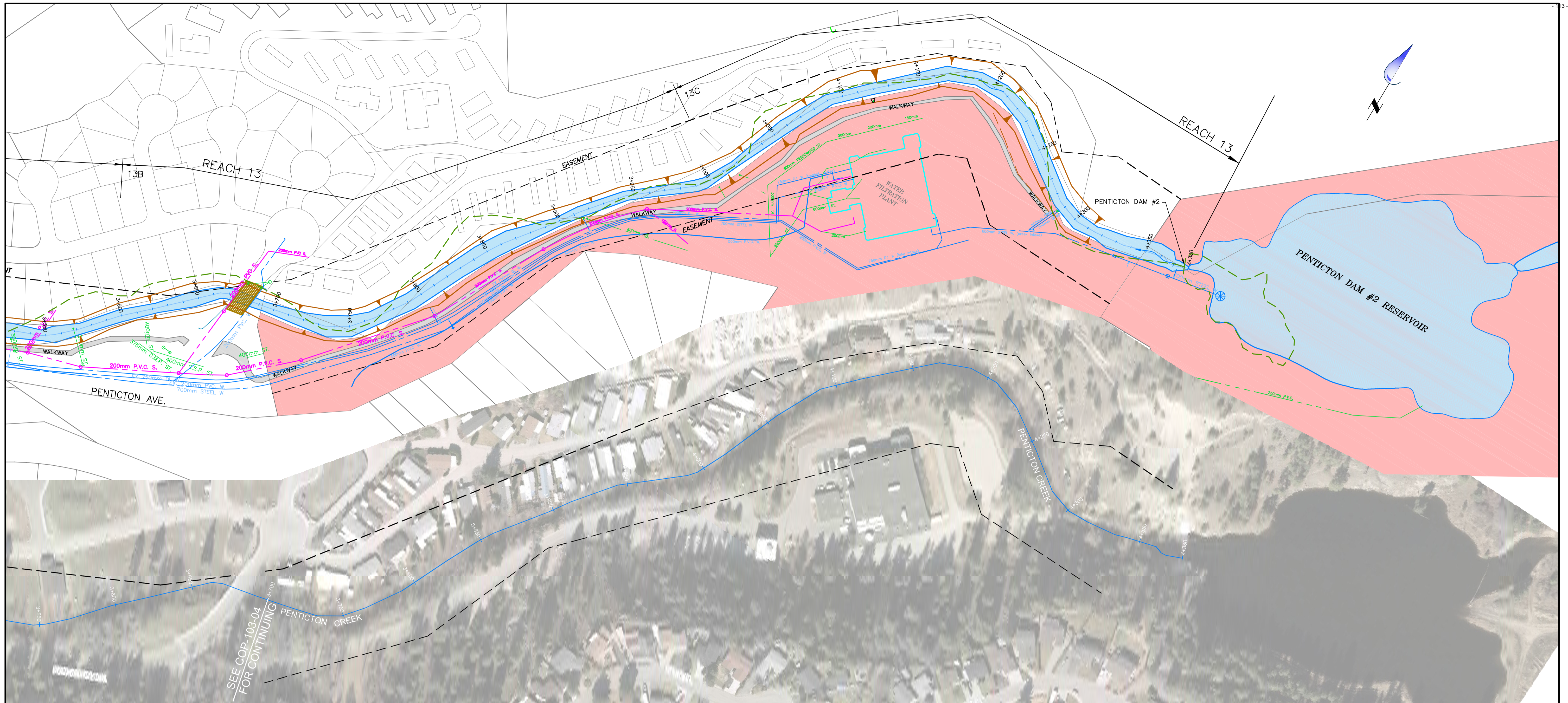
567 Lawrence Avenue,
Kelowna, B.C. V1Y 6L8
Telephone 868-2072

DRAWN	S.W.
DESIGN	
APPROVED	
DATE	AUG. 2016
SCALE	
	H. 1:1250 V. 1:125

CITY OF PENTICTON

**PENTICTON CREEK
 STA. 2+800 TO 3+700
 EXISTING PLAN AND PROFILE**

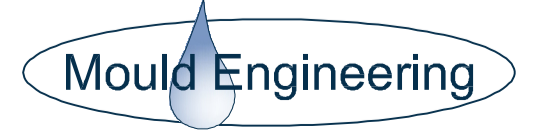
DRAWING NO.	REV. NO.
COP-103-04	A



- LEGEND:**
- CITY OWNED LAND
 - M-178, M-185, M-195 EASEMENT
 - HISTORIC CREEK CENTRELINE
 - NATURAL CHANNEL BOTTOM
 - CONCRETE CHANNEL BOTTOM
 - TOP OF CONCRETE
 - NATURAL TOP OF BANK
 - CONCRETE CHANNEL
 - RIP-RAP

NOTES:
1. FOR GENERAL NOTES, SEE DWG COP-103-01.

NO.	DATE	BY	REVISION	CH'KD	ENG.
A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.	

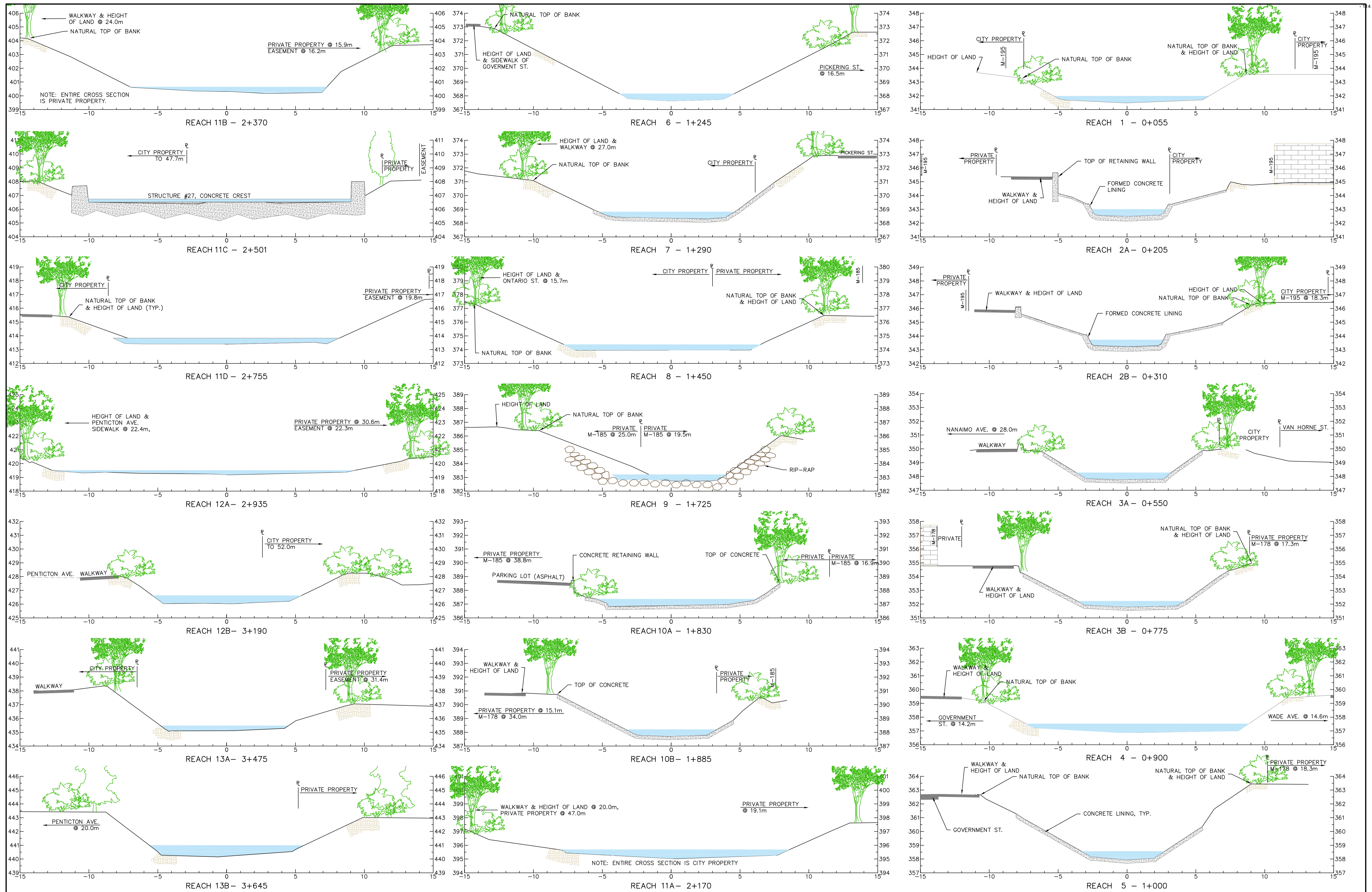



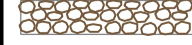
567 Lawrence Avenue,
Kelowna, B.C. V1Y 6L8
Telephone 868-2072

DRAWN	S.W.
DESIGN	
APPROVED	
DATE	AUG. 2016
SCALE	
	H. 1:1250 V. 1:125

CITY OF PENTICTON
PENTICTON CREEK
STA. 3+700 TO 4+380
EXISTING PLAN AND PROFILE

DRAWING NO.	REV. NO.
COP-103-05	A



LEGEND:
 CONCRETE CHANNEL
 RIP-RAP

NOTES:
 1. FOR GENERAL NOTES, SEE DWG COP-103-01.
 2. ALL CROSS SECTIONS LOOKING DOWNSTREAM.
 3. LANDSCAPING IS APPROXIMATE.
 4. IF PROPERTY OWNERSHIP NOT SHOWN, ASSUME CROWN PROPERTY OR ROAD RIGHT OF WAY.

NO.	DATE	BY	REVISION	CH'KD	ENG.
A	DEC. 2017	S.W.	MINOR TEXT EDITS	S.F.	



567 Lawrence Avenue,
 Kelowna, B.C. V1Y 6L8
 Telephone 888-2072

DRAWN	S.W.
DESIGN	
APPROVED	
DATE	AUG. 2016
SCALE	
	H 1:125 V 1:125

CITY OF PENTICTON	
PENTICTON CREEK	
EXISTING CROSS SECTIONS	
DRAWING NO.	REV. NO.
COP-103-06	A

Council Report

penticton.ca

Date: December 19, 2017 **File No:**
To: Peter Weeber, Chief Administrative Officer
From: Bregje Kozak, Director Recreation and Facilities
Subject: **Heritage and Museum Committee**

Staff Recommendation

THAT Council direct staff to continue with the Heritage and Museum Committee as an ad-hoc committee, through the Museum Manager and Director, Recreation and Facilities.

Background

In May 2017 staff presented a report on Penticton's Council committees, which identified several recommendations related to the City's committee structure. One of the recommendations put forward and approved was that the Heritage and Museum Committee be changed from a formal committee of Council, to an ad-hoc committee with support from the Museum Manager and Recreation Manager. The Heritage and Museum committee has been proceeding as an ad-hoc committee since that time.

Recently at the December 5 Council meeting, a letter authored by the Museum Manager, on behalf of the Heritage and Museum Committee, was presented requesting reinstatement of the Heritage and Museum committee as a formal committee of Council. One of the primary reasons for this request was to ensure continued access to annual grant funding from the BC Arts Council. Staff have since reviewed this request in more detail and confirmed that an ad-hoc committee structure meets the requirements for grant funding, and a formal council committee is not required to meet this need.

The other services provided by the Heritage and Museum Committee, as noted in the letter, have traditionally been addressed through various means, including ad-hoc meetings other related committees such as the Official Community Plan. For any specific needs such as heritage designations, historical input, heritage inventory, street naming, the ad-hoc committee can be called on for input and consultation as required.

Financial implication

There are no financial impacts for the committee to remain as an ad-hoc committee. Should council wish to consider reinstating the Heritage and Museum Committee, there would be impacts primarily from a staffing resource perspective.

Analysis

Conducting business through an ad-hoc committee does not prevent important Heritage and Museum matters from going to Council. If there are specific issues that require Council consideration, they can be brought forward through staff reports, and presented through the regular Council agenda process.

Alternate recommendations

1. That Council reinstate the Heritage and Museum Committee as an official Council committee and direct staff to advertise for membership.
2. That Council reinstate the Heritage and Museum Committee as an official Council committee and direct the committee to oversee its own administration.

Attachments

Attachment A – Letter from Museum Manager, dated December 4, 2017

Respectfully submitted,



Bregje Kozak
Director, Recreation and Facilities

Approvals

A/Chief Administrative Officer 
--

Letter for Reinstatement of Museum and Heritage Committee

December 4th, 2017

On November 1st the Museum & Heritage Committee met with CAO Peter Weeber to discuss the status of the committee, and specifically to explore restoring the committee to official status from its current designation as an ad hoc committee. Committee Chair Bill Allen, Vice Chair Randy Manuel, Councillor Judy Sentes and member-at-large Lorraine Stephanson made a number of statements attesting to the work the committee has done in the past, paying particular attention to work the committee has done with heritage designations, street naming, and issues that arise out of specific land use issues.

In summary, the committee provides the following services to the city:

- **gives assistance to city staff in assessing development, public use and heritage issues, as in the case of the recent esplanade issue**
- **gives informed input (historical background) regarding history of public lands and previous uses, and potential public response to proposed changes, as in Skaha Lake development**
- **provides crucial input for the Strategic Heritage Plan for the city (2008) and provides input for heritage planning documents in general**
- **assesses capital needs for the museum and archives, and backstops and supports proposals relating to heritage needs**
- **in 2007 the committee oversaw the creation of a heritage inventory list that includes an A, B, and C ranking of heritage properties. This listing remains the only comprehensive list of heritage properties ever compiled by the city. The committee has also recently completed a list of street names that is an update of an original list that goes back to the late 1960's**

There are other factors supporting full reinstatement of the committee:

The presence of an advisory body like the Museum and Heritage Committee is a condition of receiving British Columbia Arts Council funding. Every year the museum applies for \$20,000 in operational funding from the BCAC. Were the committee to fold or undergo substantial degradation, these monies would be at risk.

The committee plays an important role in providing a sounding board for museum and archives initiatives from a diverse group of community members. At present, the committee includes representatives from the Penticton Library, the SS Sicamous, Leir House, District 67 School

Board, and Okanagan College. This diversity of opinion and outlook is crucial to a successful museum and successful heritage outcomes in general.

Like any committee, the demand for its services and advice can ebb and flow but once needed, the committee can offer a unique level of expertise in an area that is going to continue to generate public attention and absorb considerable energy and resources from city staff. The Museum and Heritage committee is the only body uniquely suited to help guide the discussion, now and in the future.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "D. Oomen", is written over a horizontal line.

Dennis Oomen (for the Heritage and Museum Committee)

Bill Allen, Committee Chair

Randy Manuel, Vice Chair.

Council Report

A horizontal bar consisting of a series of colored squares in blue, orange, and red, followed by a solid blue bar containing the text "penticton.ca".

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Wes Renaud, Budget Analyst
Subject: **2018-2022 Five Year Financial Plan Bylaw No. 2017-79**

File No: 1700-05

Staff Recommendation

THAT Council give first, second and third reading to "2018-2022 Five Year Financial Plan Bylaw No. 2017-79".

Background

Section 165 of the *Community Charter* directs that a municipality must have a Five Year Financial Plan adopted annually; this bylaw must be adopted prior to May 15th and before the annual tax rate bylaw. The *Community Charter* also provides that the Financial Plan Bylaw may be amended at any time to reflect changes that may occur. The 2018 budget process included extensive public engagement and culminated with the public Council sessions held on November 28, 29, and 30, 2017. At the meetings, Council directed staff to make the following changes to the draft financial plan:

- Skaha Marina: deferred replacement of the docks at Skaha Marina until further public engagement and environmental assessments have taken place. Added \$100,000 to the facilities operational budget to fund these items. This has been offset in the budget by reducing the Transfer to MMBC yard waste reserve.
- Added \$25,000 to the Arts reserve contribution, bringing the total contribution to \$75,000. This has been funded by increasing the amount of expected interest revenue from the City's investments.
- Added \$40,000 in anticipation of greater resourcing needs after enforcement prioritization review. This has been offset in the budget by increasing bylaw related revenues as a result of the increased officer presence.
- Included an additional \$100,000 to support the YES project, bringing the total contribution to \$400,000. Added \$32,819 to fund civic grants that were in addition to staff's recommendation. This has been funded by increasing the recommended 3% property tax increase by 0.44%

These changes have been included in Schedule A of the "2018-2022 Five Year Financial Plan Bylaw No. 2017-79".

Financial implications

The 2018-2022 Five Year Financial Plan includes a property tax increase of 3.44% for 2018.

Attachments

Attachment A – 2018-2022 Five Year Financial Plan Bylaw No. 2017-79

Respectfully submitted,



Wes Renaud
Budget Analyst

Approvals

Chief Financial Officer <i>JWB</i>
--

The Corporation of the City of Penticton

Bylaw No. 2017-79

A bylaw to adopt the five year financial plan

WHEREAS the *Community Charter* states a municipality must have a financial plan that is adopted annually, by bylaw, before the annual property tax bylaw is adopted;

AND WHEREAS the planning period for a financial plan is five (5) years, that period being the year in which the plan is specified to come into force and the following four (4) years;

NOW THEREFORE BE IT RESOLVED THAT the Municipal Council of the City of Penticton in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. Title

This bylaw may be cited as "2018-2022 Five Year Financial Plan Bylaw No. 2017-79".

2. Purpose

Schedule "A" and Schedule "B" attached hereto and forming part of this bylaw shall be the Five Year Financial Plan of the City of Penticton for the period of January 1, 2018 to December 31, 2022.

READ A FIRST time this	day of	, 2017
READ A SECOND time this	day of	, 2017
READ A THIRD time this	day of	, 2017
ADOPTED this	day of	, 2017

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer

Schedule A

	2018 Budget	2019 Projection	2020 Projection	2021 Projection	2022 Projection
Revenue					
Taxation	(53,575,138)	(55,638,494)	(57,784,523)	(60,016,545)	(62,336,706)
Sale of Services	(6,850,424)	(6,881,903)	(6,896,816)	(6,932,683)	(6,969,499)
Electric Utility Fees	(42,075,442)	(43,335,543)	(44,633,405)	(45,970,158)	(47,346,968)
Sewer Utility Fees	(5,615,077)	(6,178,775)	(6,653,300)	(6,692,009)	(6,712,253)
Water Utility Fees	(8,466,692)	(8,817,919)	(9,201,250)	(9,601,446)	(10,019,248)
Fiscal Services	(3,032,443)	(3,033,713)	(3,034,991)	(3,035,278)	(3,035,573)
Grants	(1,560,898)	(1,623,320)	(1,623,320)	(1,623,320)	(1,623,320)
Other Revenues	(12,338,848)	(12,208,338)	(12,270,724)	(12,281,337)	(12,304,093)
Development Cost Charges	(600,000)	(600,000)	(600,000)	(600,000)	(600,000)
Donations	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)
	<u>(134,124,961)</u>	<u>(138,328,005)</u>	<u>(142,708,330)</u>	<u>(146,762,775)</u>	<u>(150,957,660)</u>
Expense					
General Operating	70,581,741	71,106,432	72,842,435	74,457,734	76,023,916
Electric Operating	37,138,460	36,206,355	37,609,191	39,053,053	40,073,471
Sewer Operating	4,726,304	4,805,587	4,817,541	4,915,810	4,736,055
Water Operating	3,995,240	4,030,214	4,153,704	4,184,822	4,213,195
	<u>116,441,744</u>	<u>116,148,588</u>	<u>119,422,872</u>	<u>122,611,420</u>	<u>125,046,636</u>
Annual Surplus	(17,683,217)	(22,179,417)	(23,285,458)	(24,151,355)	(25,911,024)
Capital					
General Capital	8,798,825	11,881,565	24,654,518	23,359,241	18,728,821
Electric Capital	3,305,287	1,551,681	1,373,674	2,082,282	1,643,589
Sewer Capital	2,677,000	6,769,200	2,503,875	6,828,051	4,325,000
Water Capital	3,407,250	5,543,335	8,198,500	4,389,600	3,246,300
	<u>18,188,362</u>	<u>25,745,780</u>	<u>36,730,567</u>	<u>36,659,175</u>	<u>27,943,710</u>
Debt Proceeds	(1,635,040)	(702,000)	(3,677,197)	-	-
Land Proceeds	(1,000,000)	(200,000)	(200,000)	(200,000)	(200,000)
Principal repayments	2,982,421	2,026,347	2,443,004	2,528,880	2,530,793
Transfer to/from surplus/reserve	(852,526)	(4,690,710)	(12,010,916)	(14,836,699)	(4,363,480)
Financial Plan Balance	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>

Schedule B

Current Revenue Portions by Funding Source for Operating (excluding borrowing and transfers form reserve/surplus):

Taxation	31,540,871	23.52%
Grants in Lieu	254,519	0.19%
Business & Local Improvement Levy	403,875	0.30%
Collections for Other Governments	21,375,873	15.94%
Sale of Services	6,850,424	5.11%
Electric Utility Fees	42,075,442	31.37%
Sewer Utility Fees	5,615,077	4.19%
Water Utility Fees	8,466,692	6.31%
Other Revenue	12,338,848	9.20%
Fiscal Services	3,032,443	2.26%
Grants	1,560,898	1.16%
Donations	10,000	0.01%
Development Cost Charges	600,000	0.45%
	<u>134,124,961</u>	<u>100.00%</u>

Current Property Class Multiples:

<u>Ratio</u>	<u>2018 Est</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Residential	1.000	1.000	1.000	1.000
Utilities	5.930	5.930	5.000	4.028
Light Industry	1.580	1.580	1.580	1.524
Business	1.580	1.580	1.580	1.625
Rec/Non-Profit	1.390	1.390	1.350	1.350
Farm	2.060	2.060	2.250	2.760

The ratios in this chart are based on the 2016 calculations. Council will review the business multiplier in April when they set the tax rates.

Use of Permissive Tax Exemptions

In 2016, Council passed Bylaw 2016-57 to exempt certain properties from taxation in the next three years (2017-2019). In 2017, Council passed amending Bylaw 2017-61 to exempt certain properties from taxation in 2018. The Bylaw contains the list of properties and the estimated amount of tax revenue forgone (\$485,263). The list of properties includes religious institutions, historical societies, recreational facilities, and service organizations that form a valuable part of our community. These organizations have demonstrated to Council that their services support our residents and community.

Council Report

penticton.ca

Date: December 19, 2017 File No: 4380.20
To: Peter Weeber, Chief Administrative Officer
From: Peter Wallace, Land Administrator
Subject: **Penticton and District Emergency Program Society Licence to Use Renewal
251 Dawson Avenue (Portion)**

Staff recommendation

THAT Council approve a renewal of the Licence to Use to the Penticton and District Emergency Program Society (PDEPS) for a portion of the building located at 251 Dawson Ave. (approximately 3,400 sq. ft.) for a five (5) year term with the introduction of a 90 day escape clause at a rate of \$1.00 for the term;

AND THAT Council direct staff to advertise the intention to provide assistance pursuant to Section 24 of the *Community Charter*;

AND THAT Council authorize the Mayor and Corporate Officer to execute the Licence to Use.

Background

The Penticton and District Emergency Program Society (PDEPS) has had a licence to use the building located at 251 Dawson Avenue East since January 1, 2000, with the latest agreement expiring December 31, 2017. Since their initial agreement with the City the License to Use fee has been \$1.00. The space was originally "carved" out of Fire Hall #2. This building acts as the PDEPS head office and dispatch centre for all of their activities.

Financial implication

Discounted rate of \$1.00 for the term is proposed, which represents a grant of approximately \$27,140.00 per year plus applicable property taxes.

Analysis

The licenced area is about 0.22 ac. which includes +-3,400 sq.ft. portion of the building (the Fire Department utilizes 1,600 sq.ft. of the building).

The estimated market rate of \$8.00/sq.ft. for this building (+-20%) would result in a market rate of approximately \$27,140/year triple net.

Alternate recommendations

- #1: THAT Council provide staff with an alternative Licence to Use rate, conditions or term for 251 Dawson Avenue.
- #2 THAT Council decline the licence to use renewal and retain 251 Dawson Avenue.

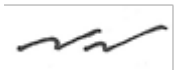
Attachments

Attachment A – License to Use Agreement

Respectfully submitted,

Peter Wallace
Land Administrator

Approvals

CFO	Acting CAO
JB	

THE CORPORATION OF THE CITY OF PENTICTON

AGREEMENT

Nature of Agreement:	License to Use	File No.: 4320.80
Particulars:	Use of Building Located at 251 Dawson Avenue, Penticton, British Columbia for Emergency Purposes	

THIS AGREEMENT MADE THE ____ day of January, 2017.

BETWEEN:

THE CORPORATION OF THE CITY OF PENTICTON

a duly incorporated City Municipality under the laws of the Province of British Columbia, located at 171 Main Street, Penticton, British Columbia, V2A 5A9

(hereinafter call “the City”)

OF THE FIRST PART

AND:

PENTICTON AND DISTRICT EMERGENCY PROGRAM SOCIETY

A Society incorporated under the laws of the Province of British Columbia having its registered and records office located at 251 Dawson Avenue, in the City of Penticton, in the Province of British Columbia, V2A 3N4

(hereinafter called “the Licensee”)

OF THE SECOND PART

WITNESSETH THAT WHEREAS the City has agreed to grant a License to the Licensee to enter on that parcel of the lands described in the **Schedule “A”** attached entitled Legal Description (hereinafter referred to as the “Land”); NOW THEREFORE, in consideration of the fee to be paid by, and the covenants of, the Licensee, the parties agree as follows:

Article I – Grant of License

- 1.01 The City, on the terms set forth herein, hereby grants to the Licensee a License to enter onto the Land for the purposes described in **Schedule “B”** attached, entitled the Management Plan (hereinafter called the “Management Plan”) or to such area of the Land as may be designated from time to time by the City.

Article II – Duration

- 2.01 The duration of the License and the rights herein granted shall be for a term of five (5) years commencing on the 1st day of January, 2018 (herein called the “Commencement Date”) through the 31st day of December, 2022, unless cancelled in accordance with the terms hereof.

Article III – License Fee

- 3.01 The Licensee shall pay to the City a License fee of one (\$1.00) dollar, the receipt of which is hereby acknowledged.

Article IV – Covenants of the Licensee

- 4.01 The Licensee covenants with the City:
- (a) to pay the License fee due at the address of the City first written or at such other place as the City may specify from time to time;
 - (b) to observe, abide by and comply with all applicable laws, bylaws, orders, directions, ordinances and regulations of any competent governmental authority in any way affecting the Land and improvements situate thereon, or their use and occupation;
 - (c) not to commit or suffer any willful or voluntary waste, spoil or destruction on the Land or do or suffer to be done thereon anything that may be or become a nuisance or annoyance to owners or occupiers of adjoining land;
 - (d) to deliver to the City from time to time, upon demand, proof of insurance required to be maintained by the Licensee, receipts or other evidence of payment of insurance premiums and other monetary obligations of the Licensee required to be observed by the Licensee pursuant to this License;
 - (e) to indemnify, save harmless, release and forever discharge the City its elected and appointed officials and employees from and against all

manners of actions, causes of actions, claims, debts, suits, damages demands and promises, at law or in equity, whether known or unknown, including without limitation for injury to persons or property including death, or any person directly or indirectly arising or resulting from, or attributable to, any act, omission, negligence or default of the Licensee in connection with or in a consequence of this agreement, save and except to the extent caused by any act, omission, negligence or default of the City, its elected and appointed officials and employees.

- (f) to keep the Land in a safe, clean, tidy and sanitary condition satisfactory to the City and to make clean, tidy and sanitary any portion of the Land or any improvement that the City may direct by notice in writing to the Licensee;
- (g) to permit the City, or its authorized representative, to enter upon the Land at any time to inspect the Land and any improvements thereon;
- (h) to use and occupy the Land in accordance with the provisions of this License including those set forth in the Management Plan Schedule;
- (i) on the expiration or at the earlier cancellation of this License
 - (i) to peaceably quit and deliver possession of the Land to the City,
 - (ii) to remove all buildings, machinery, plant equipment and apparatus and all other improvements to or things on the Land.

and to the extent necessary, this covenant shall survive the expiration or cancellation of the License:

- (j) to effect and keep in force during the term, insurance protecting the City and the Licensee (without any rights of cross-claim or subrogation against the City) against claims for personal injury, death, property damage or third party or public liability claims arising from any accident or occurrence on the Land to an amount not less than \$2,000,000 CDN, and to name the City as a named insured on the policy and to deliver to the City written confirmation of the required insurance coverage upon execution of this agreement.
- (k) notwithstanding subsection (k) of Section 4.01, the City may from time to time notify the Licensee that the amount of insurance posted by the Licensee pursuant to that subsection be changed and the Licensee shall, within Sixty (60) days or receiving such notice, cause the amount of insurance posted, pursuant to subsection (k) of Section 4.01 to be changed to the amount specified in the notice and deliver to the City written confirmation of the change;

- (l) not to deposit on the Land or any part of it, any earth, fill or other material for the purpose of filling in or raising the level of the Land without the prior written consent of the City;
- (m) not to place any improvements on the Land other than those described elsewhere in this agreement;
- (n) not cause or permit any unusual or objectionable noises, lights, or odours to emanate from the Land;
- (o) not to conduct merchandising, display or advertising on the Land;
- (p) at the expiration, cancellation or determination of the term of this License the Licensee will remove its fixtures from the Land, leave the Land in good repair and restore the Land to its original condition.
- (q) to observe and comply with any rules or regulations the City may make from time to time pertaining to the operation, reputation, safety, care or cleanliness of the Land and any use thereof as provided herein; and
- (r) that if, as a consequence of any release of a Hazardous Substance in or on the Lands or below the surfaces of the Lands, on or in the vicinity of the Lands by the Licensee or its servants, agents, or contractors or any person from whom the Licensee is in law responsible, any actions are required to be taken in order to comply with any Government Requirement applicable to the use, presence or removal of any Hazardous Substance on or from the Lands (including any Governmental Requirement relating to testing for or identification of Hazardous Substances) and if the Licensee has received notice in writing of such Governmental Requirement from the relevant authority (whether the requirement is made of the City or Licensee), then the Licensee shall at its expense take such action as required by the Governmental Requirement (or alternatively such other action as may be acceptable to the relevant authority after discussing with the Licensee). For the purposes of this paragraph:

Governmental Requirement(s) means all requirements made or imposed pursuant to law by federal, provincial, municipal or other governments including requirements of the Environmental Laws.

Hazardous Substances means any substances that are defined as or regulated as being waste, contaminants, pollutants, fungicides, insecticides, herbicides, dangerous substances, industrial waste, special waste, toxic substances, hazardous waste, hazardous material, or hazardous substance pursuant to Environmental Laws.

Environmental Laws means all applicable federal, provincial, municipal or local laws, statutes or ordinances, as they may be

amended from time to time after the Commencement Date of the Licence relating to the environment, occupational safety and the transportation or regulations of Hazardous Substances.

Article V – Non-exclusivity

- 5.01 (a) The Licensee acknowledge and agrees that the License herein shall not entitle the Licensee to exclusive possession of the Land;
- (b) The Licensee covenants and agrees not to interfere with the activities of any other person to enter on and use the Land under any prior or subsequent License granted by the City.
- (c) The parties hereto acknowledge that the License granted to the Licensee herein is a License only and shall not, under any circumstances, constitute a partnership, lease or joint venture between the parties.

Article VI – Assignment

- 6.01 Licensee shall not assign this License without the prior written consent of the City.

Article VII – Cancellation

- 7.01 In the event that:
- (a) the City requires the Land for its own use or in its sole discretion, considers that it is in the public interest to cancel the rights herein granted, in whole or in part,
- (b) the Licensee ceases to use the Land for the purposes permitted herein,
- (c) the City, in its sole discretion, considers that it is no longer necessary for the Licensee to use the Land for the purposes permitted herein,

the City may on Ninety (90) days written notice to the Licensee, cancel this License and the rights herein granted, in whole or in part and the Licensee agrees that the City shall not be responsible for payment of any costs, compensation, reimbursement or any monies whatsoever as a result of a notice pursuant to paragraph 7.01 (a), (b), or (c).

- 7.02 If the Licensee is in default in the observance of any covenant, agreements, provisions or conditions contained herein and such failure continues for a period of thirty (30) days after the giving of written notice by the City to the Licensee of the nature of the failure the City may cancel this License without prejudice to any rights to which the City has accrued under this License before the said cancellation.

- 7.03 Thirty (30) days after the expiration or cancellation of this License, any improvements or fixtures that remain unremoved from the Land shall be absolutely forfeited and become the property of the City and the City may remove them from the Land and the Licensee shall, on demand, compensate the City for all costs incurred by the City respecting their removal.
- 7.04 (a) The terms and provisions of the License shall extend to, be binding upon and enure to the benefit of the parties, hereto and their successors and permitted assigns.
- (b) This License and all the terms and conditions of it may be inspected by the public at such times and at such places as the City may determine.
- (c) Time is of the essence in this agreement.
- (d) The records of the City shall be conclusive evidence of the contents of any schedule referred to in this License.
- (e) In this License, unless the context otherwise requires, the singular includes the plural and the masculine includes the feminine gender and a corporation.
- (f) Where in this License there is a reference to Bylaws, that reference shall include a reference to any subsequent enactment of like effect, and unless the context otherwise requires all Bylaws referred to herein are enactments of the City of Penticton.
- (g) Any waiver or acquiescence by the City of or in any breach by the Licensee of any covenant or condition shall not be deemed to be a waiver of the covenant or condition of any subsequent or other breach of any covenant or condition of this License.
- (h) If the Licensee continues to exercise the License granted after the expiration of the term of it without objection by the City and without any written agreement providing otherwise, the Licensee shall be deemed to be a Licensee from month to month, and subject to the provisions of this License insofar as applicable, but it shall be lawful for the City to cancel and determine the License granted by delivering to the Licensee notice to that effect, and upon delivery of such notice the License shall cease without prejudice to any rights of the City under this License accrued before the cancellation.
- (i) Notice – Any notice required to be given hereunder by the Licensee shall be in accordance with the provisions of the *Local Government Act* of British Columbia and if by the City to the Licensee any notice hereunder

shall be deemed to have been well and sufficiently given if mailed, by prepaid registered mail, or telefaxed to or delivered to the Licensee at:

251 Dawson Avenue
Penticton, British Columbia
V2A 3N4

or such other address as the Licensee may from time to time direct in writing, and any such notice by the City to the Licensee shall be deemed to have been received, if mailed, five (5) days after the time of mailing, or if telefaxed, seventy-two (72) hours after the time of telefaxing and if delivered upon the date of delivery. If normal mail service, telefax service is interrupted by strike, slow down, force majeure or other cause, a notice sent by the impaired means of communication will not be deemed to have been received until actually received, and the City may utilize any such services which have not been so interrupted.

Article VIII – Payment of City's Expenses

- 8.01 If at any time an action is brought or the City is otherwise required to employ the services of a bailiff, an agent, or its solicitors because of a breach by an act or omission of any covenant herein contained on the part of the Licensee, the Licensee shall pay to the City all expenses incurred by the City in the enforcement of its rights and remedies hereunder (including the City's administrative costs and legal fees on a solicitor and his own client basis in connection therewith) together with interest thereon at the rate equivalent to the prime rate of the Bank of Montreal plus three percent (3%) per annum calculated monthly not in advance from the date due until paid. For the purposes of this paragraph the prime rate shall mean the annual percentage rate of interest established from time to time by the Bank of Montreal, Main Branch, Vancouver, British Columbia as the base rate that will be used to determine rates of interest charged by it for Canadian Dollar loans to customers in Canada and designated by the Bank of Montreal as the prime rate.

IN WITNESS WHEREOF the parties hereto have hereunto executed this agreement as of the date and year first above written.

THE CORPORATION OF THE CITY OF PENTICTON

by its authorized signatories:

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer

PENTICTON AND DISTRICT EMERGENCY PROGRAM SOCIETY

by its authorized signatory:

Witness to Signature

Witness to Signature

Attachment A

SCHEDULE "A"

Description of the licence area:

+/- 0.221 ac. Portion of Lot 8, DL 19972, Plan 11264, Located at 251 Dawson Avenue, Penticton, BC and shown outlined in Red in the aerial photograph below. The leased area also includes +/- 3,400 sq.ft. of building space.



SCHEDULE "B"

MANAGEMENT PLAN

1.1 Purpose

To enable the Licensee to operate search and rescue services out of the Licenced premises located at 251 Dawson Avenue, Penticton, B.C.

1.2 Special Provisions

- (a) That the City and/or Fire Department may require use of the building to establish a secondary Emergency Operations Centre;
- (b) The City and/or Fire Chief have approval rights prior to any outside painting, construction or renovation to the building;
- (c) The approval of the City and/or Fire Chief shall be required prior to the construction of any and all structures outside the building;
- (d) The Fire Department will have first rights to store the tow vehicle and zodiac rescue boat, plus storage of equipment as required;
- (e) The Firefighter Local 1399 retain storage of their vintage fire truck in the garage bay;
- (f) That the Penticton Amateur Radio Club retain use of the portion of the building that they now occupy;
- (g) Any sub-contract of the facility be approved by City prior to implementation. The sub-contract fee to be retained by the Penticton and District Emergency Program Society;
- (h) The Licensee will be responsible for the security of the building.

Council Report

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Mitch Moroziuk, General Manager of Infrastructure
Subject: **Granular Sludge Pilot Project - AECOM**

File No:

Staff Recommendation

THAT Council endorses the City working with AECOM on a Granular Sludge Pilot Project at the Advanced Waste Water Plant.

Strategic priority objective

This project supports the Fiscal Sustainability Priority of undertaking asset management to ensure the sustainability of municipal infrastructure.

Background

The City and AECOM have been in discussion with respect to running a Granular Sludge Pilot Project at the Advanced Waste Water Treatment Plant since the summer of 2017. On November 29, 2017 AECOM sent the City a letter outlining the project, setting out the involvement of City staff and the benefits to the City and requesting the City's approval to move forward with the Pilot Project, see Attachment "A".

The City of Penticton Advanced Waste Water Treatment Plant utilizes Biological Nutrient Removal as part of its treatment process. This was state of the art when it was introduced in 1990. Over the ensuing years continued research and analytical techniques and the discovery of a new biological treatment pathway have laid the way for a technological leap in Biological Nutrient Removal.

AECOM in a joint venture with the District of Columbia Water and Sewer Authority and World Water Works would like to work with the City of Penticton to undertake a Pilot Project to test new technology. The City of Penticton involvement would be to assist with the planning and installation of the Pilot Project equipment, monitoring of the temporary pump, cleaning of the ammonia probe and daily testing to verify performance. The remainder of the work will be undertaken by the partners. Meeting of the effluent discharge permit requirements will be treated as the upmost priority and the Pilot Project will be suspended if there is a risk of requirements being exceeded.

The short term benefit for the City is that they will receive free of charge Licenses to use the technologies being tested. The value of these licenses is \$38,700. The cost of the new technology is estimated at

\$734,000. The long term benefit for the City is that should the technology prove out the planned construction of a third clarifier, in 5 years' time, could be eliminated for a cost savings of \$3,000,000 to \$4,000,000.

There have been many Pilot Projects undertaken at the Advanced Waste Water Treatment Plant over the years and this is a continuation of that long standing practice, one which benefits the City, consultants and the sewage treatment industry.

Financial implication

The cost to assist with the Pilot Project can be absorbed within the regular activities of the Advanced Waste Water Treatment Plant.

Analysis

The endorsement of the staff recommendation would allow the Pilot Project to proceed. Alternatively Council could decide not to partake in the Pilot.

Alternate recommendations

THAT Council declines to work with AECOM on a Granular Sludge Pilot Project at the Advanced Waste Water Plant.

Respectfully submitted,

Mitch Moroziuk P.Eng. MBA
General Manager of Infrastructure

Attachments:

Attachment "A" – November 29, 2017 letter from AECOM

Approvals

A/ CAO <i>JWB</i>

Attachment "A" – November 29, 2017 letter from AECOM



AECOM Canada Ltd.
3275 Lakeshore Road
Suite 201
Kelowna BC V1W 3S9
Canada

T: 250.762.3727
F: 250.762.7789
aecom.com

November 29, 2017

Mitch Moroziuk
General Manager of Infrastructure
City of Penticton
171 Main Street
Penticton, BC. V2A 5A9

Dear Sir

City of Penticton AWWTP Granular Sludge Pilot Study

As per our meeting of June 14, 2017, AECOM is pleased to provide the City of Penticton an outline of a proposed granular sludge pilot study at the City's Advanced Wastewater Treatment Plant (AWWTP). By way of this letter, we are also requesting formal approval to proceed with the pilot.

The proposed pilot study is a collaborative effort between AECOM, District of Columbia Water and Sewer Authority (DC Water), World Water Works Inc. and City of Penticton to test two new technologies together within a full-scale biological nutrient removal (BNR) treatment plant.

The BNR treatment technology originally installed at the City of Penticton AWWTP has undergone continued refinements since it was introduced in 1990. At the time, biological removal of phosphorus and nitrogen was a cutting-edge approach. In fact, the first installation of this technology in North America was in Kelowna, followed a short time later in Penticton. Over the last 30 years, continued research, new analytical techniques and discovery of unique biological treatment pathways has laid the ground-work for a technological leap to the BNR process, allowing it to be smaller and more energy efficient while providing more robust treatment.

The objective of the pilot study is to provide the conditions which allow for the formation of granular sludge in the bioreactor.

Granular sludge is an aggregation of microbial origin which allows for growth of the varied bacteria used for wastewater treatment. Conventional BNR process is designed to optimize formation of flocs which provides the physical framework for growth of bacteria. Granular sludge serves a similar function as conventional floc function but allows for 2 to 3 times higher biological density. The higher density translates into a smaller bioreactor and reduces the size of the secondary clarifier. In effect, if successfully integrated into the BNR process, granular sludge could reduce the physical footprint of the treatment plant by more than a third. For the City of Penticton AWWTP, a granular sludge process would defer or potentially eliminate the need for construction of a new secondary clarifier in the next 2-5 years at an estimated cost of \$3,000,000 to \$4,000,000.

The proposed pilot testing at Penticton AWWTP will test various scenarios that could promote the growth of granular sludge and optimize the use of carbon for biological phosphorus and nitrogen reduction. Use of hydro-cyclones is one scenario that will be tested. The inDense™ technology consists of a hydro-cyclone and has been successfully used to retain sludge granules in other treatment plants. A second technology (AvN™) developed by DC Water proposed for testing consists of an aeration control strategy which optimizes carbon utilization and allows for more efficient nutrient removal. Part of the pilot testing will consist of installing the inDense™ and AvN™ technologies on one of the two AWWTP process trains,

aecom.com

1/3



once the existing channel upgrades are complete. The approach of using the two technologies together within the City's AWWTP treatment plant could lead to new process innovations.

World Water Works, one of the partners for the proposed pilot testing at Penticton AWWTP, holds the rights to market and sell the inDense™ and AvN™ technologies. DC Water originally developed the patent for the AvN™ technology and will be contributing their expertise to the pilot study. Supply of equipment required for the pilot will be shared between AECOM and World Water Works, based on a fixed term rental.

AECOM staff from our Kelowna office will coordinate delivery of equipment; assist with installation of the various elements; serve as the liaison with Ministry of Environment; and while in operation, will conduct weekly visits to Penticton AWWTP to assess progress. Meeting final effluent permit requirements will always be treated as the utmost priority. On this basis, the pilot will be suspended if at any time the final effluent criteria of the AWWTP are at risk of being exceeded.

The City of Penticton's contribution to the pilot study is expected to consist of assistance with planning, installing and maintaining the inDense™ and AvN™ technologies. A temporary pump will likely be used to convey mixed liquor or return activated sludge through the inDense™ hydro-cyclone. The temporary pump installation will require daily monitoring. The AvN™ incorporates a nitrate/nitrite and ammonia probe which will necessitate periodic (weekly) cleaning and calibration. In addition, daily testing to characterize performance will be required but these will be no different than those currently undertaken by AWWTP lab staff (i.e., SVI, influent/effluent nutrients, mixed liquor suspended solids, dissolved oxygen, etc.).

As recognition for its support of this pilot testing, World Water Works and DC Water would transfer a license to the City of Penticton to allow it to use the inDense™ or AvN™ technologies, as well as any new technology developed as part of the piloting at its AWWTP. AECOM will coordinate any license transfer agreement between the City and World Water Works or DC Water. The license fee does not include the cost of supplying or installation of the associated equipment. However, the City could choose to purchase any technology installed as part of the pilot from World Water Works.

The proposed pilot would not proceed until the current bioreactor upgrades are complete early in December. However, in the meantime AECOM will continue developing a testing plan and arrangement of equipment to maximize success of the pilot and minimize disrupting day-to-day activities of the AWWTP.

It is expected that the pilot would operate through to the end of year 2018. Documentation of the results of the pilot is expected to take 1-2 months following the end of the piloting,

Function	Description	Timeline
1.) Baseline Testing	The two bioreactor trains operated to document baseline characteristics	Jan. – Feb., 2018
2.) Anaerobic Selector & Settler Testing	Establish and test mechanism for granule size selection and assess optimal RAS/VFA split	Mar. – July, 2018
3.) Introduction of Hydro-cyclones	Install hydro-cyclones and optimize feed rate to assess effectiveness on granule formation	Aug. – Dec., 2018
4.) Reporting & Documentation	Finalize results and documentation of the pilot testing	Feb., 2019



Please let us know if the above piloting generally meets with the City's approval. Do not hesitate to contact the under-signed if you required additional information. We look forward to the potential opportunity of working with the City on this interesting and novel research.

Yours sincerely,

P.P.


Beverley Stinson, PhD.
Senior Vice President &
Global Wastewater Practice & Market Sector Leader
AECOM



Piero Galvagno, P.Eng., PhD.
Process Engineer
AECOM

Council Report

penticton.ca

Date: December 19, 2017 **File No:**
To: Peter Weeber, Chief Administrative Officer
From: Tyler Figgitt, Design Supervisor
Subject: **Water Transmission System Upgrades Tender, Budget Amendment**

Staff Recommendation

THAT Council approve a budget increase of \$350,000 to CAP10024-W50 from the City's Water Reserve to fund 2017-Tender-15 Water Transmission System Upgrades;

AND THAT Council direct staff to proceed with the tender award for the Water Transmission System Upgrades to the low bidder Cantex-Okanagan Construction LTD.

Strategic priority objective

- This project supports a Sustainable Community by investing in the renewal of the City's water, and sanitary sewer infrastructure.
- This project supports a Livable Community by ensuring the City can continue provide a safe and dependable drinking water supply, and a well-maintained, reliable sanitary sewer collection system.

Background

The City issued the Water Transmission System Upgrade tender November 14, 2017 for the replacement of two critical reservoir supply water mains on Ridgedale Avenue that are in need of replacement. The City received four tenders on December 5, 2017 and the lowest tender was received by Cantex-Okanagan Construction Ltd for \$2,690,894.06 including taxes. The lowest tender received is over budget and requires and additional \$350,000 to complete the project.

The tender has been reviewed by Engineering Department for potential savings by reducing the scope but no savings have been identified due to the critical nature of these upgrades. Further analysis of the tender prices has indicated that the additional costs required to complete the upgrades are strictly related to the water main installation and should be funded from the Water Reserve. As part of the tender review, it has been determined that material pricing for the large diameter water mains for this project have risen dramatically over the last year. Price increases were also impacted by an overall trend of rising construction rates that has been experienced throughout the valley.

Financial implication

A budget amendment of an additional \$350,000.00 to CAP10024-W50 is required to fund this capital upgrade. Funds are available from the Water Reserve. Budget for this project will be increased from \$2,485,000.00 to \$2,835,000.00 with this amendment and includes engineering services, consulting fees, permits, contingencies and implementation of the water main work.

Analysis

Approval of this project will allow for the replacement of two water mains that serve a critical purpose in delivering domestic water to the City’s reservoirs. This infrastructure has experienced failures in the past, is at the end of its life, and needs replacement. Approval will ensure that the City can continue to provide safe, clean, reliable drinking water and water for firefighting purposes to its residents.

Alternatively, if Council wishes to cancel the project, it will be brought back for budget consideration for the 2019 budget.

Alternate recommendations

THAT Council direct staff to cancel the project and budget in 2019 to complete the upgrades. The required upgrades would be funded from within the Engineering capital budget.

Attachments




None.

Respectfully submitted,



Tyler Figgitt
Design Supervisor

Approvals

General Manager of Infrastructure 	Chief Financial Officer 	A/ Chief Administrative Officer 
--	--	--

Council Report

penticton.ca

Date: December 19, 2017 File No: RMS 6700-20
To: Peter Weeber, Chief Administrative Officer
From: Blake Laven, Planning Manager
Subject: **Memorandum of Understanding with BC Housing; Housing Provider Assistance Program**

Staff Recommendation

#1 - BC Housing Memorandum of Understanding

THAT Council approve the attached Memorandum of Understanding for the development of supported modular housing in Penticton as part of the provincial rapid housing response program.

AND THAT the Mayor and Corporate Officer are authorized to enter into the agreement on behalf of the City.

#2 - Housing Provider Assistance Program

THAT Council support, in principle, the use of funds from the City's Affordable Housing Reserve Fund to establish a program to assist the City's not-for-profit housing providers in preparing for expected provincial and federal housing funding announcements.

Strategic priority objective

Housing affordability is important for a livable community and thriving economy. The two initiatives in this report are intended to positively affect housing attainability and affordability at the lowest ends of the housing spectrum.

Background

Rapid Response to Housing Program

As part of the province's commitment to provide 114,000 units of affordable housing in BC, \$291 million dollars have been budgeted for the construction of 2,000 units of modular housing for 'persons at risk of homelessness'. An additional \$17 million more over three years has been allocated to staffing and support for the housing.

The efforts of 100 Homes Penticton through their homeless counts and the City's own 2016 Housing Needs Assessment have put actual numbers to the anecdotal observations of homelessness in Penticton. Because of these efforts, the province has identified Penticton as a community where this supported housing could be located.

BC Housing has approached the City with a memorandum of understanding (MOU), which would commit the City to support a project for up to 52 units of supported modular housing in Penticton at a to-be-determined location. No City land is being requested at this time. Most likely, the housing will be placed on lands owned by the Housing Authority or a not-for-profit housing provider.

The MOU that the City would be signing is a 'non-binding' agreement that only outlines the *intent* to provide support. The agreement outlines a wish for the partners to confirm their intent to work together in a cooperative and collaborative manner to negotiate and finalize, with all reasonable due diligence and timeliness, the arrangements, transactions and agreements. Entering into the agreement does not pre-suppose a Council decision on any location in the community. Once a location has been selected, a process of neighbourhood notification will commence. The level of neighbourhood engagement will depend on what land use approvals are required.

Housing Provider Assistance Program

In addition to the Rapid Response to Housing Program, the province has advertised their intention to develop substantially more subsidized rental housing in BC over the next decade. This housing will not be intended only for those experiencing homelessness. In fact the majority will be for other groups who, for whatever reason, require subsidized housing - low income families, persons with disabilities, seniors in need etc. Furthermore, the federal government has announced the creation of a national housing strategy worth \$30 billion over the next 11 years, \$5 billion of which will be invested in the next 3 years.

Suffice it to say, there will be substantial opportunities for senior government investment in housing in BC. In speaking with BC Housing staff familiar with the situation in Penticton, the feeling is that Penticton, needs to be well prepared to respond to the various expected funding announcements. This is an issue the City has and should continue to take leadership on.

To assist the community's not-for-profit housing providers, City staff are proposing the establishment of a partnering program, whereas the City provides seed funding to interested groups to hire 'development consultants.' A development consultant is someone who provides development assistance and advice to not-for-profit housing providers - who generally specialize in operating housing, not developing it. The goal of the program is to have shovel ready Penticton projects when funding announcements are made. This involves having zoning in place and a development plan, proforma and operating plan ready as well.

To kick off this project, staff in partnership with BC Housing and CMHC will be organizing a meeting early in the new year with all of the City's current and prospective not-for-profit housing providers. Following from the meeting, on-going development assistance will be provided and the aforementioned granting program established.

Financial Implications

Under the terms of the Memorandum of Understanding, the City is not committing any monetary assistance, only staff time.

With the not-for-profit housing provider assistance program, the City is committing funds from the City's Affordable Housing Reserve Fund for 2018 as well as staff time for on-going development assistance. No City land is being included at this time. The Affordable Housing Reserve Fund is currently valued at approximately \$160K. The total cost of the program will be better understood as the needs from the

housing providers are developed. A budget adjustment will be brought to Council in the new year to reflect the true cost of the assistance. Staff are anticipating grants of up to \$5,000 per housing provider. Council will be provided with further reports around the specifics of any funding allocations prior to any decisions being made.

Analysis

The City’s Housing Needs Assessment has identified a gap in non-market housing of 240 units currently and a need of an additional 120 units of family housing and 300 units of supported housing over the reports study period (2016-2047). The efforts of 100 Homes Penticton, local not-for-profit housing providers and BC Housing, with Council support, have helped to close the gap on supported housing by adding Fairhaven (40 units) and Compass Court (42 units), but the community need for additional housing is still evident – especially on other parts of the housing spectrum.

The two programs that are outlined in this report will assist in providing needed subsidized, non-market housing in Penticton. Entering into the Memorandum of Understanding with BC Housing will assist those currently in housing crisis – through the provision of almost immediate housing for those on the margins. The partnership program will assist local not-for-profit housing providers be ready for funding announcements for housing units on all other parts of the non-market housing spectrum.

Given the above, staff are requesting Council support the staff recommendation.

Alternate Recommendations

- 1. THAT Council enter into the Memorandum of Understanding with BC Housing but not support the Housing Provider Partnership Program
- 2. THAT Council refer both initiatives back to staff for additional information

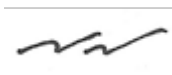
Attachments

Attachment A: Draft Memorandum of Understanding

Respectfully submitted,

Blake Laven, RPP, MCIP
Planning Manager

Approvals

DDS <i>AL</i>	Acting CAO 
----------------------	---

Attachment A
Draft MOU for Council's Endorsement

MEMORANDUM OF UNDERSTANDING

Decemeber 2017

Between the British Columbia Housing Management Commission ("BC Housing") and the City of Penticton (the "City") for the Rapid Response to Homelessness ("RRH") to design, construct and operate up to 52 Temporary and Permanent Modular homes (the "Developments") to house with supports, homeless residents on sites across the Province of British Columbia.

The purpose of this Memorandum of Understanding ("MOU") is to set out the desired basic business terms and conditions upon which BC Housing and the City intend to proceed with discussions and negotiations for the construction and operation of the Developments. While this MOU is not intended to create legally binding rights or obligations, the parties wish to confirm their intent to work together in a cooperative and collaborative manner to negotiate and finalize, with all reasonable due diligence and timeliness, the arrangements, transactions and agreements contemplated in this MOU.

Both parties acknowledges that any other agreements arising from or contemplated under this MOU and all rights and obligations of BC Housing will be subject to approvals by BC Housing's Executive Committee and Board of Commissioners as required; and all rights and obligations of the City/District will be subject to approvals by the City/District's Corporate Management Team and Council, as required.

1.0 BACKGROUND & DESCRIPTION

Homelessness in the Province is on the rise and shelter providers are experiencing significant pressure from high occupancy rates and the increasingly complex mental and physical health and/or substance use issues experienced by clients. While shelters provide an important service, there is a need for more stable supportive housing in order to transition individuals into stable, long-term housing. This RRH is intended to respond to the current homelessness crisis by providing immediate access to appropriate supportive housing.

2.0 ROLES & RESPONSIBILITIES

The City/District will provide access to the sites selected in accordance with the criteria set out herein, at the City/District's own cost for sites owned by the City/District, and will designate Blake Laven, Planning Manager as the primary contact with BC Housing for this RRH.

2.1 The City will:

- coordinate the activities of all relevant City departments including but not limited to Corporate Communications, Engineering Services, Planning, , Development, Building and Licensing, Finance, Risk and Supply Chain Management and the City Manager's Office;
- support any public consultation processes associated with development applications;
- support Planning in its regulatory approval role; and
- support BC Housing, through the City representative to coordinate the design, construction and commissioning of the Developments,
- support securing all City approvals, including zoning and building bylaw approvals.

{00811328-v4}

1

2.2 BC Housing - Development and Asset Strategies will:

- at its cost, purchase, own and provide the modular units that make up the Developments (the “Units”) and provide the operating funds, as set out in this MOU and will designate internal staff as the primary contact with the City/District for this RRH;
- as the owner of the Developments, BC Housing will be responsible for the ongoing housing operations, tenants and tenant relocation, and future decommissioning and relocation of Units;
- coordinate the activities of all relevant departments within BC Housing, including but not limited to Operations, Communications, Corporate Services and the Executive Office;
- provide written confirmation of capital and operating funding for the design, construction, operation, maintenance, future decommissioning and tenant relocation of the Developments to the City/District;
- commit to cover any agreed capital costs (site specific costs including application fees, and design work) or provide up-front pre-development funding to cover costs incurred by the City/District in an effort to meet critical path expectations;
- coordinate the negotiation of leases or licenses, as applicable, between PRHC and the City/District for City/District-owned sites, or sub-leases, as applicable, between the Provincial Rental Housing Corporation (“PRHC”) and the City/District for privately owned or other Government Agency sites (unless such agreement is entered into directly by PRHC and the owners of such sites), in a form to be agreed upon between the parties;
- lead the selection of non-profit operators to operate the Developments, in consultation with the City/District, prior to site specific community dialogue sessions, including executing Operating Agreements and providing operating funding to the non-profit operators;
- lead the initial and ongoing tenant selection process through BC Housing’s Coordinated Access program in consultation with the City/District;
- in partnership with the non-profit operators, coordinate the delivery of health services for tenants with the regional Health Authority Interior Health _____ (“Health Authority”); and
- comply with zoning and all Development Permit conditions regarding the above uses that allow for a temporary location for up to ten years, with an option to extend for another five years, subject to City Council approval. Any relocation of a Development within this time-frame must be within boundaries of the City, unless otherwise agreed by both parties.

In connection with this RRH, and unless mutually agreed otherwise, the City/District and BC Housing agree to the following principles:

3.0 UNIT SPECIFICATION

- Maximum 275-350 sq ft unit sites, with the maximum number of Units on any one site not to exceed 80 Units.

- Designed in line with BC Housing’s design guidelines for temporary modular housing. Attached as Appendix 3.
- Amenity Space to include a medical room, program space with communal kitchen and attached dining areas, client interaction space.
- Office space for building manager and for tenant support worker (tenant worker office can also function as the client interaction space).
- Comprehensive security measures which include design features, security cameras and exterior lighting.
- Building specifications based on BC Housing guidelines for a hardened population.
- Accessible units on main floor of buildings.
- Temporary Modular buildings exceeding 5 floors require elevators.
- Units could be self-contained dwellings with private bathroom and cooking facilities or for the more temporary housing projects; these units could be modeled on workforce housing standards.
- The self-contained Units will be approximately 350 sq ft and will be designed and comply with BC Housing guidelines for projects that cater to a homeless at risk population.
- Costs are estimated up to 145K per Unit, subject to confirmation through the procurement process.
- Units will be owned by the Provincial Rental Housing Corporation (PRHC) and located temporarily on Development Sites provided by the City/District.
- Total operating subsidy for 24/7 staffing and support services based on a 50 Unit project is estimated to cost, \$1.5m annually, subject to confirmation by BC Housing based on comparable operations and service levels of other BC Housing led housing projects.

4.0 OPERATING MODEL

- BC Housing will provide support services appropriate for a homeless & at risk of homelessness tenant population. These supports will include a 24/7 staffing model, a meal program and non-clinical supports.
- Health Care will be provided in collaboration with the appropriate Health Authority.
- Wrap-around service to be delivered through coordinated neighborhood health services with dedicated workers who will prioritize referrals to serve this highly vulnerable population.
- Each building will have an agreed Operations Management Plan that will be shared with the City/District and surrounding community, prior to occupancy.

5.0 TENANTING MODEL

See Appendix 2 for details.

6.0 SITES, PERMITTING & APPROVALS

6.1 Permitting & Approvals

- The Modular Housing will allow for a temporary location for *up to* ten years, with an option to extend for another five years.

- For the Modular Housing that is more permanent, a 10 year lease with extension provisions will be requested.
- The City/District will be responsible for all permitting and approvals.

6.2 Site Criteria

In order to determine the site feasibility for the Developments, the following criteria were used to evaluate a particular site:

- Land Ownership considerations
- Current land-use/zoning
- Environmental issues with the land
- Development potential & timing
- Timeline for alternative use & development
- Lease & legal considerations
- Access to transit
- Access to health services
- Site access & servicing
- BC Hydro considerations
- Financial considerations

7.0 NEXT STEPS

7.1 Communication Plan

- The Communications Plan will be coordinated between BC Housing and the City/District's Communications Departments who will co-lead the creation and implementation of the Communication Plan, including a Community Dialogue Strategy if required.
- BC Housing will procure and engage non-profit Operators prior to start of site specific community dialogue sessions.
- Following the confirmation of sites, and at the City/District's discretion a more community consultation maybe considered.

Without the prior written consent of the other parties, no party will make any press release, public announcement or public statement about: (a) the proposed Memorandum of Understanding or the Developments, (b) the existence or any terms of this MOU, (c) the fact that discussions are taking place between the parties concerning the RRH and the Developments, or (d) identify the other party either by name or by identifiable description in connection with the RRH and the Developments.

7.2 Additional Government Partnerships and Alignment

- All parties agree to further seek out other government entities and the Federal Government for capital and operating support for this partnership, in order to effectively leverage the investments committed here.

8.0 CRITICAL PATH DATES -

The aim of all parties is to deliver the temporary modular units by the end the 2017 calendar year with the permanent housing by the Fall of 2018, subject to timelines for unit manufacturing, and site feasibility. Agreed timelines for development will be included in any lease/license/sub-lease/sub-licence agreements between the City/District and BC Housing, with the intention of meeting the over-all timelines set out here.

9.0 TERMINATION OF MOU

This MOU is not legally binding and does not create any legal obligations unless and until agreements are entered into by the parties. The parties each acknowledge that it is a condition of this MOU that if the RRH is not viable this MOU will automatically terminate.

_____ day of _____, 2017.

City / District of _____
by its authorized signatory:

Signature

Name and Title

British Columbia Housing Management
Commission
by its authorized signatory:

Signature

Name and Title

Bylaw No. 2017-75

A Bylaw to Amend Zoning Bylaw 2017-08

WHEREAS the Council of the City of Penticton has adopted a Zoning Bylaw pursuant the Local Government Act;

AND WHEREAS the Council of the City of Penticton wishes to amend Zoning Bylaw 2017-08;

NOW THEREFORE BE IT RESOLVED that the Municipal Council of the City of Penticton, in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. Title:

This bylaw may be cited for all purposes as "Zoning Amendment Bylaw No. 2017-75".

2. Amendment:

2.1 Zoning Bylaw 2017-08 is hereby amended as follows:

Rezone Lot 11, District Lot 4 Group 7 Similkameen Division Yale (Formerly Yale-Lytton) District Plan 937, located at 453 Eckhardt Avenue West from RD2 (Duplex Housing: Lane) to RM2 (Low Density Multiple Housing).

2.2 Schedule 'A' attached hereto forms part of this bylaw.

READ A FIRST time this	5	day of	December, 2017
A PUBLIC HEARING was held this	19	day of	December, 2017
READ A SECOND time this		day of	, 2017
READ A THIRD time this		day of	, 2017
RECEIVED the approval of the		day of	, 2017
Ministry of Transportation on the			
ADOPTED this		day of	, 2017

Notice of intention to proceed with this bylaw was published on the 8 day of December, 2017 and the 13 day of December, 2017 in the Penticton Western newspaper, pursuant to Section 94 of the Community Charter.

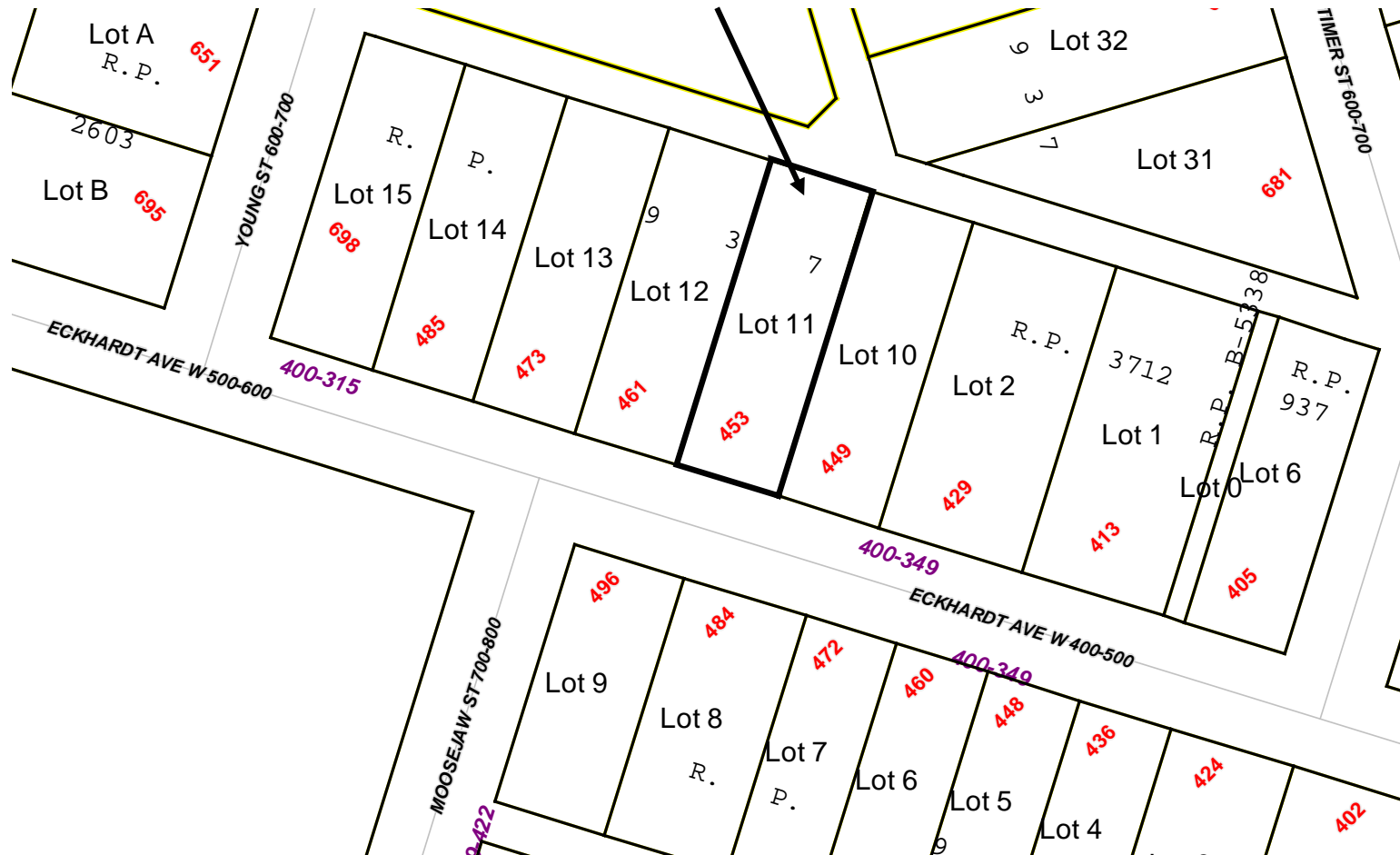
<p>Approved pursuant to section 52(3)(a) of the <i>Transportation Act</i> this _____ day of _____, 2017</p> <p>_____</p> <p>for Minister of Transportation & Infrastructure</p>
--

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer

Rezone 453 Eckhardt Ave W

From RD2 (Duplex Housing: Lane) to RM2 (Low Density Multiple Housing)



City of Penticton – Schedule 'A'

Zoning Amendment Bylaw No. 2017-75

Date: _____

Corporate Officer: _____

Bylaw No. 2017-78

A Bylaw to Amend Zoning Bylaw 2017-08

WHEREAS the Council of the City of Penticton has adopted a Zoning Bylaw pursuant the *Local Government Act*;

AND WHEREAS the Council of the City of Penticton wishes to amend Zoning Bylaw 2017-08;

NOW THEREFORE BE IT RESOLVED that the Municipal Council of the City of Penticton, in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. **Title:**

This bylaw may be cited for all purposes as "Zoning Amendment Bylaw No. 2017-78".

2. **Amendment:**

2.1 Zoning Bylaw 2017-08 is hereby amended as follows:

Rezone Lot A, District Lot 294, Similkameen Division Yale District, Plan 14463, located at 935 Forestbrook Drive, from R2 (Small Lot Residential) to P2 (Parks and Recreation) and RM2 (Medium Density Multiple Housing) as shown on Schedule A.

2.2 Schedule 'A' attached hereto forms part of this bylaw.

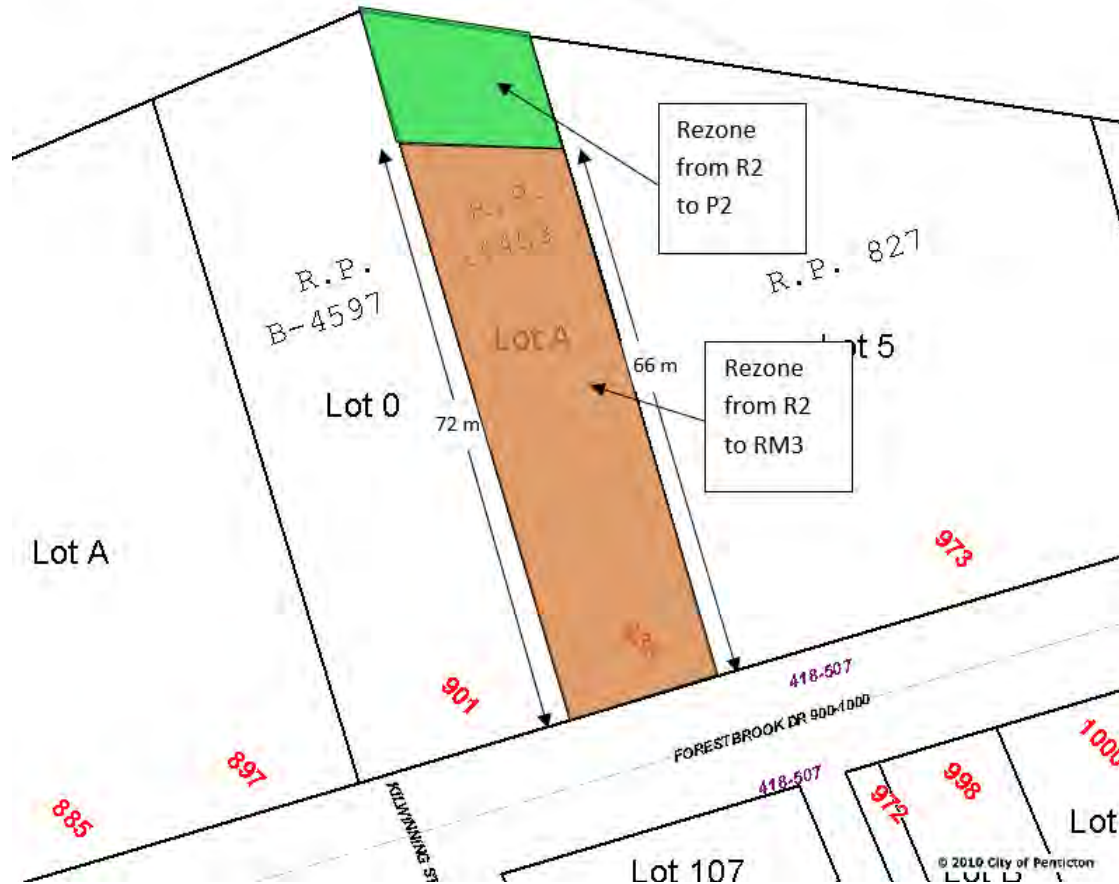
READ A FIRST time this	5	day of	December, 2017
A PUBLIC HEARING was held this	19	day of	December, 2017
READ A SECOND time this		day of	, 2017
READ A THIRD time this		day of	, 2017
ADOPTED this		day of	, 2017

Notice of intention to proceed with this bylaw was published on the 8 day of December, 2017 and the 13 day of December, 2017 in the Penticton Western newspaper, pursuant to Section 94 of the *Community Charter*.

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer

Rezone 935 Forestbrook Drive From RS (Small Lot Residential) To P2 (Parks and Recreation) and RM3 (Medium Density Multiple Housing)



City of Penticton – Schedule 'A'

Zoning Amendment Bylaw No. 2017-78

Date: _____

Corporate Officer: _____

Bylaw No. 2017-77

A bylaw to amend the Fees and Charges Bylaw No. 2014-07

WHEREAS the Council of the City of Penticton has adopted a Fees and Charges Bylaw pursuant to the *Community Charter*;

AND WHEREAS the Council of the City of Penticton wishes to amend the "Fees and Charges Bylaw No. 2014-07";

NOW THEREFORE BE IT RESOLVED that the Municipal Council of the City of Penticton in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. **Title:**

This Bylaw may be cited as "Fees and Charges Amendment Bylaw No. 2017-77".

2. **Amendment:**

2.1 Amend "Fees and Charges Bylaw No. 2014-07" by adding Appendix 30– Excessive Nuisance Abatement Fee.

2.2 Appendix 30 – Excessive Nuisance Abatement Fee as attached hereto forms part of this bylaw.

READ A FIRST time this 5 day of December, 2017

READ A SECOND time this 5 day of December, 2017

READ A THIRD time this 5 day of December, 2017

ADOPTED this day of , 2017

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer

Appendix 30

Excessive Nuisance Abatement Fee

2017

Administered through the Good Neighbour Bylaw

RCMP Nuisance Service Call	\$200/call
City of Penticton Fire Department Nuisance Service Call	\$400/call
City of Penticton Staff Nuisance Service Call	\$200/call

In the event that multiple agencies respond to a nuisance call, the fee for each agency will be applicable.

Council Report

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Randy Houle, Planner I
Address: Lots 2-10, 19-22 Hawthorn Drive
Subject: **Development Variance Permit PL2017-8101**

File No: DVP PL2017-8101

Staff Recommendation

THAT Council approve "Development Variance Permit PL2017-8101" for Lots 2-10 and Lots 19-22 District Lot 2710 Similkameen Division Yale District Plan EPP69185, located along Hawthorn Drive as highlighted in red in Attachment A, a permit to increase the maximum height of a retaining wall within a required yard from 1.2m to 5.0m;

AND THAT staff be directed to issue "Development Variance Permit PL2017-8101."

Background

The subject properties (Attachment A) are zoned R1 (Large Lot Residential) and designated by the City's Official Community Plan as LR (Low Density Residential). Photos of the sites are included as Attachment D. The subject properties are part of Panorama View Estates, with single family dwellings currently under construction on a few of the lots. The surrounding properties are zoned R1 (Large Lot Residential) and A (Agriculture).

Proposal

The applicant is proposing to construct engineered retaining walls in the required setbacks, ranging from 1.2m to 5.0m in height. This will help to provide useable yard space due to the steepness of the lots. The maximum allowable height of a retaining wall in a required setback is 1.2m, therefore the applicant is requesting a Development Variance Permit to vary the following section of Zoning Bylaw No. 2017-08:

- Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 5.0m.

Financial implication

N/A

Technical Review

This application was forwarded to the City's Technical Planning Committee (TPC) and reviewed by the Engineering and Public Works Departments. Technical requirements have been identified and will be addressed as part of the building permit process. These items include the requirement for a geotechnical engineer and cross-sections of the proposed retaining walls.

Analysis

Development Variance Permit

Support Variance

When considering a variance to a City bylaw, staff encourages Council to be mindful of any constraints on the property that makes following the bylaw difficult or impossible; whether approval of the variance would cause a negative impact on neighbouring properties and if the variance request is reasonable.

Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 5.0m.

- As previously mentioned, the proposed retaining walls will help to provide useable yard space for the future residents of Panorama View Estates. The retaining walls will all be cast-in-place, providing a consistent and uniform look and feel. The walls along Lots 2 to 7 will replace an existing rock slope which will increase the aesthetic appearance. The majority of the walls will be internal, thus having little impact on the surrounding neighbourhood. The walls that do face neighbouring properties along Lots 2-9 will abut an environmentally sensitive area which is well above and away from any residences. For these reasons, it is reasonable to support the variance.

The proposed variance will also reduce the need for each property owner to come forward with variances on a sit by site basis, reducing the timeframe of approvals for new housing in this neighbourhood.

Deny/Refer Variance

Council may consider that the proposed variance will negatively affect the neighborhood. If this is the case, Council should deny the variance.

Alternate Recommendations

1. THAT Council support DVP PL2017-8101 with conditions.
2. THAT DVP PL2017-8101 be referred back to staff.

Attachments


Attachment A:	Subject Property Location Map
Attachment B:	Zoning Map
Attachment C:	OCP Map
Attachment D:	Photos of Subject Property
Attachment E:	Site Plan
Attachment F:	Retaining Wall Elevations
Attachment G:	Typical Retaining Wall Section

Attachment H: Letter of Intent
Attachment I: Development Variance Permit PL2017-8101

Respectfully submitted,

Randy Houle
Planner I

Approvals

DDS 	Acting CAO JB
--	------------------

Attachment A – Subject Property Location Map

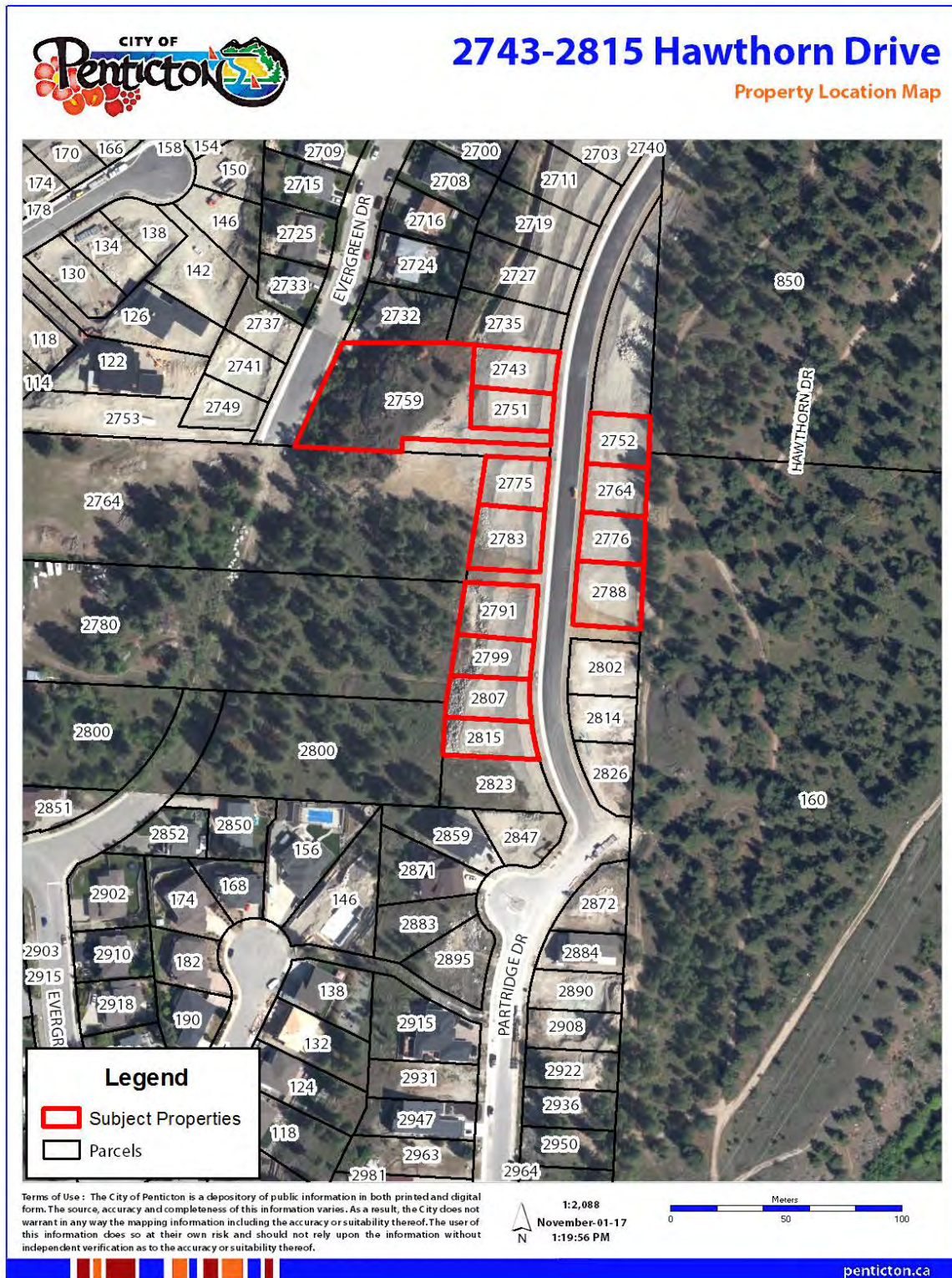


Figure 1: Subject Property Location Map

Attachment B – Zoning Map

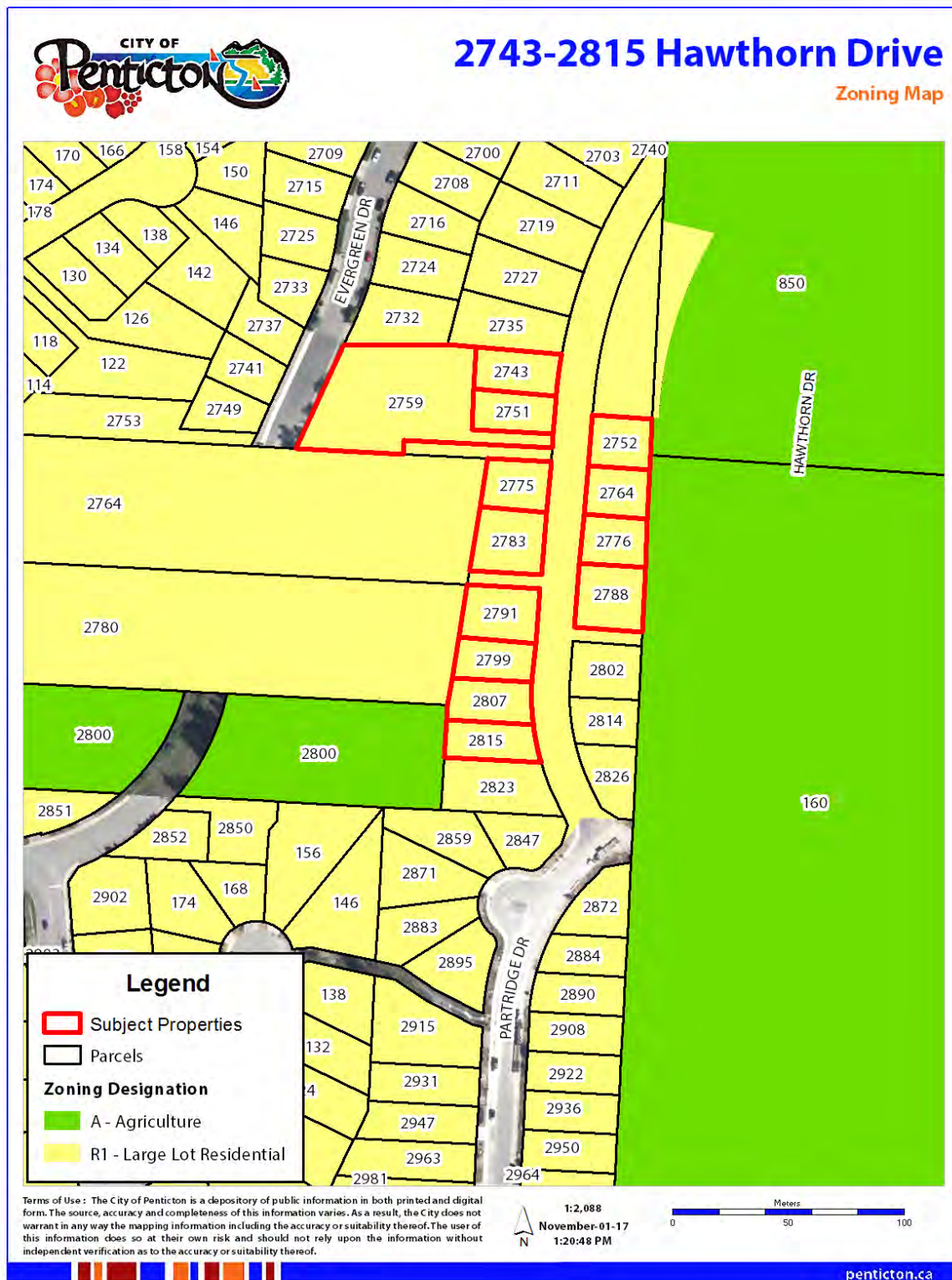


Figure 2: Zoning Map

Attachment C- OCP Map

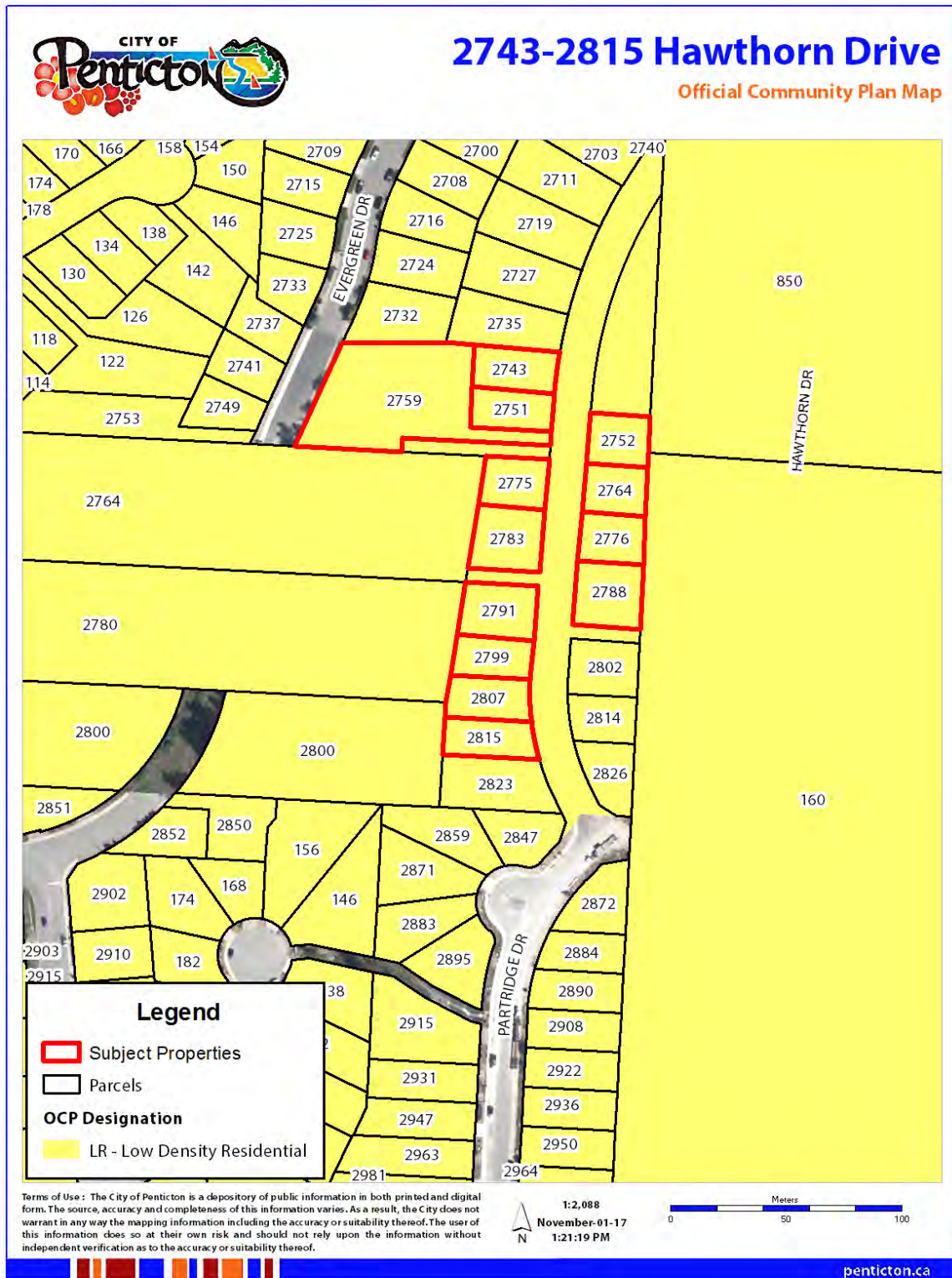


Figure 3: OCP Map

Attachment D – Photos of Subject Property



Figure 4: South Elevation of Lots 2 to 5

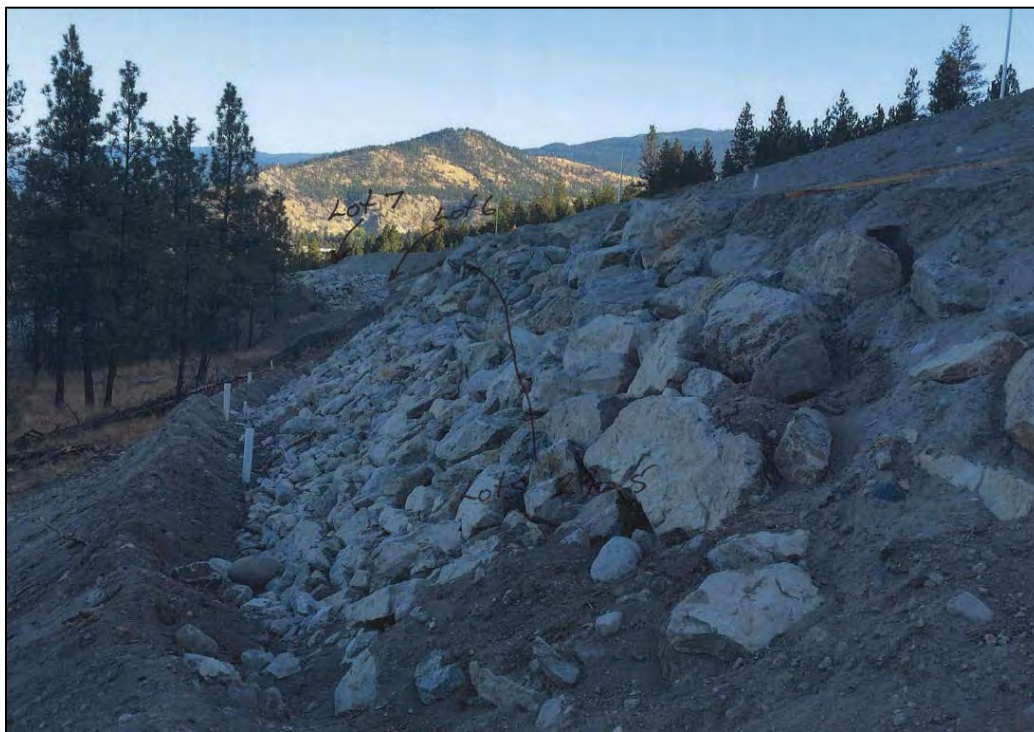


Figure 5: South Elevation of Lots 2-7 showing rock slope



Figure 6: North Elevation of Lots 2 to 5



Figure 7: South Elevation of Lots 9-10



Figure 8: South Elevation of Lots 19-21

Attachment E – Site Plan



Figure 9: Site Plan

Attachment F – Retaining Wall Elevations

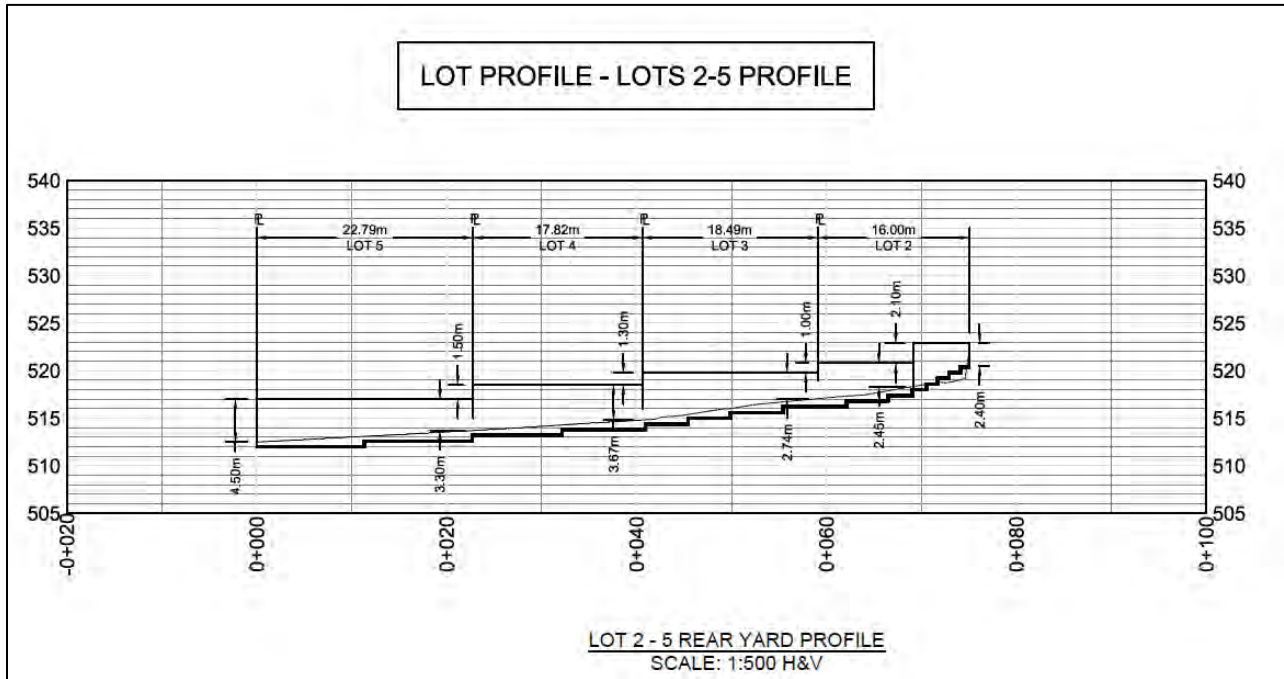


Figure 10: Lots 2-5 Profile

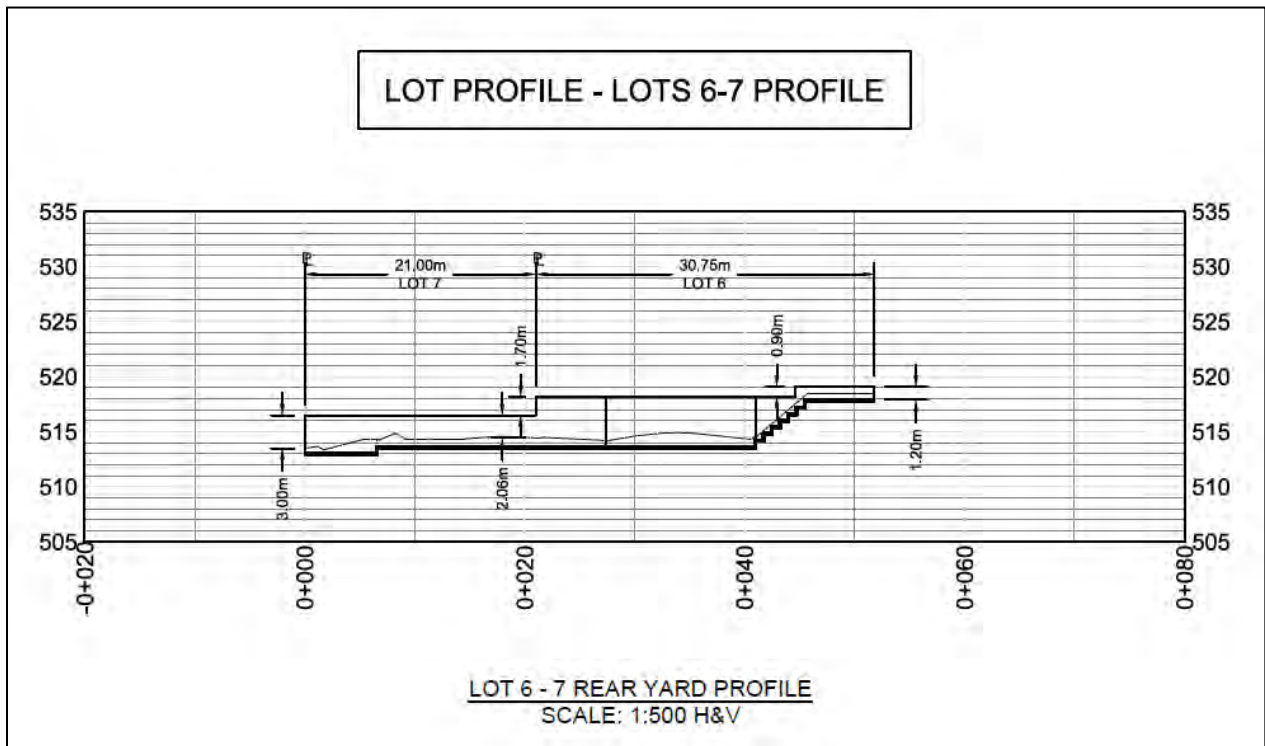


Figure 11: Lots 6-7 Profile

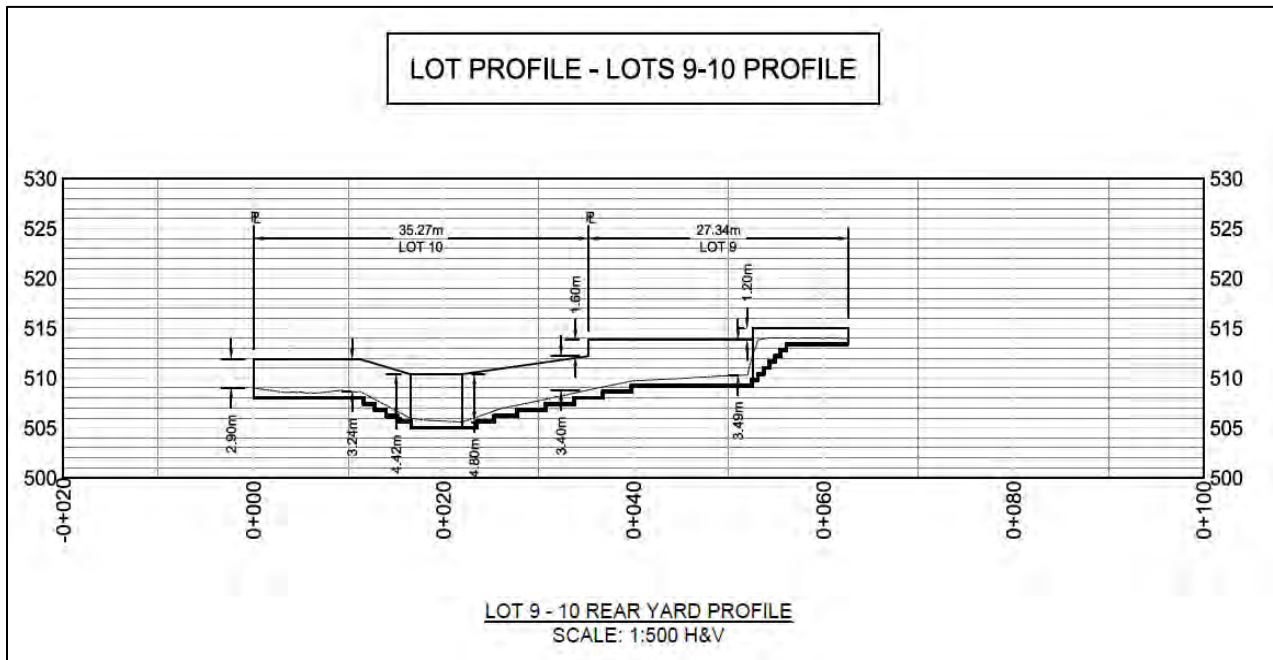


Figure 12: Lots 9-10 Profile

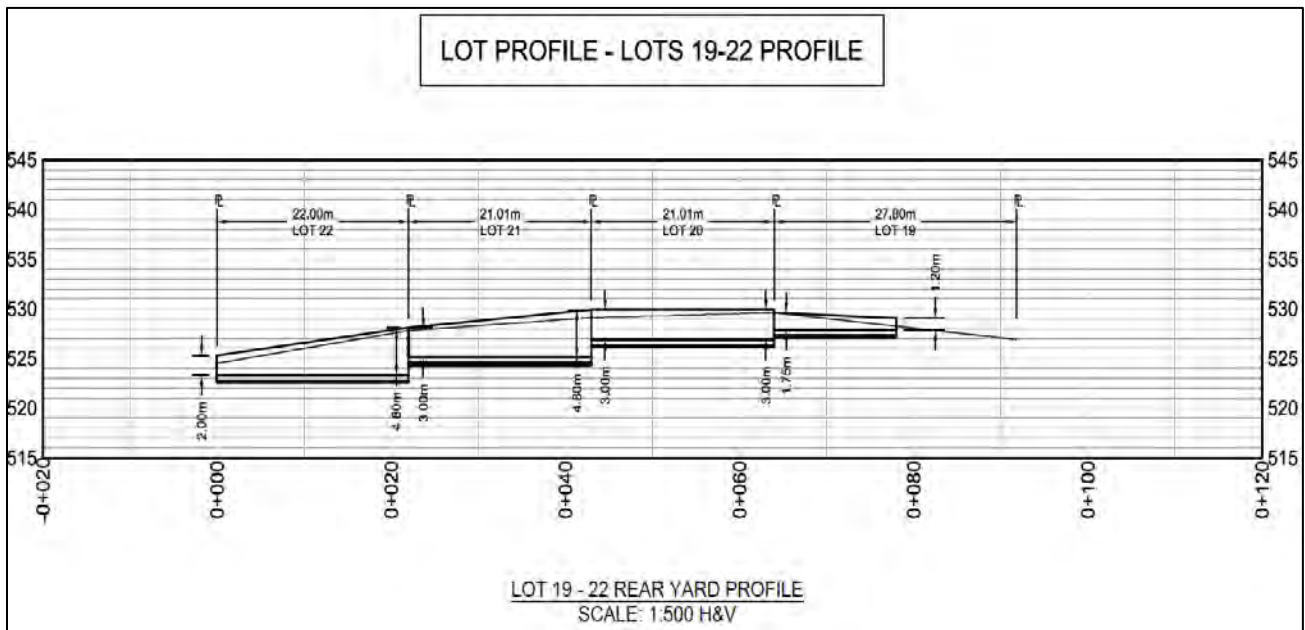


Figure 13: Lots 19-22 Profile

Attachment G- Typical Retaining Wall Section

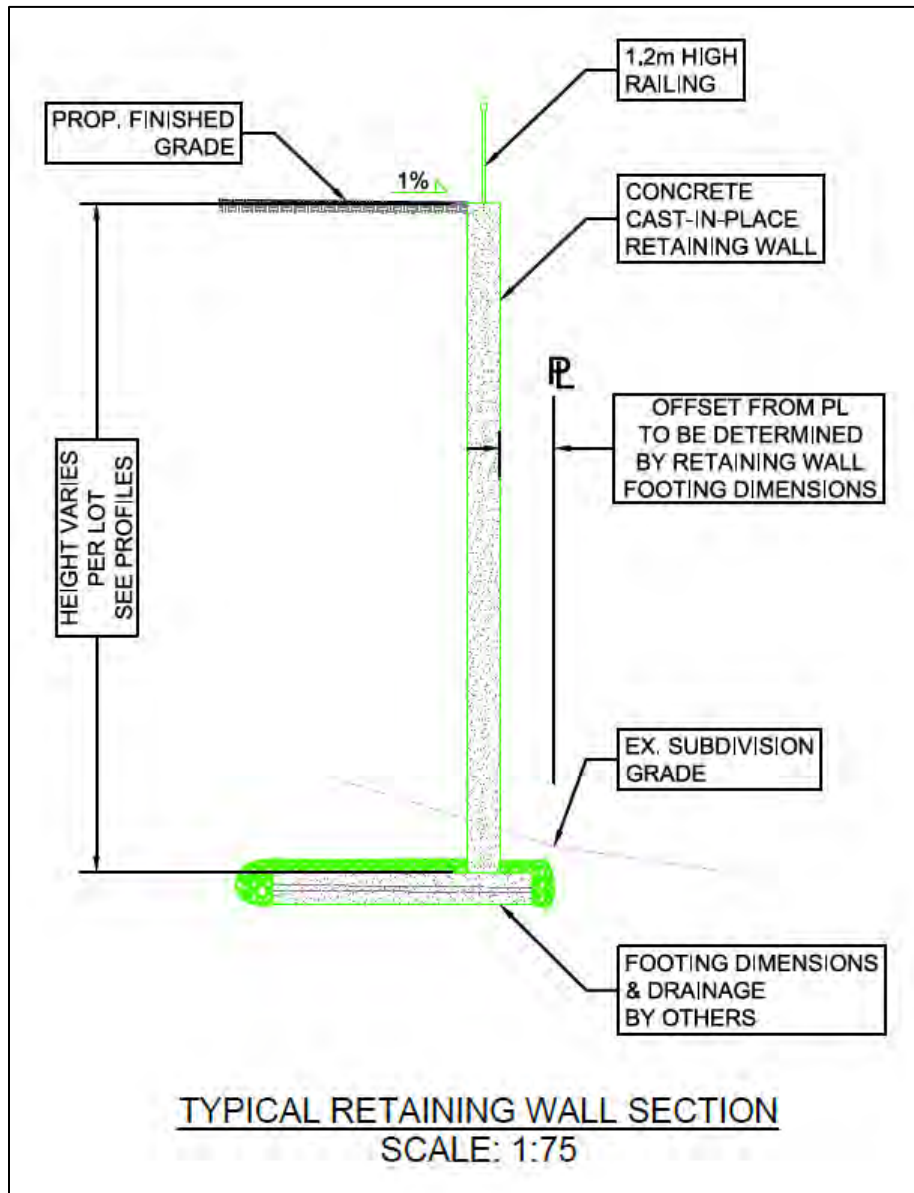



Figure 14: Typical Wall Section

Attachment H – Letter of Intent



BlackHawk
CONTRACTING & DESIGN LTD.

118 Industrial Place, Penticton BC V2A 7C8
Tel: 250-492-6455 Fax: 250-492-6488

LETTER OF INTENT FOR DEVELOPMENT VARIANCE PERMIT
PANORAMA VIEW ESTATES
HAWTHORN DRIVE PENTICTON

THE PROJECT

Panorama view estates is a new subdivision that is located on Hawthorn Drive. Phase 1 consists of 22 lots. 13 of these lots require retaining walls over 4’ high close to the property lines.

REASON FOR THE APPLICATION

The lots listed in the variance application require retaining walls along the property lines to provide usable yard space. The retaining walls would range in height from 4’ to 16’ tall and would be engineered cast in place walls. The tall height of the wall is required due to the sloping land conditions.

A cast in place retaining wall along the property line from lots 2 to 7 would eliminate the rock slope by allowing it to be covered with backfill. A cast in place wall along the property line of lots 9 and 10 will eliminate a steep slope in the back yard and would create a usable yard. The wall height on these properties would range from 6’ to 16’ tall.


A cast in place wall along the property line of lots 19 to 22 would eliminate the slope on the rear yard and would create a usable back yard. The wall height on these properties would range from 4’ to 8’ high.

On all the affected properties it may be necessary to have the retaining walls return between the properties.

Included in this application are photos of the existing lots, photos of a typical cast in place retaining wall and a map of the subdivision with the proposed locations for the retaining walls highlighted.

Figure 15: Letter of Intent

Attachment I - Development Variance Permit PL2017-8101



City of Penticton
171 Main St. | Penticton B.C. | V1A 5A5
www.penticton.ca | 250/261-2222

Development Variance Permit

Permit Number: DVP PL2017-8101

Name:
Address:

Conditions of Permit

1. This permit is issued subject to compliance with all of the bylaws of the City, except as specifically varied or supplemented by this Permit.
2. This permit applies to:

Legal: Lots 2-10 and Lots 19-22 District Lot 2710 Similkameen Division Yale District Plan EPP69185
Civic: 2743-2815 Hawthorn Drive
PID:
3. This permit has been issued in accordance with Section 498 of the *Local Government Act*, to vary the following section of Zoning Bylaw 2017-08 to allow for the construction of a retaining wall.
 - Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 5.0m.

General Conditions

4. In accordance with Section 501 of the *Local Government Act*, the lands subject to this permit shall be developed in general accordance with this permit and the plans attached as Schedule A.
5. In accordance with Section 504 of the *Local Government Act*, if the holder of this permit does not commence the development authorized by this permit within 2 years of the date of this permit, this permit shall lapse.
6. **This permit is not a building permit. In order to proceed with this development, the holder of this permit must hold a valid building permit issued by the Building Inspection Department.**
7. This permit does not constitute any other municipal, provincial or federal approval. The holder of this permit is responsible to obtain any additional municipal, federal, or provincial approvals prior to commencing the development authorized by this permit.

8. This permit does not include off-site infrastructure costs that may be required at the building permit stage, such as Development Cost Charges (DCC's), road improvements and electrical servicing. There may be substantial infrastructure and servicing costs payable at a later date. For more information on servicing and infrastructure requirements please contact the Development Engineering Department at (250) 490-2501. For more information on electrical servicing costs, please contact the Electric Utility at (250) 490-2535.

Authorized by City Council, the 5 day of December, 2017

Issued this ____ day of _____, 2017

Dana Schmidt,
Corporate Officer

Council Report

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Randy Houle, Planner I
Address: Lots 1-27, Avery Heights
Subject: **Development Variance Permit PL2017-8102**

File No: DVP PL2017-8102

Staff Recommendation

THAT Council approve "Development Variance Permit PL2017-8102" for Lots 1-27 District Lot 2710 Similkameen Division Yale District Plan EPP62484, located along Avery Place and Evergreen Drive as highlighted in red in Attachment A, a permit to to increase the maximum height of a retaining wall within a required yard from 1.2m to 2.5m;

AND THAT staff be directed to issue "Development Variance Permit PL2017-8102."

Background

The subject properties (Attachment A) are zoned R1 (Large Lot Residential) and designated by the City's Official Community Plan as LR (Low Density Residential). Photos of the site are included as part of the letter of intent submitted by the applicant in Attachment E. The subject properties are part of Avery Heights, with single family dwellings currently under construction on a few of the lots. The surrounding properties are zoned R1 (Large Lot Residential).

Proposal

The applicant is proposing to construct engineered retaining walls in the required setbacks as needed, ranging from 1.2m to 2.5m in height. This will help to provide useable yard space due to the steepness of the lots and to address slope stability issues. The maximum allowable height of a retaining wall in a required setback is 1.2m, therefore the applicant is requesting a Development Variance Permit to vary the following section of Zoning Bylaw No. 2017-08:

- Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 2.5m.

Financial implication

N/A

Technical Review

This application was forwarded to the City's Technical Planning Committee (TPC) and reviewed by the Engineering and Public Works Departments. Technical requirements have been identified and will be addressed as part of the building permit process. These items include the requirement for a geotechnical engineer and detailed cross-sections and designs of the proposed retaining walls.

Analysis

Development Variance Permit

Support Variance

When considering a variance to a City bylaw, staff encourages Council to be mindful of any constraints on the property that makes following the bylaw difficult or impossible; whether approval of the variance would cause a negative impact on neighbouring properties and if the variance request is reasonable.

Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 2.5m.

- The proposed retaining walls will help to provide useable yard space for the future residents of Avery Heights and to address slope stability issues. The majority of the walls will be internal, thus having little impact on the surrounding neighbourhood. The retaining walls that do abut neighbouring properties will primarily be constructed of Allan Blocks, providing a more aesthetically pleasing appearance than a typical cast-in-place wall. The purpose of the walls along Lots 11, 12, 18 and 19 are to retain the existing grade of neighbouring properties, thus they should not be visible from the neighbours side. The developer is unsure of the exact walls that will be required on the remaining properties as it depends on the house design chosen by the eventual customers. The purpose of this variance is to enable the developer to construct retaining walls as required within the setbacks on any of the lots, up to 2.5m in height. This will save the developer, staff and Council member's time as individual variances for each wall will not have to come before Council one at a time.

Deny/Refer Variance

Council may consider that the proposed variance will negatively affect the neighborhood. If this is the case, Council should deny the variance.

Alternate Recommendations

1. THAT Council support DVP PL2017-8102 with conditions.
2. THAT DVP PL2017-8102 be referred back to staff.

Attachments

Attachment A:	Subject Property Location Map
Attachment B:	Zoning Map
Attachment C:	OCP Map
Attachment D:	Subdivision Plan
Attachment E:	Typical Retaining Wall Section
Attachment F:	Letter of Intent with Photos
Attachment G:	Development Variance Permit PL2017-8102

Respectfully submitted,

Randy Houle
Planner I

Approvals

DDS <i>RH</i>	Acting CAO JB
----------------------	----------------------

Attachment A – Subject Property Location Map



Figure 1: Subject Property Location Map

Attachment B – Zoning Map

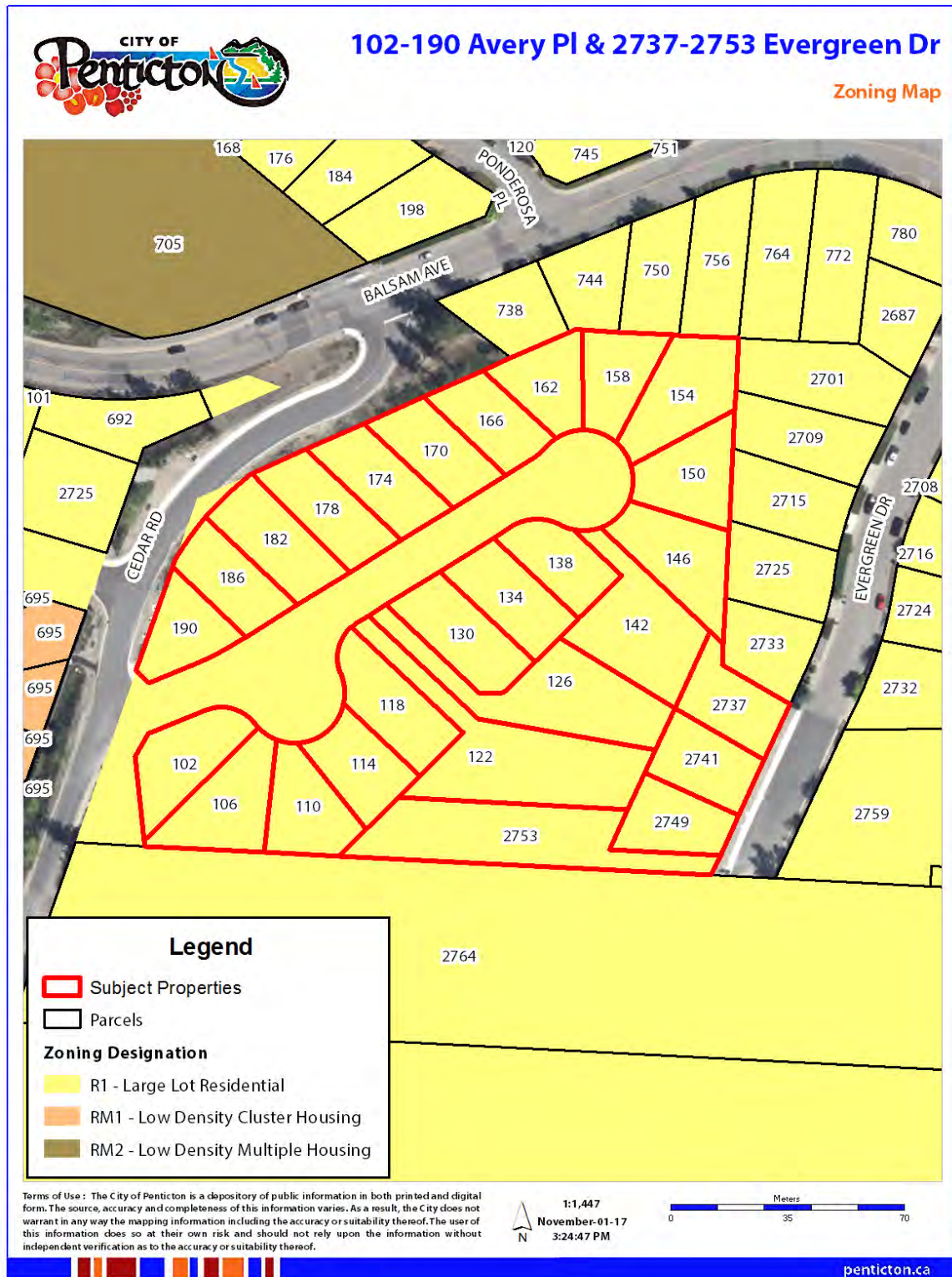


Figure 2: Zoning Map

Attachment C- OCP Map

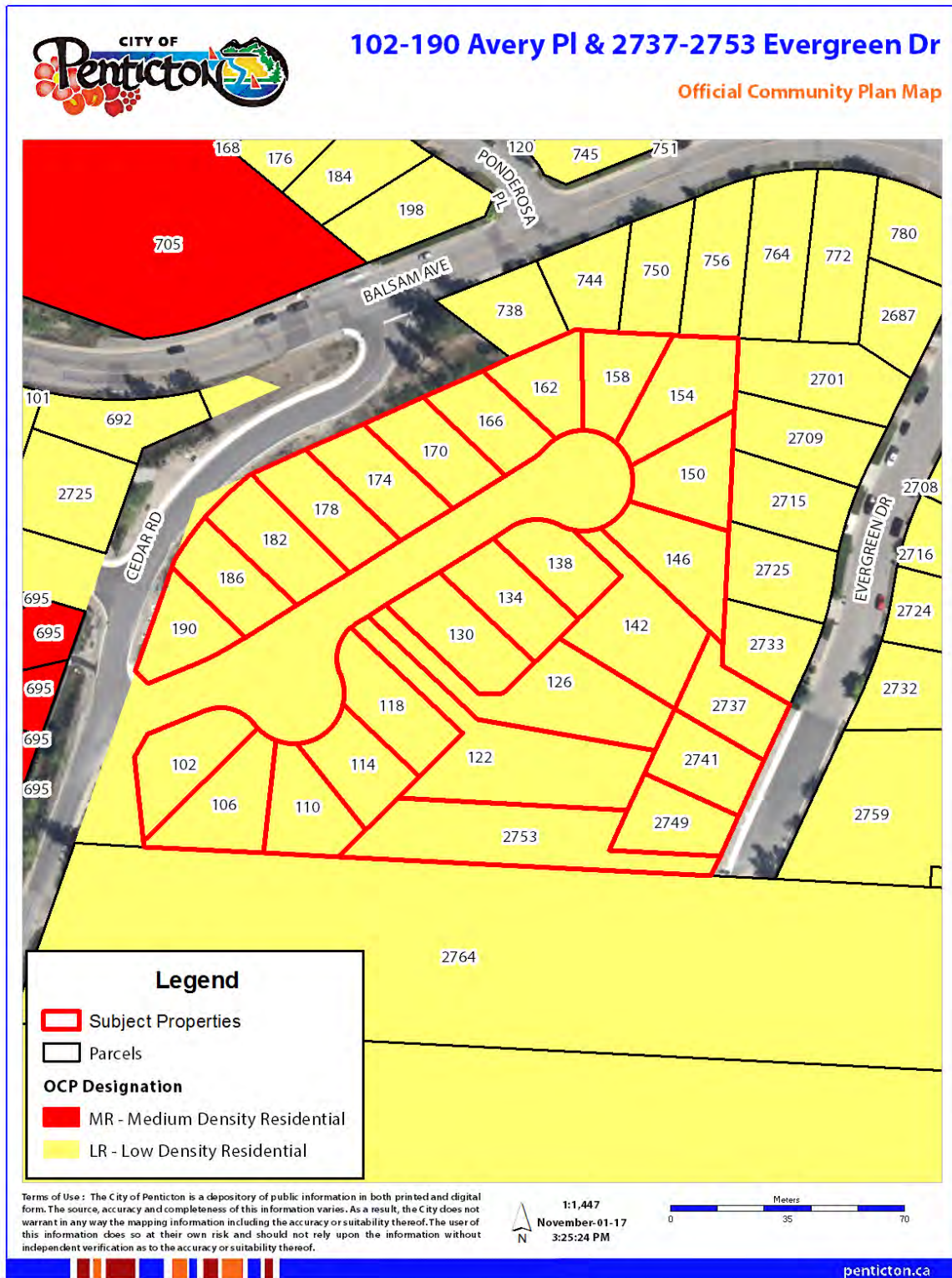


Figure 3: OCP Map

Attachment D – Subdivision Plan



Figure 4: Subdivision Plan

Attachment E- Typical Retaining Wall Section

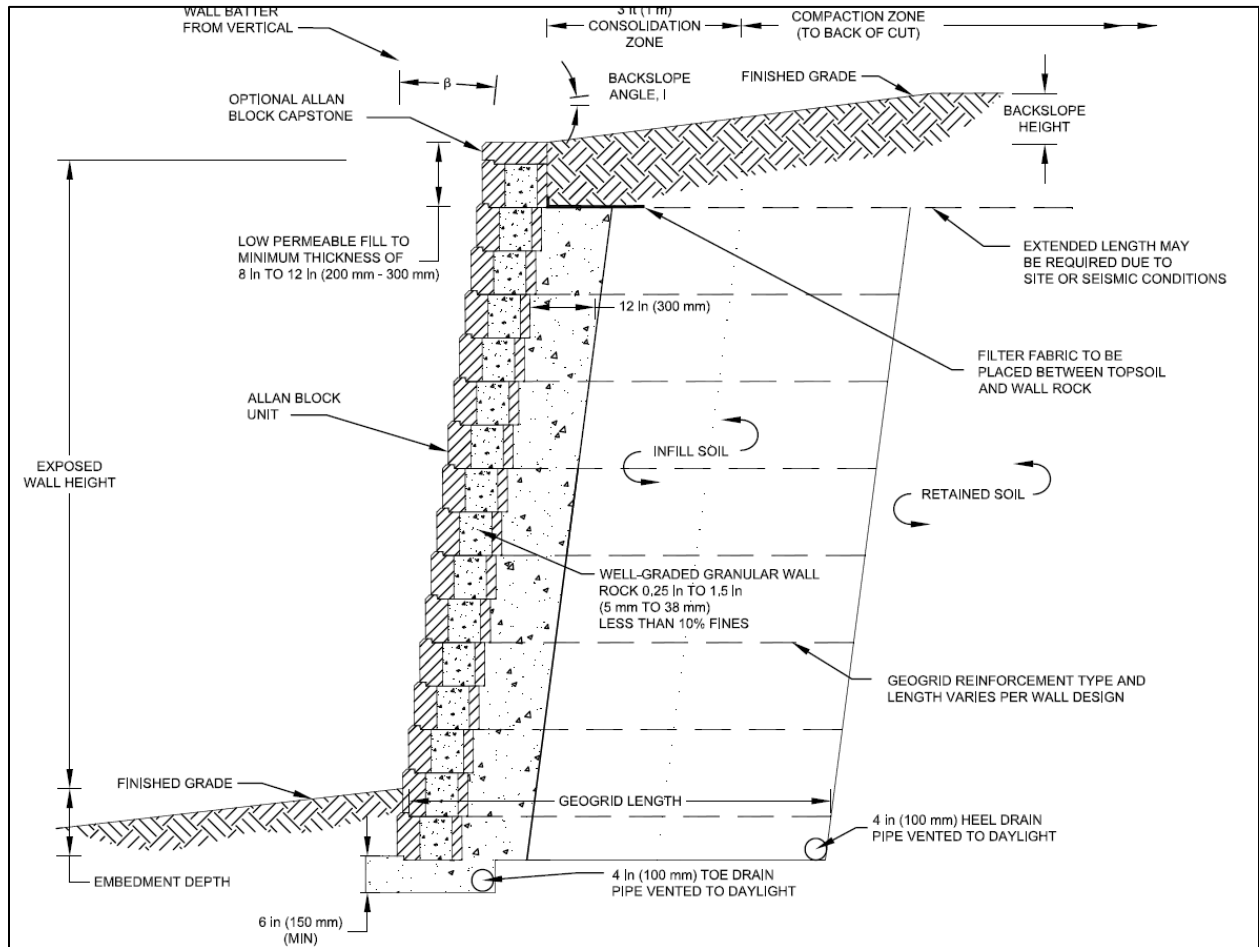


Figure 5: Typical Allan Block Wall Section

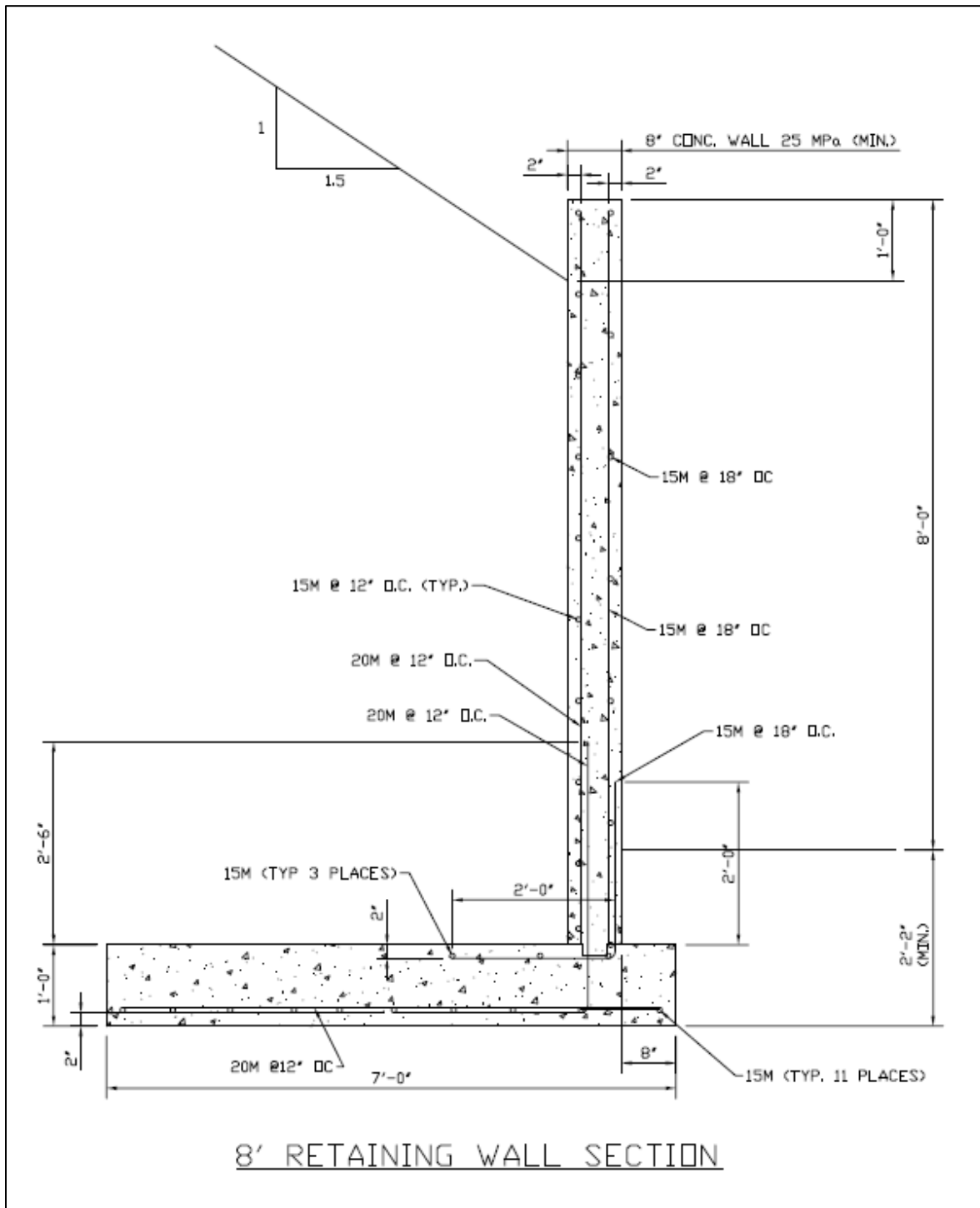


Figure 6: Typical Cast-in-Place Wall

Attachment F – Letter of Intent with Photos



Brentview Estates Ltd.
Brentview Developments Ltd.
Suite 232, 113-437 Martin Street
Penticton, BC V2A 5L1
Email: rod@brentview.ca
Website: www.brentview.ca
Phone (250) 490-1119

December 06, 2017

City of Penticton

RE: Avery Heights Development - Retaining Walls

We are asking for your support and approval to allow us to build retaining walls within this development up to a maximum height of 2.5 meters. This will allow us to move forward with the built out of our development in a timely fashion and would save substantial Council and City staff time dealing with this in one application instead of on an individual property basis.

We are asking for this variance for all lots at Avery Heights. Please note that some of the Lots may not need walls at all or the wall may be under the 1.2 M height as well. As we have a number of unsold lots and want to be able to build the house that the potential homeowner wants vs a pre designed plan we feel its best to cover all lots. Some of the retaining walls that will be built will not be visible from the neighbouring existing homes.

Here are two pictures of the area that the walls should be built on lots 18 - 20. As shown the wall is need to retain the existing grade of the neighbours and the wall it self should not be visible from 2764 Cedar Ave.





Brentview Estates Ltd.
Brentview Developments Ltd.
Suite 232, 113-437 Martin Street
Penticton, BC V2A 5L1
Email: rod@brentview.ca
Website: www.brentview.ca
Phone (250) 490-1119

Here is a picture of the area that the walls should be built on lots 11 and 12. As shown the wall is need to retain the existing grade of the neighbours on 2764 Cedar Ave. This wall should not be visible from 2733 Evergreen and if visible from 2715 & 2725 Evergreen it should be less than 1.2 meters above their existing rear yard grade.



Here is a picture of the area that the walls should be built on lots 7 - 10. As shown the wall is need to retain the grade differential between the neighbours on Balsam Ave. This wall would be visible from their rear yards. We are proposing to use an Alien Block wall that is the same as we have previously built in Avery Heights . This wall is expected to be 2.5 M in height.





Brentview Estates Ltd.
Brentview Developments Ltd.
Suite 232, 113-437 Martin Street
Penticton, BC V2A 5L1
Email: rod@brentview.ca
Website: www.brentview.ca
Phone (250) 490-1119


Here is a picture of an apx 2.5M high Allen Block wall that we have built at Avery Heights and what the wall behind Lots 7-10 would look like.



Thank You

Sincerely Yours
Rod Ferguson

Attachment G - Development Variance Permit PL2017-8102



City of Pentictou
171 Main St. | Pentictou B.C. | V1A 5A6
www.pentictou.ca | info@pentictou.ca

Development Variance Permit

Permit Number: DVP PL2017-8102

Name: _____
Address: _____

Conditions of Permit

1. This permit is issued subject to compliance with all of the bylaws of the City, except as specifically varied or supplemented by this Permit.
2. This permit applies to:

Legal: Lots 1-27 District Lot 2710 Similkameen Division Yale District Plan EPP62484
Civic: Avery Heights and Evergreen Drive
PID: _____
3. This permit has been issued in accordance with Section 498 of the *Local Government Act*, to vary the following section of Zoning Bylaw 2017-08 to allow for the construction of a retaining wall.
 - Section 5.6.2.1: to increase the maximum height of a retaining wall within a required yard from 1.2m to 2.5m.

General Conditions

4. In accordance with Section 501 of the *Local Government Act*, the lands subject to this permit shall be developed in general accordance with this permit and the plans attached as Schedule A.
5. In accordance with Section 504 of the *Local Government Act*, if the holder of this permit does not commence the development authorized by this permit within 2 years of the date of this permit, this permit shall lapse.
6. **This permit is not a building permit. In order to proceed with this development, the holder of this permit must hold a valid building permit issued by the Building Inspection Department.**
7. This permit does not constitute any other municipal, provincial or federal approval. The holder of this permit is responsible to obtain any additional municipal, federal, or provincial approvals prior to commencing the development authorized by this permit.

8. This permit does not include off-site infrastructure costs that may be required at the building permit stage, such as Development Cost Charges (DCC's), road improvements and electrical servicing. There may be substantial infrastructure and servicing costs payable at a later date. For more information on servicing and infrastructure requirements please contact the Development Engineering Department at (250) 490-2501. For more information on electrical servicing costs, please contact the Electric Utility at (250) 490-2535.

Authorized by City Council, the 5 day of December, 2017

Issued this ____ day of _____, 2017

Dana Schmidt,
Corporate Officer

Council Report

A horizontal bar with a blue background and a series of colored squares (red, orange, blue) on the left side. The text "penticton.ca" is written in white on the right side of the bar.

penticton.ca

Date: December 19, 2017
To: Peter Weeber, Chief Administrative Officer
From: Randy Houle, Planner I
Address: 4039 Lakeside Road

File No: DVP PL2017-8103

Subject: Development Variance Permit PL2017-8103

Staff Recommendation

THAT Council approve "Development Variance Permit PL2017-8103" for Lot 22 Block 209 District Lot 190 Similkameen Division Yale District Plan 466, located at 4039 Lakeside Road, a permit to increase the height of a retaining wall within any required yards from 1.2m to 2.0m, to decrease the minimum front yard from 6.0m to 3.0m, to decrease the minimum south interior side yard of a principle building from 1.5m to 0.9m and to decrease the requirement for a driveway to be located 0.5m from a property line to 0.2m from a property line as per Section 12.8 of the City of Penticton Subdivision and Development Bylaw No. 2004-81;

AND THAT staff be directed to issue "Development Variance Permit PL2017-8103."

Background

The subject property (Attachment A) is zoned R1 (Large Lot Residential) and designated by the City's Official Community Plan as LR (Low Density Residential). Photos of the sites are included as Attachment D. The subject property is approximately 239.0m² (2,572ft²) in area. The subject property and surrounding lots were subdivided in the early 1900's and have sat vacant since then. Proposals for development are beginning to come forward because of the current real estate market and desire to live along the lakefront. With the topographical challenges of these lots such as steepness and narrowness, it is anticipated that Council will see many front yard, side yard and retaining wall height variance applications in the future. The subject property is located in a neighbourhood primarily zoned R1 (Large Lot Residential), R2 (Small Lot Residential) and designated by the OCP as LR (Low Density Residential).

Proposal

The applicant is proposing to construct a single family dwelling on the subject property. The dwelling will be 3 storeys with a master bedroom on the main level, living space on the second floor and another bedroom in the basement. The total floor area of the dwelling will be approximately 2000ft². To construct the dwelling as proposed, the applicant is requesting a Development Variance Permit to vary the following sections of Zoning Bylaw No. 2017-08:

- Section 5.6.2.1: to increase the height of retaining walls within any required yards from 1.2m to 2.0m.
- Section 10.1.2.5: to decrease the minimum front yard from 6.0m to 3.0m.

- Section 10.1.2.6.i: to decrease the minimum south interior side yard of a principle building from 1.5m to 0.9m.

Additionally, the applicant is applying to vary Section 12.8 of the City of Penticton Subdivision and Development Bylaw No. 2004-81, which decreases the requirement for a driveway to be located 0.5m from a property line to 0.2m from a property line.

Financial implication

N/A

Technical Review

This application was forwarded to the City’s Technical Planning Committee (TPC) and reviewed by the Engineering and Public Works Departments. Servicing requirements, storm water management and building code requirements have been identified and will be addressed as part of the building permit process. If the requests for the variances are supported, BC Building Code and City bylaw provisions, such as height restrictions, will apply.

Development Statistics

The following table outlines the proposed development statistics on the plans submitted with the variance applications:

Item	Requirement R1 zone	Proposed
Maximum Lot Coverage:	40%	30%
Minimum Lot Width:	16.0m	9.144m* (see below)
Minimum Lot Area:	560m ²	239m ² * (see below)
Vehicle Parking:	2 spaces per dwelling unit	2 spaces
Required Setbacks		
Front yard (east, Lakeside Road):	6.0m	3.0m (variance required)
Rear yard (west):	6.0m	9.0m
Interior yard (north):	1.5m	1.5m
Interior yard (south):	1.5m	0.95m (variance required)
Maximum Height	10.5m	10.5m
Other Information:	- The subject property is located within the Riparian Assessment Area Development Permit Area, thus a development permit will be required prior to issuance of a building permit. - *The minimum parcel standards (in terms of width and area) only apply when a new parcel is being created, not through development of an existing parcel.	

Analysis

Development Variance Permit

Support Variance

When considering a variance to a City bylaw, staff encourages Council to be mindful of any constraints on the property that makes following the bylaw difficult or impossible; whether approval of the variance would cause a negative impact on neighbouring properties and if the variance request is reasonable.

Section 5.6.2.1: to increase the height of retaining walls within any required yards from 1.2m to 2.0m.

- Constructing a dwelling on the subject property is challenging due to the steepness and narrowness of the lot. A 2.0m engineered retaining wall is required on a small portion of the north elevation (*Figure 11*) to address slope and stability concerns. The maximum allowable height of a retaining wall in a setback is 1.2m, thus a variance is required. Earlier this year, Council supported a 3.0m retaining wall variance for 4047 Lakeside Road. The proposed 2.0m retaining wall is unlikely to cause a negative impact on the neighbouring property as it only spans across a small portion of the north elevation. Due to the topographic challenges of the lot and for the reasons listed above, it is reasonable to support a retaining wall height variance.

Section 10.1.2.5: to decrease the minimum front yard from 6.0m to 3.0m.

- The minimum setback from the east property line (Lakeside Road) is 6.0m. The applicant is proposing to reduce this to 3.0m. The majority of the building sits at 5.78m, with the covered entry way and stairwell being 3.056m from the front property line. The proposed development allows for two parking spaces in the driveway and enables the applicant to maximize the liveable floor area of the property by projecting the stairway and entry way well into the front yard setback. The boulevard width along this property is approximately 4.0m wide, meaning that the proposed entry way will sit an adequate distance of 7.0m from the road. It is anticipated that as these properties continue to develop, a front yard variance request will become the norm. As mentioned above, the riparian setback and sewer easement at the rear of the property limits the available development space on a lot which is reasoning for support of the variance.

Section 10.1.2.6.i: to decrease the minimum south interior side yard of a principle building from 1.5m to 0.9m.

- The applicant is proposing a variance to the south interior side yard from 1.5m to 0.9m. Due to the narrowness of the lot, an interior yard variance is required to construct a sizeable house. It is anticipated that the neighbouring properties will request a similar variance at time of construction. The final south elevation will have limited openings due to the proximity to the property line and the requirement to address spatial separation concerns. This will help to reduce privacy concerns for the neighbouring properties. Council has approved a similar variance earlier this year for the property at 4047 Lakeside Road. For the reasons listed above, it is reasonable to support the variance.

Section 12.8: to decrease the requirement for a driveway to be located 0.5m from a property line to 0.2m from a property line.

- Section 12.8 of the Subdivision and Development Bylaw requires a driveway to be located 0.5m from a property line. This is to avoid trespassing into the neighbouring lot by either a vehicle or by persons exiting a vehicle. In the current proposal, there is a proposed 0.2m wide retaining wall along the north property line which will act as a buffer, preventing anyone from trespassing onto the neighbouring property due to the elevation difference between the lots. For these reasons, it is reasonable to support the variance.

Deny/Refer Variance

Council may consider that the proposed variance will negatively affect the neighborhood and that a smaller dwelling should be proposed within the required setbacks. If this is the case, Council should deny the variance.

Alternate Recommendations

1. THAT Council support DVP PL2017-8103 with conditions.
2. THAT DVP PL2017-8103 be referred back to staff.

Attachments

- Attachment A: Subject Property Location Map
- Attachment B: Zoning Map
- Attachment C: OCP Map
- Attachment D: Photos of Subject Property
- Attachment E: Site Plan
- Attachment F: Elevations
- Attachment G: Floor Plans
- Attachment H: Letter of Intent
- Attachment I: Development Variance Permit PL2017-8103

Respectfully submitted,

Randy Houle
Planner I

Approvals

DDS <i>RH</i>	Acting CAO JB
----------------------	----------------------

Attachment A – Subject Property Location Map



Figure 1: Subject Property Location Map

Attachment B – Zoning Map

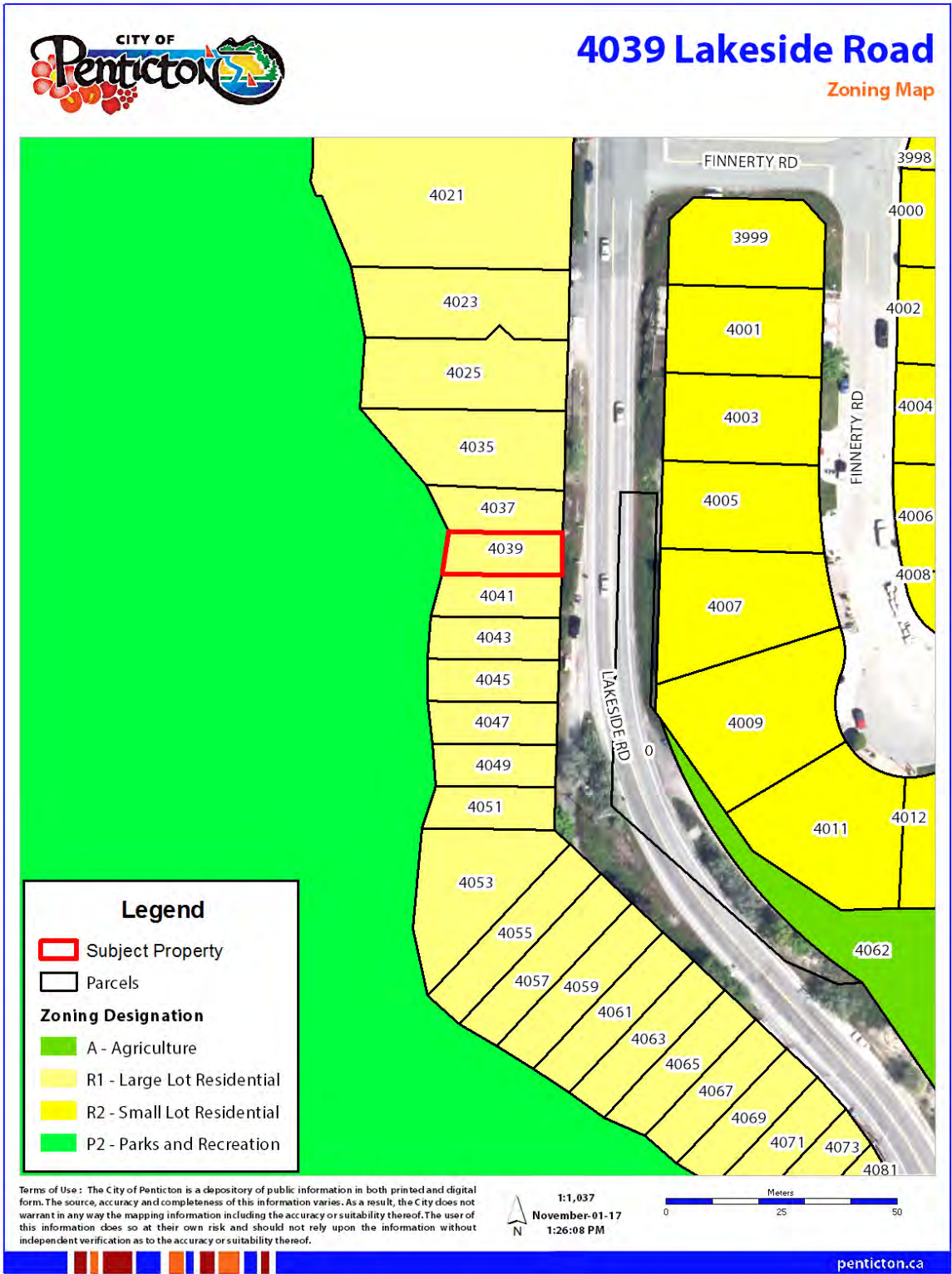


Figure 2: Zoning Map

Attachment C- OCP Map



Figure 3: OCP Map

Attachment D – Photos of Subject Property



Figure 4: South View of Subject Property



Figure 5: East View of Subject Property (from Lakeside Road)



Figure 6: East View of Subject Property (from Lakeside Road)



Figure 7: North View of Subject Property

Attachment E – Site Plan

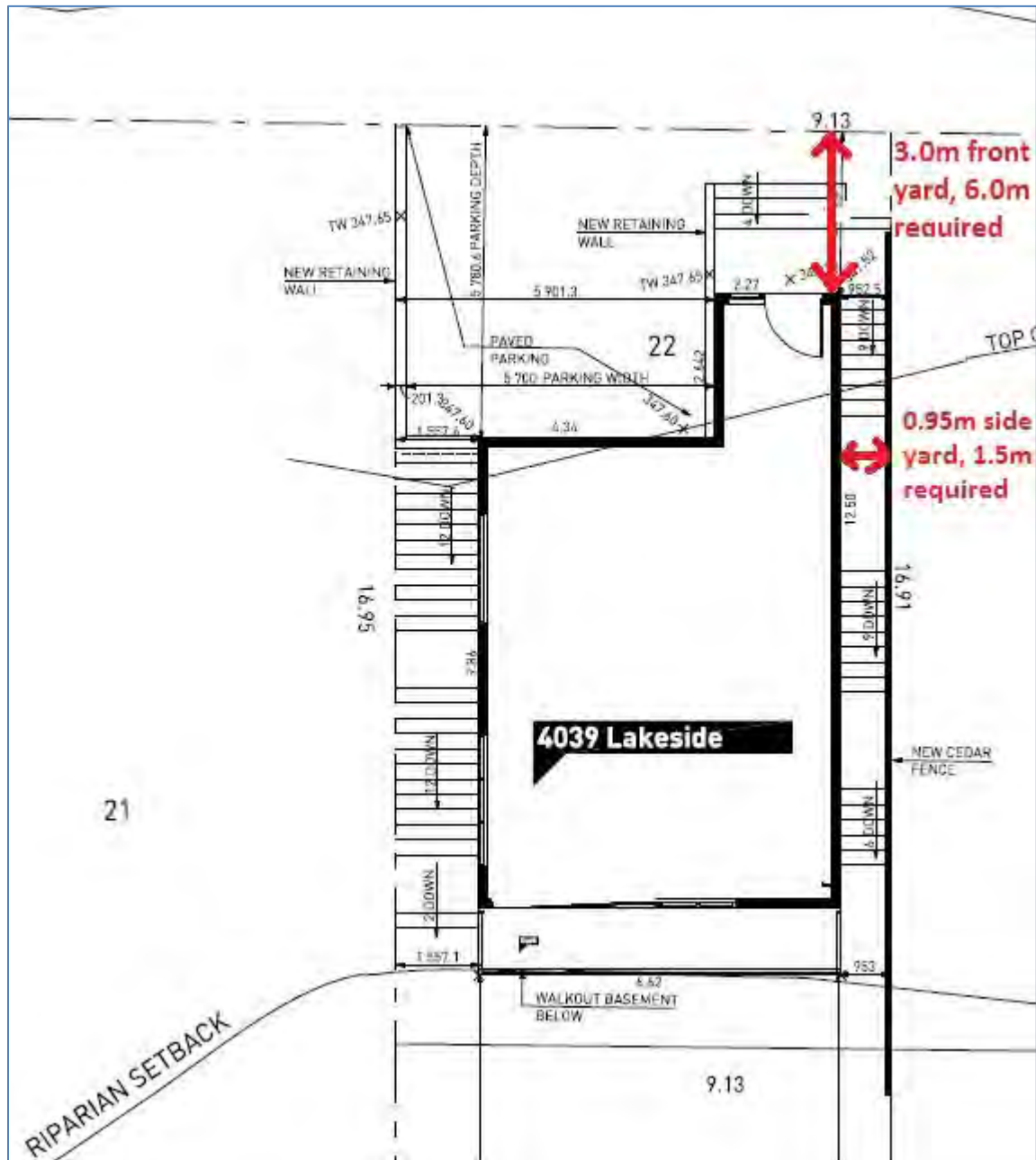


Figure 8: Site Plan

Attachment F – Elevations

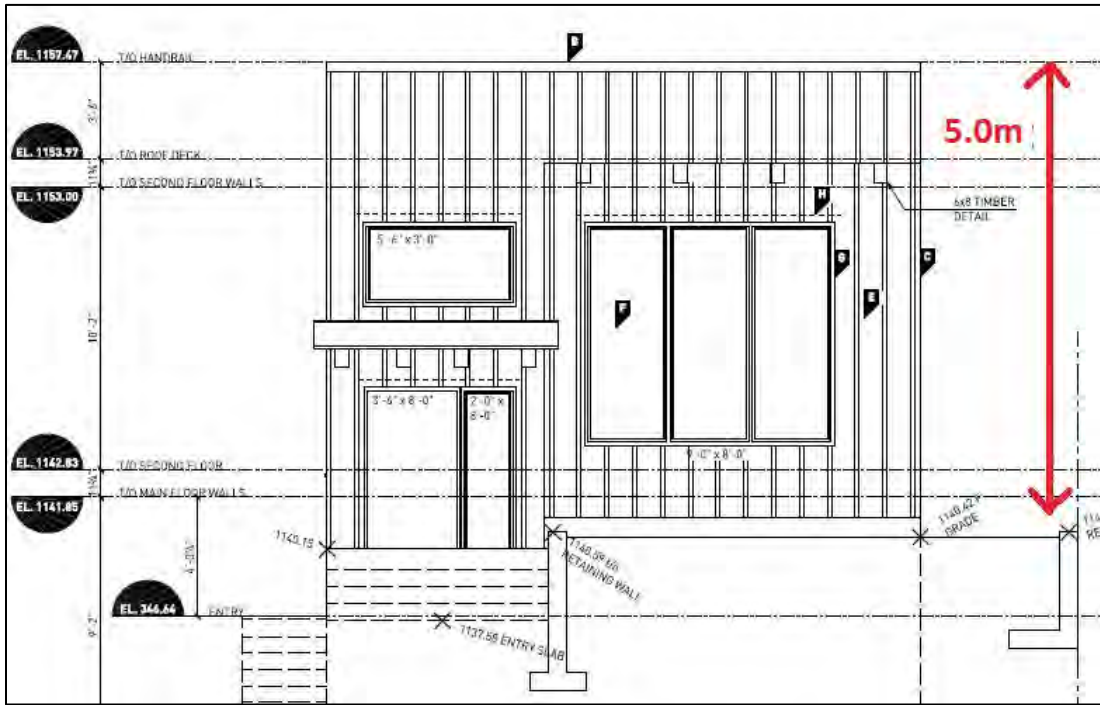


Figure 9: East Elevation (from Lakeside Road)

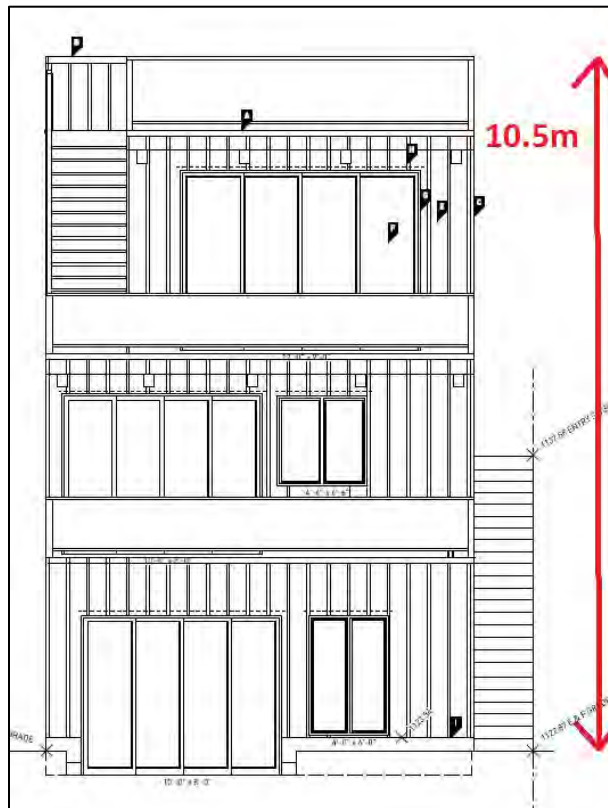


Figure 10: West Elevation (from the lake)

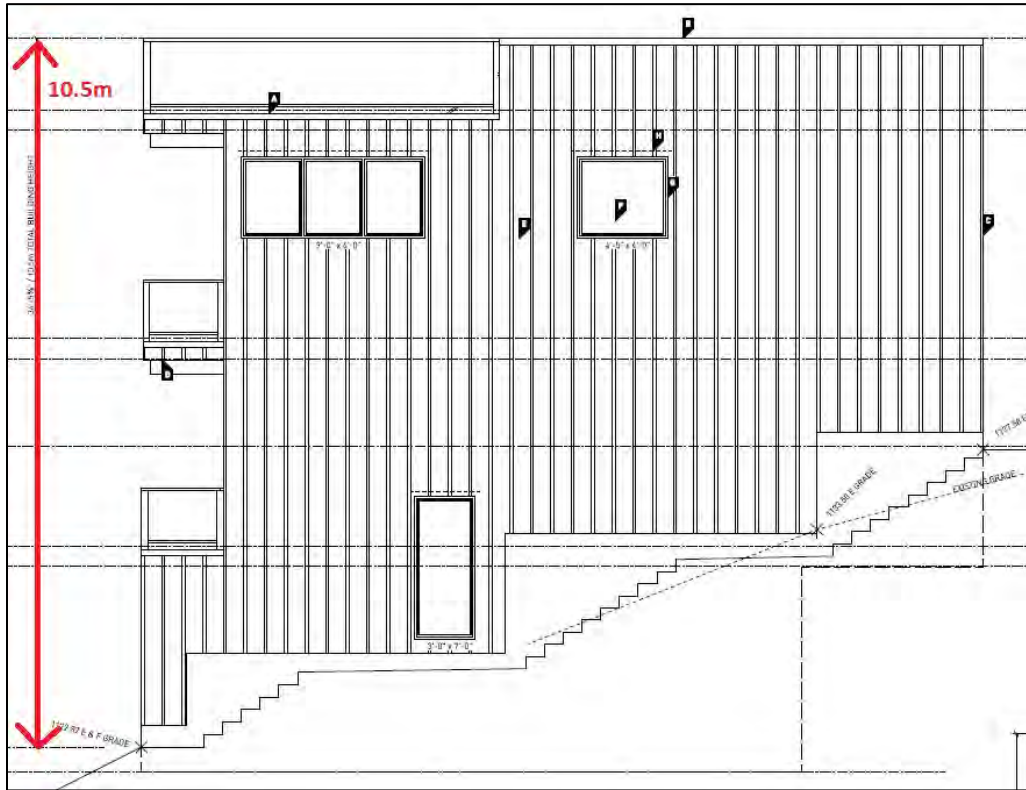


Figure 11: South Elevation

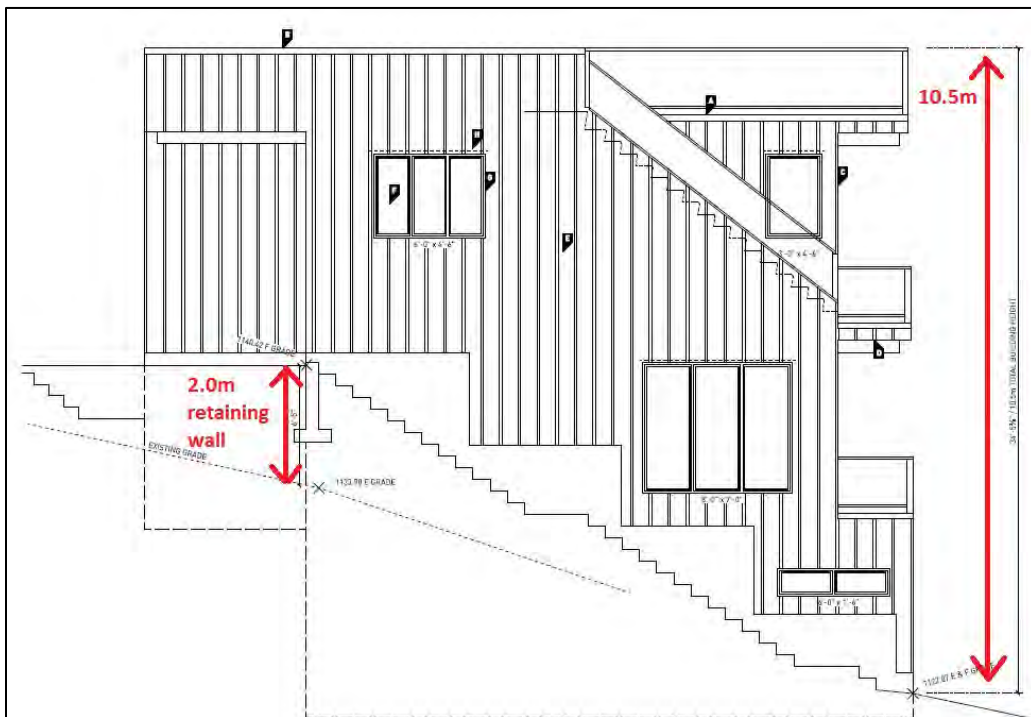


Figure 12: North Elevation

Attachment G - Floor Plans

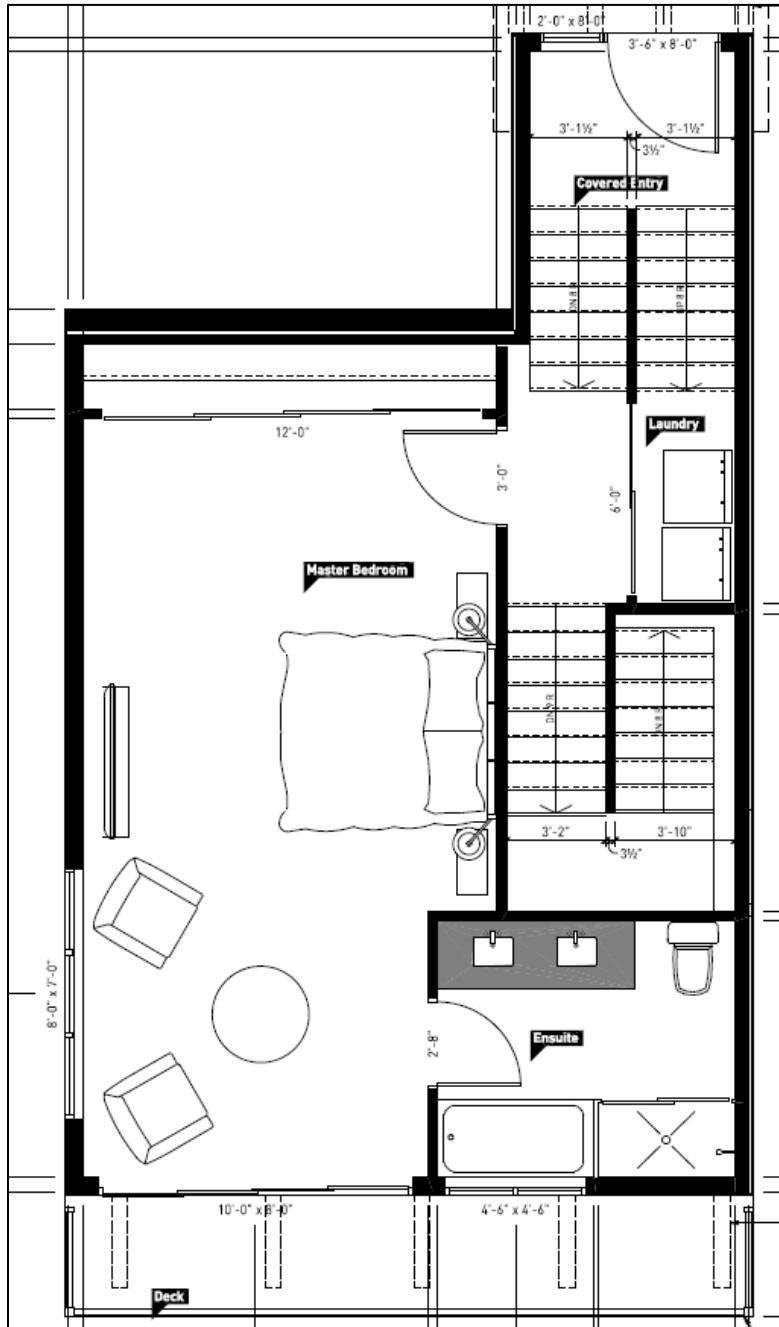


Figure 13: Main Floor Plan

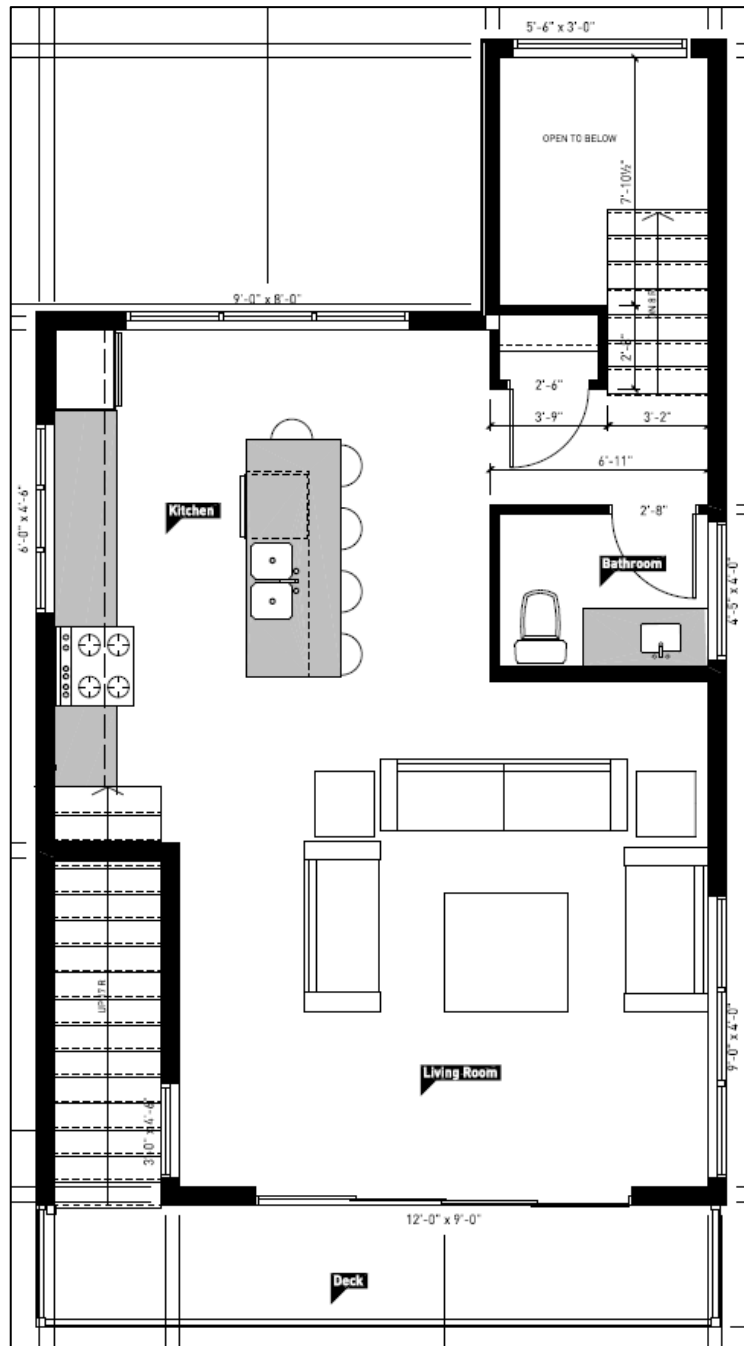


Figure 14: Second Floor Plan

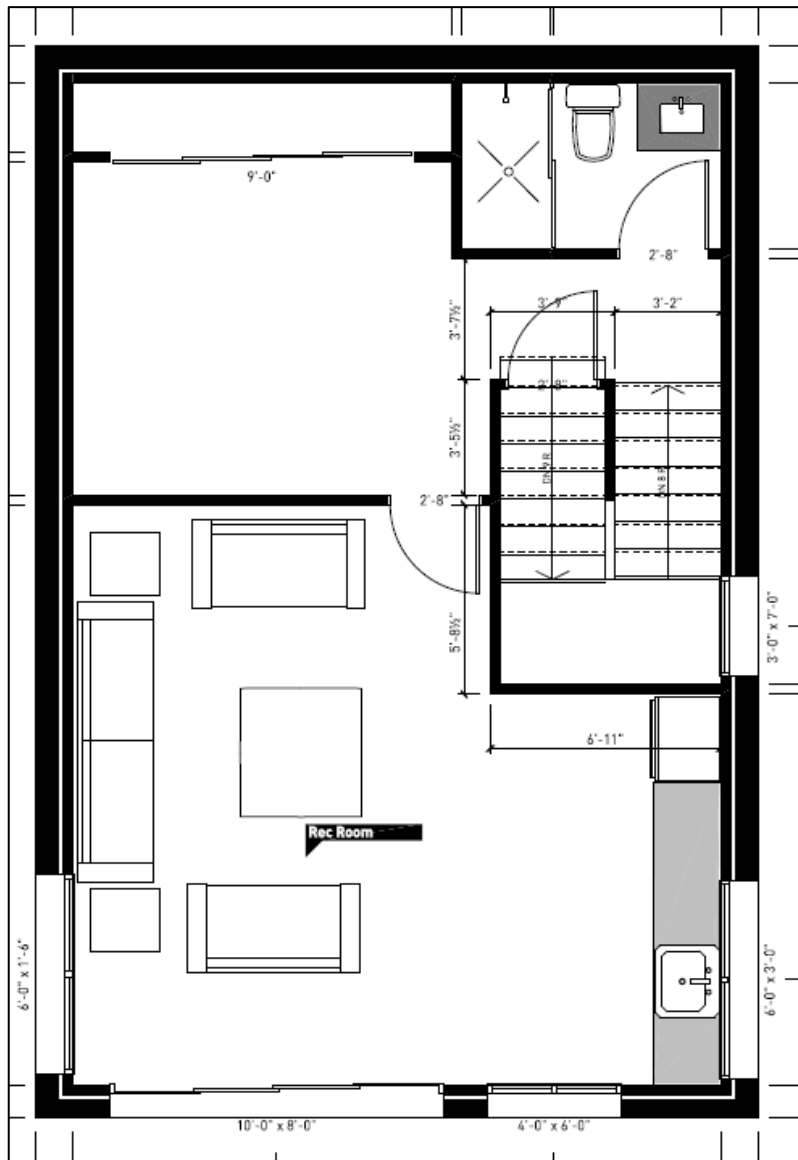


Figure 15: Basement Floor Plan

Attachment H - Letter of Intent

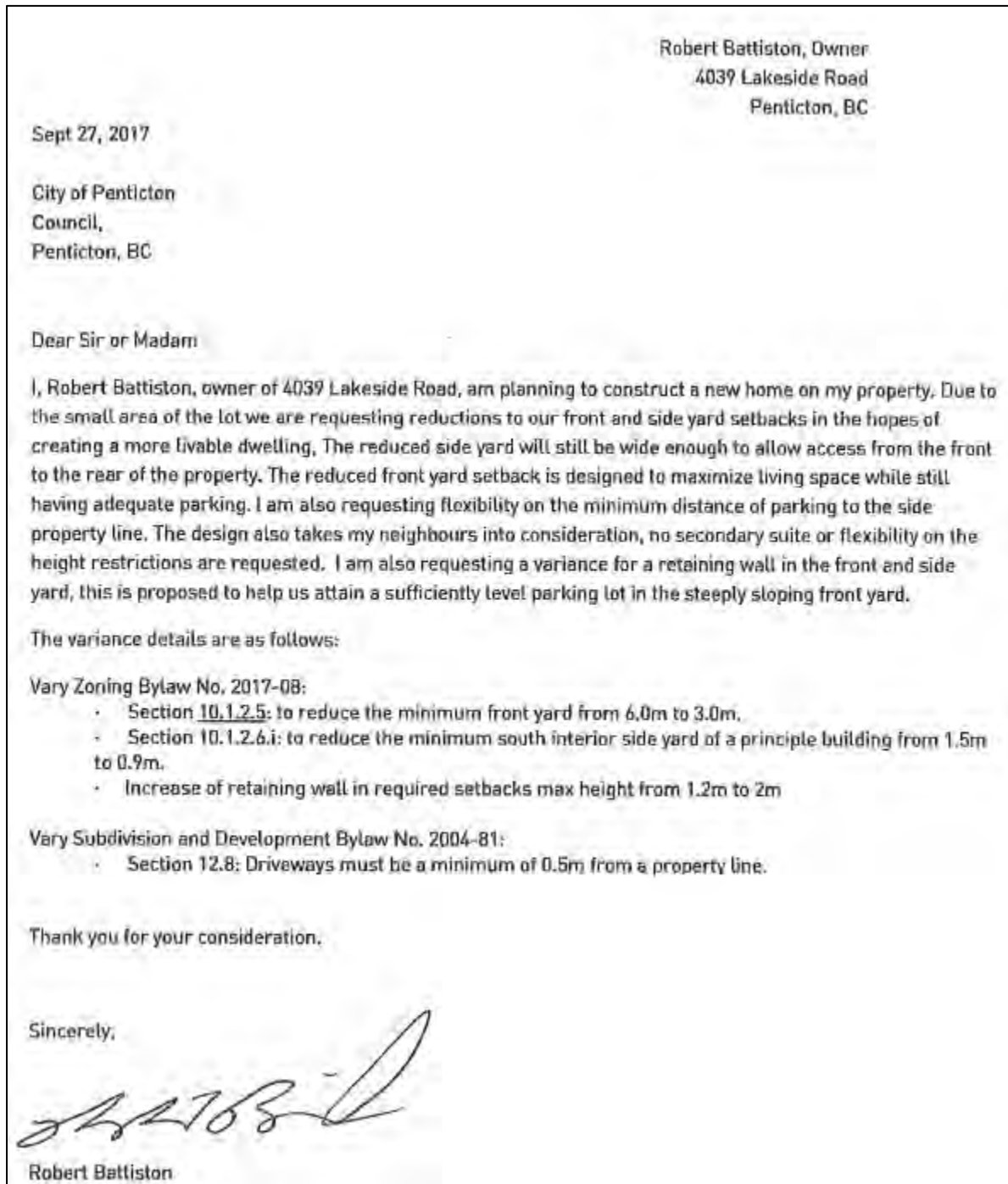



Figure 16: Letter of Intent

Attachment I - Development Variance Permit PL2017-8103



City of Penticton
378 Main St., Penticton B.C. V2A 5A9
www.penticton.ca ask@penticton.ca

Development Variance Permit

Permit Number: DVP PL2017-8103

Name:
Address:

Conditions of Permit

1. This permit is issued subject to compliance with all of the bylaws of the City, except as specifically varied or supplemented by this Permit.
2. This permit applies to:

Legal: Lot 22 Block 209 District Lot 190 Similkameen Division Yale District Plan 466
Civic: 4039 Lakeside Road
PID: 012-323-179
3. This permit has been issued in accordance with Section 498 of the *Local Government Act*, to vary the following sections of Zoning Bylaw 2017-08 and Subdivision and Development Bylaw No. 2004-81 to allow for the construction of a single family dwelling.

Zoning Bylaw No. 2017-08:
 - Section 5.6.2.1: to increase the height of retaining walls within any required yards from 1.2m to 2.0m.
 - Section 10.1.2.5: to reduce the minimum front yard from 6.0m to 3.0m.
 - Section 10.1.2.6.i: to reduce the minimum south interior side yard of a principle building from 1.5m to 0.9m.
Subdivision and Development Bylaw No. 2004-81:
 - Section 12.8: to reduce the requirement for a driveway to be located 0.5m from a property line to 0.2m from a property line.

General Conditions

4. In accordance with Section 501 of the *Local Government Act*, the lands subject to this permit shall be developed in general accordance with this permit and the plans attached as Schedule A.
5. In accordance with Section 504 of the *Local Government Act*, if the holder of this permit does not commence the development authorized by this permit within 2 years of the date of this permit, this permit shall lapse.
6. **This permit is not a building permit. In order to proceed with this development, the holder of this permit must hold a valid building permit issued by the Building Inspection Department.**

7. This permit does not constitute any other municipal, provincial or federal approval. The holder of this permit is responsible to obtain any additional municipal, federal, or provincial approvals prior to commencing the development authorized by this permit.
8. This permit does not include off-site infrastructure costs that may be required at the building permit stage, such as Development Cost Charges (DCC's), road improvements and electrical servicing. There may be substantial infrastructure and servicing costs payable at a later date. For more information on servicing and infrastructure requirements please contact the Development Engineering Department at (250) 490-2501. For more information on electrical servicing costs, please contact the Electric Utility at (250) 490-2535.

Authorized by City Council, the 19 day of December, 2017

Issued this ____ day of _____, 2017

Dana Schmidt,
Corporate Officer

Council Report

penticton.ca

Date: December 19, 2017 **File No:** RMS/Address 1830 Ridgedale Dr
To: Peter Weeber, Chief Administrative Officer
From: Blake Laven, Planning Manager
Subject: "Street Naming (The Ridge) Bylaw No. 2017-80"

Staff Recommendation

THAT Council forward the following proposed street names for the new roads created by the subdivision of Lot 1, District Lot 2710, Similkameen Division Yale district, Plan KAP21103, located at 1830 Ridgedale Drive (The Ridge) to the Ad-hoc Heritage and Museum Committee for comment:

- Antler Drive;
- Deer Crescent;
- Elk Street; and
- Fawn Court.

Financial implication

N/A

Background

On May 23, 2017, Council adopted Zoning Bylaw 2017-07, which put zoning in place for a new 110 lot residential neighbourhood in the Columbia Heights area of the city called "The Ridge." Work has been ongoing on the development of the first phase of the subdivision for the past 6 months. All infrastructure has been installed and the first house is currently under construction. The creation of all the legal lots through a subdivision application is also coming to a closure. As part of the subdivision process, four (4) new streets are being created and require name identifiers.

Street naming is a process that happens through the adoption of a bylaw by City Council. Council in 2003, endorsed a policy whereby street names would be referred to the Heritage and Museum Advisory Committee for comment prior to Council consideration. In 2015, the Committee, created a list of names for developers to choose from to help guide the process. The "Street Name Reserve List" includes historic 'local figures', local 'flora and fauna' as well as local 'birds and animals'. The list is not meant to be exhaustive, but to give developers the opportunity to choose *pre*-endorsed names in the marketing and development of their subdivisions, whereby the committee would not need to be involved in each individual decision. It was

assumed that if names were desired that were not included on the list, then the Committee would be provided the opportunity to advise Council prior to the adoption of a new street name.

In this case, the developers have created a logo for the subdivision's marketing material featuring deer antlers. In the desire to keep with that theme, the name Antler Drive has been selected as the name of the main road through the subdivision. The names Deer Crescent, Elk Street and Fawn Court all play off of the deer theme as well.



Figure 1: Marketing Logo from the 'Ridge Penticton's' marketing materials, with deer antlers prominently featured

The developer is requesting that Council support their desired road names through their development.

Analysis

Refer "Street Naming (The Ridge) Bylaw No. 2017-80" to the Heritage and Museum Committee

Historically, developers in Penticton have been given generous autonomy in the marketing of their developments. Street naming is a central component to the identity of a new subdivision. The Pineview area of the City has embraced street names with tree species. Sendero Canyon selected the name Sendero Crescent in their subdivision as an identifier matching their marketing name. Other examples include the Wiltse area streets being names after the family that owned the lands and Avery Place, which was a name inspired by a person that the developer admired.

In this case, the developer has embraced the theme of antlers and deer for their development. The four names play off of that theme. Deer are a prominent mammal species in our area (some may argue too prominent!). Fawn are baby deer. Elk are a deer species that are not as common in populated areas (unlike mule deer), but are common in the hillsides to the east and west of Penticton.

The proposed street name 'Deer Crescent' has been selected from the "Street Name Reserve List" created by the Heritage and Museum Advisory Committee. The other names, while associated with deer, are not listed on the reserve list. As such, comment from the Advisory Committee prior to considering the bylaw is City policy.

Staff have also reviewed the proposed names against street names in neighbouring municipalities and can comment that these names will all be unique to Penticton. This is an important consideration for navigation and emergency services.

Given the above, staff are recommending that Council refer the proposal to the Ad-hoc Heritage and Museum Advisory Committee for comment prior to consideration of the bylaw.

Support "Street Naming (The Ridge) Bylaw No. 2017-80" without comment from the Committee

Council may feel that the street names proposed by the developer are in keeping with the spirit of the list endorsed by the Heritage and Museum Advisory Committee and that the Committee does not need to comment prior to adopting the bylaw. The name Deer Crescent has been selected from the list and the other three names all play off of the deer theme. Council can avoid the delay of going to the committee by giving first, second and third reading of the bylaw and sending it to the January 9th, 2018 Regular Meeting of Council for adoption. This would give quicker assurance to the developer and builders that are proceeding with house plans for the new subdivision.

Alternate Recommendations

1. THAT "Street Naming (The Ridge) Bylaw No. 2017-80" be given first, second and third reading and be sent to the January 9, 2018 Regular Meeting of Council for adoption.

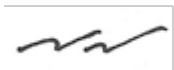
Attachments

- Attachment A: Subject Property Location Map
- Attachment B: Approved subdivision layout with requested street names
- Attachment C: Street Naming (The Ridge) Bylaw No. 2017-80

Respectfully submitted,

Blake Laven, RPP, MCIP
Planning Manager

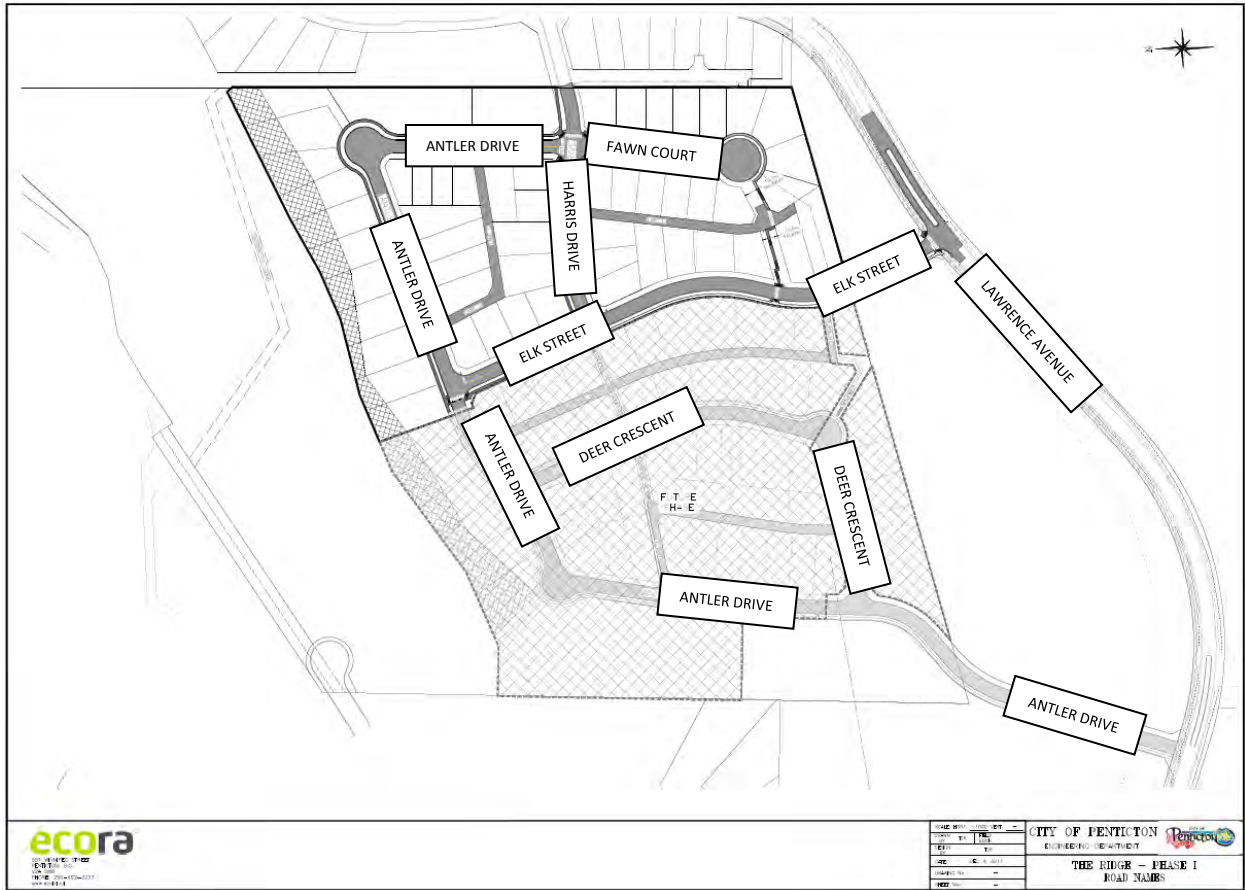
Approvals

Director <i>AA</i>	Acting CAO 
---------------------------	---

Attachment A
Subject Property Location Map



Attachment B Approved Lot Layout with Proposed Street Names



The Corporation of the City of Penticton

Bylaw No. 2017-80

A bylaw to name roads in the City of Penticton

BE IT RESOLVED THAT the Municipal Council of the City of Penticton in open meeting assembled, hereby ENACTS AS FOLLOWS:

1. Title:

This Bylaw may be cited as "Street Naming (The Ridge) Bylaw No. 2017-80".

2. Purpose:

i. That the City of Penticton name the new roads created by the subdivision of Lot 1, District Lot 2710, Similkameen Division Yale District, Plan KAP21103, located at 1830 Ridgedale Drive (The Ridge), the following names as shown on Schedule "A":

- "Antler Drive";
- "Deer Crescent";
- "Elk Street";
- "Fawn Court".

ii. Schedule "A" attached hereto forms part of this bylaw.

READ A FIRST time this day of , 2017

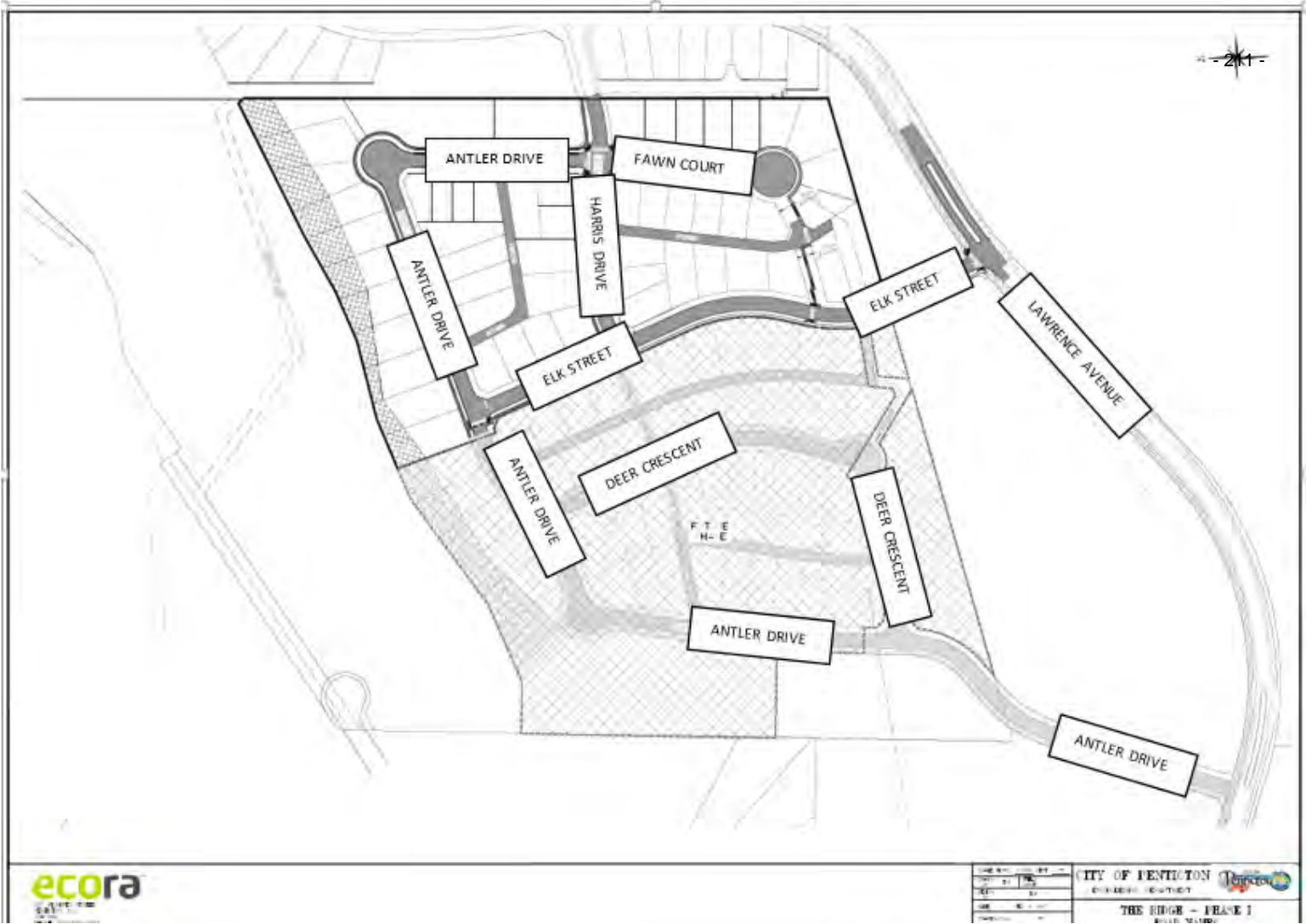
READ A SECOND time this day of , 2017

READ A THIRD time this day of , 2017

ADOPTED this day of , 2018

Andrew Jakubeit, Mayor

Dana Schmidt, Corporate Officer



City of Penticton – Schedule ‘A’

Street Naming (The Ridge) Bylaw No. 2017-80

Date: _____

Corporate Officer: _____