CORPORATION OF THE CITY OF COURTENAY
COUNCIL MEETING AGENDA

Date: May 17, 2021
Time: 4:00 p.m.
Location: City Hall Council Chambers

AMENDED AGENDA

We respectfully acknowledge that the land on which we gather is the unceded traditional territory of the K'ómoks First Nation

Due to the COVID-19 pandemic, and in accordance with Ministerial Order No. M192/2020 and the Class Order (mass gatherings), Council meetings will be conducted virtually and live-streamed on the City of Courtenay's YouTube channel.

K'OMOKS FIRST NATION ACKNOWLEDGEMENT

Pages

1. ADOPTION OF MINUTES

1.1. Adopt May 3rd, 2021 Regular Council meeting minutes 5

2. INTRODUCTION OF LATE ITEMS

3. DELEGATIONS

3.1. Human Sex Trafficking, Sexual Exploitation and Child Sex Trafficking in B.C. 17

Presentation by:

- Cathy Peters, BC Anti-Human Trafficking Educator, Speaker, Advocate; Be Amazing Campaign

4. STAFF REPORTS/PRESENTATIONS

4.1. Development Services

4.1.1. Zoning Bylaw Amendment No. 3025 and No. 3038 - Urban Agriculture Zoning Regulations 29

4.2. Engineering Services

4.2.1. Dike Replacement and Flood Management Strategy Adoption 35

8. RESOLUTIONS OF COUNCIL

8.1. In Camera Meeting

That a Special In-Camera meeting closed to the public will be held May 17th, 2021 at the conclusion of the Regular Council Meeting pursuant to the following sub-sections of the *Community Charter*:

- 90 (1) (c) labour relations or other employee relations;
- 90 (1) (j) information that is prohibited, or information that if it were presented in a document would be prohibited, from disclosure under section 21 of the *Freedom of Information and Protection of Privacy Act*;
- 90 (1) (k) negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public;
- 90 (2) (b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party.

9. UNFINISHED BUSINESS

10. NOTICE OF MOTION

11. NEW BUSINESS

12. BYLAWS

12.1. For First and Second Reading

12.1.1. Zoning Amendment Bylaw No. 3025, 2021 - Urban Agriculture 109

(A bylaw to amend Zoning Bylaw No. 2500, 2007 to establish urban agriculture zoning regulations)

12.1.2. Zoning Amendment Bylaw No. 3038, 2021 - Raising of Hens 111

(A bylaw to amend Zoning Bylaw No. 2500, 2007 to establish urban agriculture - raising of hens zoning regulations)

12.2. For First, Second, and Third Reading

12.2.1. Animal Control Bylaw Amendment Bylaw No. 3034, 2021 - Honeybees 113

(A bylaw to amend Animal Control Bylaw No. 1897, 1996 to allow honeybees to be kept outdoors throughout the City)

12.2.2. Animal Control Bylaw Amendment Bylaw No. 3039 - Hens 115

(A bylaw to amend Animal Control Bylaw No. 1897, 1996 to allow hens to be kept outdoors throughout the City)

12.3. For Final Adoption

12.3.1. Zoning Amendment Bylaw No. 2994, 2021 (310 Hunt Road) 117

(A bylaw to amend Zoning Bylaw 2500, 2007 to create a new Comprehensive Development Thirty One Zone (CD-31), and rezone from Land Use Contract (LUC) to Thirty One Zone (CD-31) to facilitate the development of a 93 unit hotel - 310 Hunt Road)

13. ADJOURNMENT

Minutes of a Regular Council Meeting

Meeting #: R9/2021
Date: May 3, 2021
Time: 4:00 pm
Location: City Hall, Courtenay, BC, via video/audio conference

Attending:
Mayor:: B. Wells, via video/audio conference
Councillors: W. Cole-Hamilton, via video/audio conference
D. Frisch, via video/audio conference
D. Hillian, via video/audio conference
M. McCollum, via video/audio conference
W. Morin, via video/audio conference
M. Theos, via video/audio conference

Staff: G. Garbutt, Chief Administrative Officer, via video/audio conference
R. Matthews, Executive Assistant/Deputy Corporate Officer, via video/audio conference
D. Bardonnex, Fire Chief, via video/audio conference
I. Buck, Director of Development Services, via video/audio conference
J. Nelson, Director of Financial Services, via video/audio conference
K. O'Connell, Director of Corporate Support Services, via video/audio conference
S. Saunders, Director of Recreation, Culture & Community Services, via video/audio conference
M. Fitzgerald, Manager of Development Planning, via video/audio conference
E. Gavelin, Network Technician, via video/audio conference

Due to the COVID-19 pandemic, and in accordance with Ministerial Order No. M192/2020 and the Class Order (mass gatherings), Council meetings will be conducted virtually and live-streamed on the City of Courtenay's YouTube channel.

1. ADOPTION OF MINUTES

1.1 Adopt April 19th, 2021 Regular Council meeting minutes (0570-03)

Moved By McCollum
Seconded By Cole-Hamilton

THAT the April 19th, 2021 Regular Council meeting minutes be adopted.
Carried

1.2 Adopt April 26th, 2021 Committee of the Whole meeting minutes (0570-03)

Moved By McCollum
Seconded By Cole-Hamilton

THAT the April 26th, 2021 Committee of the Whole meeting minutes be adopted.
Carried

2. INTRODUCTION OF LATE ITEMS

3. DELEGATIONS

4. STAFF REPORTS/PRESENTATIONS

4.1 Development Services

4.1.1 Zoning Amendment Bylaw No. 3027 to Allow for a Secondary Suite at 1814 Grieve Avenue (3360-20-2016)

Moved By Frisch
Seconded By McCollum

THAT based on the May 3rd, 2021 staff report "Zoning Amendment Bylaw No. 3027 to Allow for a Secondary Suite at 1814 Grieve Avenue" Council approve OPTION 1 and proceed to First and Second Readings of Zoning Amendment Bylaw No. 3027, 2021; and,

THAT Council considers Zoning Amendment Bylaw No. 3027, 2021 consistent with the City's Official Community Plan; and

THAT Council waives the requirement to hold a public hearing with respect to Zoning Amendment Bylaw No. 3027, 2021 pursuant to Section 467 (2) of the Local Government Act and directs staff to give notice of the waiver of the public hearing pursuant to Section 467 of the Local Government Act in advance of considerations of 3rd Reading of the bylaw.
Carried

4.1.2 Official Community Plan (OCP) Amendment Bylaw No. 3018 and Zoning Amendment Bylaw No. 2912 - Lot A, Copperfield Road (3360-20-1715/6480-20-1003)

Moved By Cole-Hamilton
Seconded By Frisch

THAT the May 3rd, 2021 staff report "Official Community Plan (OCP) Amendment Bylaw No. 3018 and Zoning Amendment Bylaw No. 2912 - Lot A, Copperfield Road," be received for information.
Carried

Moved By Cole-Hamilton
Seconded By McCollum

THAT based on the May 3rd, 2021 staff report "Updated Proposal - Official Community Plan (OCP) Amendment Bylaw No. 3018 and Zoning Amendment Bylaw No. 2912 - Lot A, Copperfield Road" Council approve OPTION 1 and complete the following steps:

1. THAT Council gives Second Reading to Official Community Plan Amendment Bylaw No. 3018 to redesignate the subject property from "Suburban Residential" to "Urban Residential";

2. THAT Council gives Second Reading of "Zoning Amendment Bylaw No. 2912" to create a new CD-30 Zone and rezone the property legally described as Lot A, District Lot 138, Comox District, Plan 2607 Except Parts in Plans 312R, 14210 and 29833 from R1-A to CD-30 and PA-2; and,

3. THAT Council direct staff to schedule and advertise a statutory Public Hearing with respect to the above referenced bylaws.
Carried

4.1.3 Local Government Development Approvals Program Funding Application (0400-20-UBCM)

Moved By Hillian
Seconded By Frisch

THAT based on the May 3rd, 2021 staff report entitled "Local Government Development Approvals Program Funding Application" Council approve Option No. 1 as follows:

1. THAT Council support an application to the Local Government Development Approvals Program based on the general projects outlined in this report; and,

2. THAT Council authorize staff to submit the application package to the UBCM and support staff providing overall grant management if successful.
Carried

5. EXTERNAL REPORTS AND CORRESPONDENCE FOR INFORMATION

5.1 Union of BC Municipalities (UBCM) Provincial Response to 2020 Resolutions RE: Provincial Government Funding Increase for BC Housing (0400-20)

Moved By McCollum
Seconded By Frisch

THAT the correspondence dated April 15th, 2021 from the Union of BC Municipalities (UBCM) regarding the provincial response to 2020 resolution "Provincial Government Funding Increase for BC Housing", be received for information.
Carried

5.2 Ministry of Environment and Climate Change Strategy - Support for Property Assessed Clean Energy (PACE) BC (0410-20)

Moved By Frisch
Seconded By McCollum

THAT the correspondence dated April 23rd, 2021 from Minister George Heyman, Ministry of Environment and Climate Change Strategy, thanking the City of Courtenay for its letter of support for the Property Assessed Clean Energy (PACE) BC Program, be received for information.
Carried

5.3 Comox Valley Regional District RE: Bylaw No. 654 - Comox Valley Economic Development Service Conversion Bylaw No. 345, 2016, Amendment No. 1 (0470-20)

Moved By Hillian
Seconded By Cole-Hamilton

THAT the correspondence dated April 28th, 2021 from the Comox Valley Regional District (CVRD) regarding Bylaw No. 654, "Comox Valley Economic

Development Service Conversion Bylaw No. 345, 2016, Amendment No. 1", be received for information; and,

THAT the City of Courtenay consent to the adoption of the Comox Valley Regional District Bylaw No. 654 being "Comox Valley Economic Development Service Conversion Bylaw No. 345, 2016, Amendment No. 1" under section 346 of the Local Government Act.
Carried

5.4 Letter from Courtenay Hoteliers RE: Municipal and Regional District Tax (MRDT) - Destination Marketing Organization (DMO) (0400-20)

Moved By Hillian
Seconded By Morin

THAT the correspondence dated April 26th, 2021 from Courtenay hoteliers regarding the Municipal and Regional District Tax (MRDT) and Destination Marketing Organization (DMO), be received for information.
Carried

6. INTERNAL REPORTS AND CORRESPONDENCE FOR INFORMATION

6.1 Briefing Note - Request for Funding - LUSH Valley Food Action Society's Good Food Box Program (0250-20-LUSH)

The May 3rd, 2021 Briefing Note, "Request for Funding - LUSH Valley Food Action Society's Good Food Box Program" was received for information.

6.1.1 LUSH Valley Food Action Society - Revised Request for Funding

The attached correspondence dated April 21st, 2021 from LUSH Valley Food Action Society, "LUSH Valley Revised Request for Funding to City of Courtenay April 21, 2021 - Briefing", was received for information.

Arising from discussion, Council passed the following resolutions:

Moved By Hillian
Seconded By McCollum

THAT the DEFERRED Item 8.3 *LUSH Valley Food Action Society - Good Food Box Program Funding* from the April 19th, 2021 Regular Council Meeting Agenda be brought forward for Councils' consideration at this time.
Carried

Moved By Morin
Seconded By McCollum

THAT in response to the January 18th, 2021 LUSH Valley Food Action Society's delegation and request for funding to support local food purchasing for vulnerable populations and continue their "Good Food Box" program into 2021 during COVID-19;

THAT Council approve $60,000 in funding out of the $200,000 that was identified as available in 2021 for other unexpected costs and revenue losses from the Provincial COVID-19 Safe Restart grant funds.
Carried

Councillor Morin clarified that she is not a member of the Board for the LUSH Valley Food Action Society; Councillor Morin is a member of the Comox Valley Food Policy Council which is a separate entity.

7. REPORTS/UPDATES FROM COUNCIL MEMBERS INCLUDING REPORTS FROM COMMITTEES

7.1 Councillor Cole-Hamilton

Councillor Cole-Hamilton mentioned that as Acting Mayor for the month of April, he participated in Emterra's Cheque Presentation of over $3,400.00 to the Comox Valley Healthcare Foundation (CVHF), along with Mayor Arnott, Town of Comox; Dave Ross, Emterra North Island Operations Manager; and Bill Anglin, President, CVHF Board. Emterra makes an annual contribution to CVHF based on tonnes of recyclables collected in the Town of Comox and City of Courtenay.

7.2 Councillor Hillian

Councillor Hillian reviewed his attendance at the following events:

- K'ómoks First Nation (KFN) Main Treaty Table meeting
- Comox Strathcona Regional Hospital District Board meeting
- *Indigenous Awareness and Indigenous Relations Corporate Virtual Training* Online Course hosted by CVRD
- Lunch and Learn session with Staff and Council re: Flood Management
- Comox Valley Sewage Commission meeting
- Comox Valley Water Committee meeting
- CVRD Board meeting (2 Total)
- Comox Valley Community Justice Centre Board meeting

- Climate Caucus Elected Members meeting
- Comox Strathcona Waste Management (CSWM) Board meeting
- Comox Youth Climate Council Earth Day event
- Kus-kus-sum: CAO Briefing meeting
- Shelter Spaces meeting with leadership of the Comox Valley Coalition to End Homelessness (CVCEH), BC Housing and City staff
- K'ómoks First Nation (KFN) Chief & Council meeting with CVRD

Councillor Hillian mentioned that it is Small Business BC Awards Week and there are three local businesses up for awards: CORE Landscape Products, Spirits of the West Coast Art Gallery, and Bigfoot Donuts.

Councillor Hillian also acknowledged the passing of Wayne Bradley, a longtime community activist who founded the World Community Development Education Society and World Community Film Festival; and brought the first Fair Trade coffee to the community that continues to be sold in local supermarkets.

7.3 Mayor Wells

Mayor Wells reviewed his attendance at the following events:

- Meeting with K'ómoks First Nation (KFN) and City staff regarding the Official Community Plan (OCP)
- Call with Ministers Osborne and Farnsworth; received commitment that volunteer firefighters, as first responders, will be placed on the priority list to receive the COVID-19 vaccine
- April 28th Day of Mourning event
- Meeting with Downtown Courtenay Business Improvement Association (DCBIA)
- Comox Valley Chamber of Commerce Annual General Meeting (AGM) - Swearing in Directors
- Call with Comox Valley Chamber of Commerce and Minister Heyman regarding regional highlights of the provincial budget

Mayor Wells mentioned the *Comox Valley Dine Around: Patio and Takeout* event taking place from April 21st to June 1st, 2021 in the Comox Valley.

8. RESOLUTIONS OF COUNCIL

8.1 Councillor Cole-Hamilton Resolution - Submission to Union of BC Municipalities (UBCM) - Immediate Protection for all at-risk Old Growth Forests in BC

Moved By Cole-Hamilton
Seconded By Frisch

1) THAT staff be directed to submit the following resolution for consideration at the 2021 UBCM Convention:

Immediate Protection for all at-risk Old-growth Forests in BC.

WHEREAS ancient high productivity (big tree) old-growth ecosystems are globally one of the most valuable climate mitigation and resiliency assets in terms of carbon storage, sequestration, protection against wildfire, storage of water and bank of biodiversity;

WHEREAS the Premier of British Columbia has stated that the Government of British Columbia would implement the Old-Growth Strategic Review Report "in its totality", and the Union of British Columbia Indian Chiefs passed a resolution "call[ing] for the provincial government to take immediate and sustained action to ensure that the report's recommendations are carried out, with First Nations included and consulted every step of the way;"

THEREFORE BE IT RESOLVED THAT the UBCM call on the provincial government to immediately defer logging in all high productivity, rare, oldest, and most intact old-growth forests as recommended by the Old-Growth Strategic Review, until all 14 of the panel's recommendations have been implemented, including deferrals in such at-risk old-growth forests as the headwaters of Fairy Creek, the Upper Walbran Valley, Nahmint Valley, Eden Grove, Edinburgh Mountain, Upper Tsitika Valley, East Creek, Klaskish Valley, Nimpkish Lake and the Inland Old-Growth Temperate Rainforest; and,

THAT the UBCM call upon the Government of British Columbia to allocate funding to enact these deferrals in an economically just manner, in the full spirit of reconciliation and to support the economic transition of affected First Nations and non-First Nations communities from unsustainable old-growth logging to the development of long-term sustainable local economies.

AND, 2) THAT a copy of the aforementioned resolution be sent to the Province of BC, attention Premier John Horgan, for information.
Carried

8.2 In Camera Meeting

Moved By McCollum
Seconded By Frisch

That a Special In-Camera meeting closed to the public will be held May 3rd, 2021 at the conclusion of the Regular Council Meeting pursuant to the following sub-sections of the *Community Charter*:

- 90 (1) (c) labour relations or other employee relations;
- 90 (1) (k) negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public;
- 90 (2) (b) the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party.

Carried

9. UNFINISHED BUSINESS

See Item 6.1 Briefing Note - Request for Funding - LUSH Valley Food Action Society's Good Food Box Program (*Under 6. Internal Reports and Correspondence for Information*) regarding Item 8.3 carried forward from the April 19th, 2021 Regular Council Agenda.

10. NOTICE OF MOTION

11. NEW BUSINESS

12. BYLAWS

12.1 For First and Second Reading

12.1.1 Zoning Amendment Bylaw No. 3027, 2021 - 1814 Grieve Avenue

Moved By Frisch
Seconded By Cole-Hamilton

THAT "Zoning Amendment Bylaw No. 3027, 2021" pass first and second reading.
Carried

12.2 For Second Reading

12.2.1 Official Community Plan (OCP) Amendment Bylaw No. 3018, 2020 (Lot A [2650] Copperfield Road)

Moved By McCollum
Seconded By Morin

THAT "Official Community Plan (OCP) Amendment Bylaw No. 3018, 2020" pass second reading.
Carried

12.2.2 Zoning Amendment Bylaw No. 2912, 2020 (Lot A [2650] Copperfield Road)

Moved By Cole-Hamilton
Seconded By McCollum

THAT "Zoning Amendment Bylaw No. 2912, 2020" pass second reading.
Carried

12.3 For Final Adoption

12.3.1 2021 Tax Rates Bylaw No. 3033, 2021

Moved By Hillian
Seconded By Frisch

THAT "2021 Tax Rates Bylaw No. 3033, 2021" be finally adopted.
Carried

13. ADJOURNMENT

Moved By Frisch
Seconded By Hillian

THAT the meeting now adjourn at 5:24 p.m.
Carried

CERTIFIED CORRECT

_____

Corporate Officer

Adopted this 17th day of May, 2021

_____

Mayor

Dear Mayor Bob Wells and Courtenay City Council, February 16, 2021.

My name is Cathy Peters and as a private citizen I have been raising awareness regarding **Human Sex Trafficking, Sexual Exploitation and Child Sex Trafficking in British Columbia** to BC politicians (Civic, Provincial and Federal), police agencies and to the public for the past 7 years.

Some of you may be aware of my advocacy. I had a booth at UBCM Vancouver Convention in 2019; **"An Anti-Human trafficking Initiative".**

I was a former inner city "life skills" high school teacher 40 years ago where my focus was to keep students out of gang life and the sex industry.

Due to **globalization, an unregulated internet, limited law enforcement and lack of prevention education**, the sex industry has grown rapidly and is specifically targeting the vulnerable, Indigenous, LGBTQ2, youth at risk, new migrants, runaway youth, youth in care, disabled and any girl under 14 years of age. Some boys are targeted as well. No community is immune.

The media narrative in BC is that "sex work" is legitimate as a choice and a job. However, there is "another side" that is not being reported. I speak for the voiceless; the 95%, who are coerced, tricked, manipulated, forced and lured into the sex industry. It is not a choice or a job.

Please view my new website: www.beamazingcampaign.org. Page 2 has two teaching video workshops; one for parents and one for youth.

I have worked on a Federal (paper) petition with a sponsoring BC MP. If you would like a copy of it please contact me.

ASK: to present as a Delegation to your City Council.

I have included useful resource information in this package. For background information refer to the **TIP (Trafficking in Persons) 2020 report** from the USA State Department that gives an assessment of 185 countries in the world. The summary on Canada is important to read. Ontario has been cited as best practices globally; BC is decades behind any province in addressing this crime.

Please contact me if you support my advocacy. Please forward my name and information to any stakeholders in your area. Note: CoVid has exacerbated the problem since the luring is taking place online and youth have more unsupervised screen time.

I look forward to hear from you.

Cathy Peters

Sincerely, Cathy Peters
BC anti-human trafficking educator, speaker, advocate
www.beamazingcampaign.org 1101-2785 Library Lane, North Vancouver, BC V7J 0C3
Phone: 604-828-2689 Email: ca.peters@telus.net

SEX TRAFFICKING is a **BOOMING** industry

DEFINED:

SEX TRAFFICKING occurs when someone uses force, fraud or coercion to cause a commercial sex act with an adult or causes a minor to commit a commercial sex act. A **COMMERCIAL SEX ACT** includes prostitution, pornography and sexual performance done in exchange for any item of value, such as money, drugs, shelter, food or clothes.

It thrives because there is serious demand.

Buyer: fuels the market with their money

Trafficker/pimp: exploits victims to earn revenue from buyers

Victim: includes both girls and boys who are bought and sold for profit

Traffickers find victims through: Social network, Home/neighborhood, clubs or bars, internet, school,
And lure them though promises: Protection, Love, Adventure, Home, Opportunity.

TRAFFICKERS USE: FEAR, VIOLENCE, INTIMIDATION, THREATS
to ensure compliance and meet demand.

The **common age** a child enters sex trafficking is **14-16**; too young and naïve to realize what's happening.

Society may call it **PROSTITUTION**, but Federal Law calls it **SEX TRAFFICKING**.

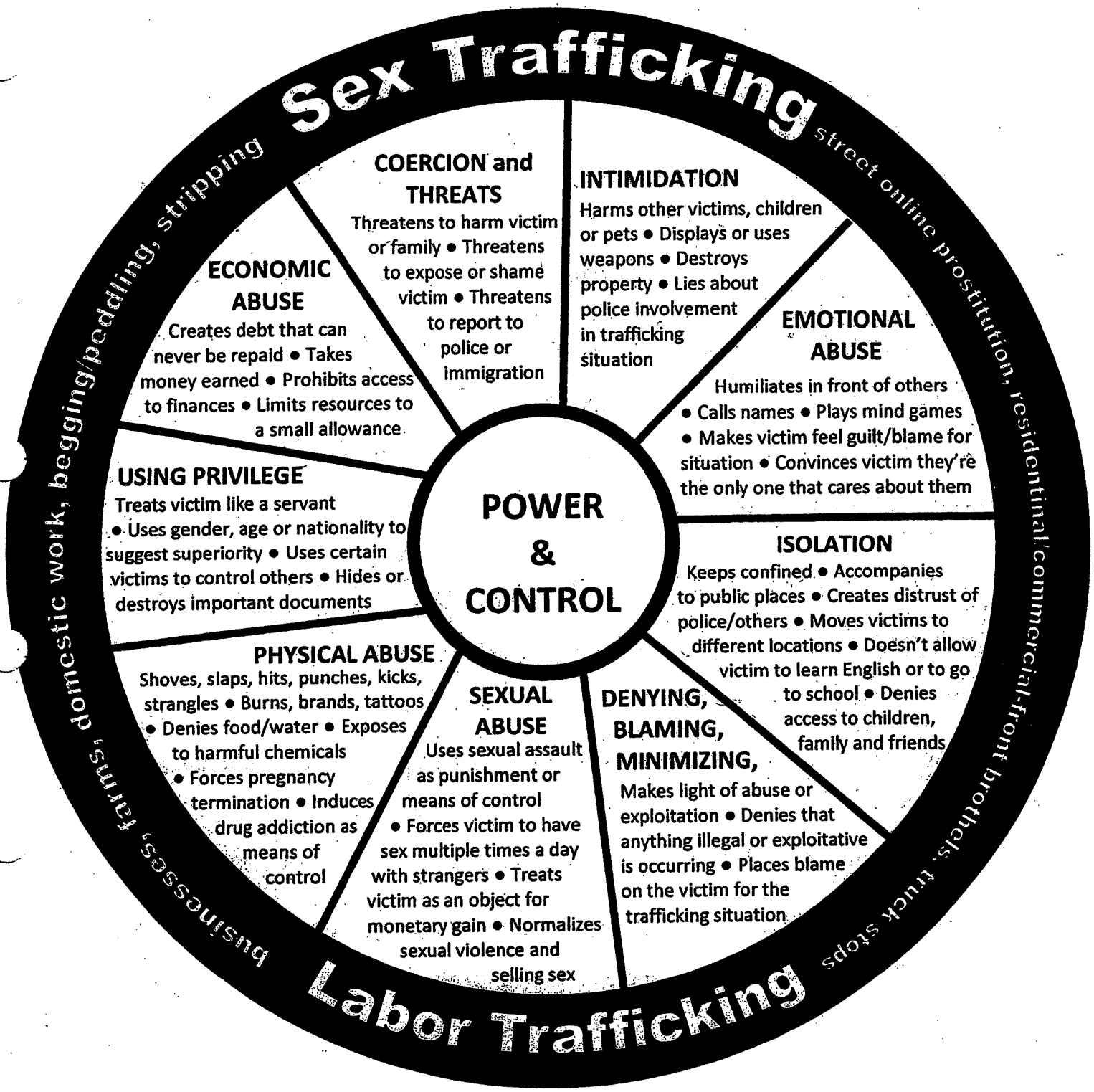
Because of social stigma or misinformation, victims go:

UNIDENTIFIED (silenced by fear and the control of the trafficker),
MISIDENTIFIED (pigeonholed into treatment for only surface issues).

So

Sex trafficked children are instead treated for:

drug abuse, alcohol abuse, domestic violence, delinquency, teenage pregnancy, STDS, abortion...all masking the true need...FREEDOM.



This wheel was adapted from the Domestic Abuse Intervention Project's Duluth Model Power and Control Wheel, available at www.theduluthmodel.org

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10 strategies for cities and municipalities to consider:

Key: It is unacceptable for women and children to be bought and sold in a modern equal society.

1. Learn about the issue; Google "thetraffickedhuman.org", read "Invisible Chains" by Benjamin Perrin, "Pornland" by Dr. Gail Dines (world expert on porn research). Have staff take the BC OCTIP (Office to Combat Trafficking in Persons) **free online course**. Encourage police to take HT course on the Police Knowledge Network.
2. Incorporate the United Nations 4 Pillars in a local strategy to stop Human trafficking/sexual exploitation: **Prevention, Protection, Prosecution, Partnerships.**
3. **Prevention**: raise awareness in community. "Education is our greatest weapon". ie. Children of the Street Society does school and community programs. Encourage "Men End exploitation" movements: ie. Moosehide Campaign, Westcoast Boys Club Network. Support porn addiction services for youth; ie "Fightthenewdrug" program recognizing the public health effects to youth of viewing violent sexual material.
4. Use communications to support a cultural mindshift. Ontario has "Saving the girl next door program", the RCMP has the "I'm Not for Sale" campaign. King County (Seattle) has "Buyer Beware" program. **Protection**: help victims, have exit strategies in place for them, consider 24-7 "wrap-around programs" ie. Salvation Army "Deborah's Gate", Covenant House, Servants Anonymous, Union Gospel Mission.
5. **Prosecution**: increase policing budget, training and priorities. Have "john" deterrants in place, **enforce the law; "Protection of Communities and Exploited Persons Act" which addresses "demand"** ie. perpetrators, johns, buyers of commercially paid sex.
6. **Train community stakeholders**: **Health care workers, fire department, municipal business licensing managers** to recognize human trafficking/sexual exploitation ie. Fraser Health Authority has a human trafficking protocol, Surrey Fire department is trained to recognize HT indicators. Train judges/criminal justice system.
7. **Partnerships**: **Collaboration:** with other cities and municipalities at local government associations, Police agencies and RCMP, 3 levels of government (civic, provincial, federal); UBCM, FCM with Resolutions.
8. No decriminalization of prostitution because the vulnerable (aboriginal girls/women, youth, children) in our communities will be targets to be lured, groomed and exploited for the sex trade. In the global sex trade today, which we are a part of, there is no demarcation between prostitution and trafficking. **Goal: safe, healthy, working, vibrant communities.**

CANADIAN FEDERAL LAW:

"The Protection of Communities and Exploited Persons Act"

1. **Targets the demand** by targeting the buyer of sex; the predator, pimp, trafficker, john are criminalized 2. Recognizes the seller of sex is a victim; usually female and is not criminalized 3. Exit strategies put in place to assist the victim out of the sex trade.

UBCM RESOLUTIONS September 2015:

B53
HUMAN TRAFFICKING; NCLGA Executive
WHEREAS human trafficking is a real and devastating issue in British Columbia;
AND WHEREAS significant work & research has been done as of late to aid in the prevention and prosecution of human trafficking throughout Canada:
THEREFORE BE IT RESOLVED that UBCM call on the RCMP, local police forces and local governments to work collaboratively in order to implement the recommendations found within the National Task Force on Sex Trafficking of Women and Girls in Canada's recent report ("'NO MORE' Ending Sex -Trafficking In Canada") as well as the Province of British Columbia's "Action Plan to Combat Human Trafficking."
ENDORSED BY THE NORTH CENTRAL LOCAL GOVERNMENT ASSOCIATION
UBCM RESOLUTIONS COMMITTEE RECOMMENDATION

B80
RAPE CULTURE IN CANADA; NCLGA Executive
WHEREAS sexual assaults continue to be committed across Canada, and victims are of every age, race, income and gender;
AND WHEREAS sexual assaults are under reported, and prosecution and conviction rates are low:
THEREFORE BE IT RESOLVED that UBCM advocate for an intergovernmental task force to be convened to determine the steps needed to erase the "rape culture" that is pervasive in schools, universities, workplaces and elsewhere across Canada;
AND BE IT FURTHER RESOLVED that the task force be mandated to elicit testimony from victims in order to determine the steps needed to improve the reporting, arrest and conviction rates across Canada.
ENDORSED BY THE NORTH CENTRAL LOCAL GOVERNMENT ASSOCIATION
UBCM RESOLUTIONS COMMITTEE RECOMMENDATION

CHAPTER 25

An Act to amend the Criminal Code in response to the Supreme Court of Canada decision in Attorney General of Canada v. Bedford and to make consequential amendments to other Acts

[*Assented to 6th November, 2014*]

Preamble

Whereas the Parliament of Canada has grave concerns about the exploitation that is inherent in prostitution and the risks of violence posed to those who engage in it;

Whereas the Parliament of Canada recognizes the social harm caused by the objectification of the human body and the commodification of sexual activity;

Whereas it is important to protect human dignity and the equality of all Canadians by discouraging prostitution, which has a disproportionate impact on women and children;

Whereas it is important to denounce and prohibit the purchase of sexual services because it creates a demand for prostitution;

Whereas it is important to continue to denounce and prohibit the procurement of persons for the purpose of prostitution and the development of economic interests in the exploitation of the prostitution of others as well as the commercialization and institutionalization of prostitution;

Whereas the Parliament of Canada wishes to encourage those who engage in prostitution to report incidents of violence and to leave prostitution;

And whereas the Parliament of Canada is committed to protecting communities from the harms associated with prostitution;

Now, therefore, Her Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:

SHORT TITLE

Short title

1. This Act may be cited as the *Protection of Communities and Exploited Persons Act*.

62-63 ELIZABETH II

CHAPITRE 25

Loi modifiant le Code criminel pour donner suite à la décision de la Cour suprême du Canada dans l'affaire Procureur général du Canada c. Bedford et apportant des modifications à d'autres lois en conséquence

[*Sanctionnée le 6 novembre 2014*]

Préambule

Attendu :

que le Parlement du Canada a de graves préoccupations concernant l'exploitation inhérente à la prostitution et les risques de violence auxquels s'exposent les personnes qui se livrent à cette pratique;

que le Parlement du Canada reconnaît les dommages sociaux causés par la chosification du corps humain et la marchandisation des activités sexuelles;

qu'il importe de protéger la dignité humaine et l'égalité de tous les Canadiens et Canadiennes en décourageant cette pratique qui a des conséquences négatives en particulier chez les femmes et les enfants;

qu'il importe de dénoncer et d'interdire l'achat de services sexuels parce qu'il contribue à créer une demande de prostitution;

qu'il importe de continuer à dénoncer et à interdire le proxénétisme et le développement d'intérêts économiques à partir de l'exploitation d'autrui par la prostitution, de même que la commercialisation et l'institutionnalisation de la prostitution;

que le Parlement du Canada souhaite encourager les personnes qui se livrent à la prostitution à signaler les cas de violence et à abandonner cette pratique;

que le Parlement du Canada souscrit pleinement à la protection des collectivités contre les méfaits liés à cette pratique,

Sa Majesté, sur l'avis et avec le consentement du Sénat et de la Chambre des communes du Canada, édicte :

TITRE ABRÉGÉ

Forensic Nursing Service @ Fraser Health

Fraser Health Authority has designed a **Human Trafficking Screening Protocol**, with the following sample questions:

What type of work do you do?

Can you leave your job or situation if you want?

Can you come and go as you please?

Have you been threatened if you try to leave?

Have you been physically harmed in any way?

What are your working or living conditions like?

Where do you sleep and eat?

Do you sleep in a bed, cot or on the floor?

Have you been deprived of food, water, sleep or medical care?

Do you have permission to eat, sleep or go to the bathroom?

Are there locks on your doors and windows so you cannot get out?

Has anyone threatened your family?

Has your identification for documentation been taken from you?

Is anyone forcing you to do anything that you do not want to do?

Evaluation of safety: Are you feeling safe right now? Is it safe for me to talk to you? Do you have any concerns for your safety? Is there anything I can do for you?

INDICATORS OF HUMAN TRAFFICKING AND SEXUAL EXPLOITATION

Recognizing potential red flags and knowing the indicators of human trafficking is a key step in identifying more victims and helping them find the assistance they need.

Common Work and Living Conditions: The individual(s) in question:

Is not free to leave or come and go as he/she wishes. Is under 18 and is providing commercial sex acts. Is in the commercial sex industry and has a pimp / manager. Is unpaid, paid very little, or paid only through tips. Works excessively long and/or unusual hours. Is not allowed breaks or suffers under unusual restrictions at work. Owes a large debt and is unable to pay it off. Was recruited through false promises concerning the nature and conditions of his/her work. High security measures exist in the work and/or living locations (e.g. opaque windows, boarded up windows, bars on windows, barbed wire, security cameras, etc.)

Poor Mental Health or Abnormal Behavior

Is fearful, anxious, depressed, submissive, tense, or nervous/paranoid. Exhibits unusually fearful or anxious behavior after bringing up law enforcement. Avoids eye contact.

Poor Physical Health

Lacks health care. Appears malnourished. Shows signs of physical and/or sexual abuse, physical restraint, confinement, or torture.

Lack of Control

Has few or no personal possessions. Is not in control of his/her own money, no financial records, or bank account. Is not in control of his/her own identification documents (ID or passport). Is not allowed or able to speak for themselves (a third party may insist on being present and/or translating)

Other

Claims of just visiting and inability to clarify where he/she is staying/address. Lack of knowledge of whereabouts and/or do not know what city he/she is in. Loss of sense of time. Has numerous inconsistencies in his/her story.

This list is not exhaustive and represents only a selection of possible indicators. Also, the red flags in this list may not be present in all trafficking cases and are not cumulative. Learn more at **www.traffickingresourcecenter.org**.

Child Sex Trafficking in BC

Buying and selling children for sex is one of the fastest growing crimes in Canada, and it is happening in communities across BC.

Globalization, unregulated technology, lack of law enforcement and inadequate prevention education is allowing this crime to grow globally.

Human sex trafficking (HT) involves the recruitment, transportation or harbouring of people for the purpose of exploitation through the use of force, coercion, fraud, deception or threats against the victim or person known to them. It is known as modern day slavery. According to the US State department's annual global report on trafficking in persons (TIP), Canada is a source, transit and destination for sex trafficking. (https://www.state.gov/j/tip/rls/)

Child sex trafficking is a lucrative crime. It has low costs and huge profits; a trafficker can make $280,000 per victim, per year. The average age of entry into prostitution in Canada is 12-14 years of age, although traffickers are known to target younger children. Traffickers seek young victims both to service the demand for sex with those who look young, and because these victims are easier to manipulate and control.

The biggest problem in Canada is that people do not know there is a problem; therefore, child sex trafficking is expanding in the dark. Every child can be a target and a potential victim, but learning about this issue is the first step.

Five things that parents can do to help prevent their children from being lured into sex trafficking:

1. Set a high standard of love within your home

The way you define and express love shapes your children's self-image, confidence and opinions of future relationships. Treat them the way you want their future partners to treat them. Help them to distinguish between real love and empty promises or cheap gifts.

2. Talk to your children about sexual abuse

According to the US Department of Justice, someone in the US is sexually assaulted every two minutes, of which 29% are between the ages of 12-17. Let your children know that if anyone has or ever does hurt them, they can talk to you. This is the most important thing you can say. Don't assume they have not been hurt by sexual violence before. Leave the door open for your child to talk about past circumstances that they haven't shared with you.

3. Talk to your children about sex trafficking

Discuss ways children and teens are targeted for sex trafficking. Let them know that traffickers specifically try to woo young girls and boys with promises of a better life – whether it's promises of love and attention, or promises of nice things and trips. Traffickers can be male or female, even classmates. Traffickers may even use kids to recruit other kids.

4. Talk to your children about the dangers of social media

It is important to provide practical safety tips, such as: don't share personal information on the internet; don't accept Facebook requests from unknown people; NEVER share naked photos of yourself with anyone; and tell a parent or a trusted adult if you feel threatened or uncomfortable online. Children also need help defining friendships. Teach them that a friend is not someone you met yesterday and that a "friend" on Facebook is not the same thing as a friendship.

5. Pay attention to your children

Monitor your children's social media accounts. Look for ways to meet their friends, their friends' parents and those they hang out with. Be alert to boyfriends who are much older, or friendships that tend to isolate your child from other friends or family. Notice if your child has new clothing items, makeup products, cell phone or other items and ask how they acquired them.

Resources and Links:

- Covenant House (crises program for ages 16-24): info@covenanthousebc.org, 604-685-7474
- Internet Safety Tips: www.Cybertip.ca
- Fraser Health Forensic Nurse Service (24 hours): 1-855-814-8194
- Kids Help Phone: 1-800-668-6868
- Office to Combat Trafficking in Persons (OCTIP): 1-888-712-7974 (24/7 interpretation available), 604-660-5199, octip@gov.bc.ca
- Plea Community Services Society (assisting youth 24/7): onyx@plea.bc.ca, 604-708-2647
- Vancouver Rape Relief and Women's Shelter (24/7): 604-872-8212, info@rapereliefshelter.bc.ca
- RCMP: Victims of Human Trafficking National Headquarters (24 hours): 1-866-677-7267
- Trafficking Resource Centre (USA): www.traffickingresourcecenter.org
- VictimLinkBC (24/7): 1-800-563-0808 Ministry of Public Safety, BC
- Youth Against Violence (24/7): info@youthagainstviolenceline.com, 1-800-680-4264

Authorities Contacts:

- RCMP: www.rcmp-grc.gc.ca; 1-855-850-4640 OR 1-800-771-5401
- Ministry of Child Protection Services: 1-800-663-9122 or 604-660-4927 (24 hours) or 310-1234 if a child is in danger to reach Ministry of Child and Family Development
- Crime Stoppers : 1-800-222-TIPS (8477)

About the Author:

Cathy Peters raises awareness of Child Sex Trafficking to all three levels of government in British Columbia, police agencies and the public. She is a former inner city high school teacher and has volunteered for two Members of Parliament (John Weston/BC, Joy Smith/Manitoba). She has made hundreds of presentations, including to City Councils, School Boards, Police Boards, high schools, universities and law enforcement agencies.

For information about her prevention education presentations, please contact Cathy Peters at ca.peters@telus.net

Additional Resources:

Children of the Street Society (Coquitlam) provides prevention education in BC schools; 25,000 students last school year Grades 3-12. They have an excellent website with tools/resources listed for every community in BC: https://www.childrenofthestreet.com/

Joy Smith Foundation (Manitoba) provides prevention education, resources and an overview of human sex trafficking Canada: http://www.joysmithfoundation.com/

Shared Hope International (Washington State) sponsors The JuST (Juvenile Sex Trafficking) Conference in the USA; an event that spotlights the most pressing issues in the anti-trafficking field. Visit: www.justconference.org for more information.

A MODERN EQUAL SOCIETY DOES NOT BUY AND SELL WOMEN AND CHILDREN.

You can

BE AMAZING

and help stop sexual exploitation.

Start in your community.

Learn about the issue.

Share it with others.

Alert your politicians that

Sexual Exploitation must stop.

Learn. Share. Alert.

Human sex trafficking and sexual exploitation for the purpose of prostitution is the fastest growing crime in the world.

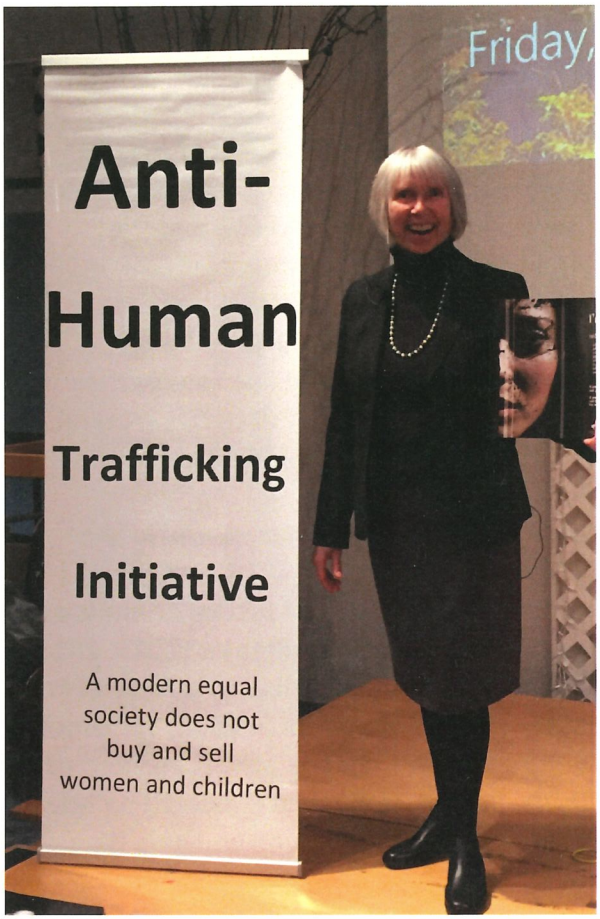
It is a lucrative crime targeting the most vulnerable and our children. In Canada the National Human Trafficking Hotline Number is:

1-833-900-1010

You can get help at this number. Share this campaign and let's make a difference.

BE AMAZING!

BE AMAZING CAMPAIGN



Cathy Peters
Educator

Cathy@telus.net
www.beamazingcampaign.org

Cathy's Mission:

Cathy Peters raises awareness to the issue of Human Sex Trafficking/Sexual Exploitation and Child Sex Trafficking for the purpose of prostitution to politicians, police and the public.

Cathy is a former inner city high school teacher. She has made over 300 presentations to over 12,500 people.

Cathy has received **9 Challenge Coins** for her work/advocacy from North Vancouver, Coquitlam, Richmond, Surrey, and the Chilliwack RCMP detachments, RCMP HQ Counter Exploitation Unit, from the New Westminster Police Department after presenting at the Justice Institute in New Westminster, the Delta Police Department and Vancouver Police Department.

Cathy's work has been introduced in the BC Legislature in spring 2018, and she has participated in 2 **Federal Justice** Committee Human Trafficking Roundtables (2017, 2018) in Vancouver. She contributed a **Federal Public Safety** Consultation brief in 2018. In response to the MMIWG Inquiry, Cathy presented to the Okanagan Native Alliance (7 bands) on how to protect Indigenous women and girls (January 2020).

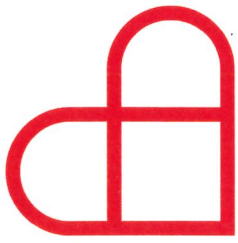
Cathy was nominated for an Order of BC (2020) and for the Carol Matusicky Distinguished Service to Families Award (2020). Cathy's goal is to "traffick-proof" every community in BC and to prevent the full decriminalization of prostitution in Canada.

It is a form of "modern day slavery".

Today's slavery has low costs and huge profits; a trafficker can make $280,000 per victim, per year. Average age of entry into prostitution is 12-14 years of age in Canada, although traffickers are targeting children as young as 8 years of age. There is a dramatic increase in child exploitation and child pornography (production and consumption). Unchecked pornography on the internet fuels the sex trade creating an increasing demand for paid sex. The biggest problem we have in Canada: people do not know we have a problem here; therefore the traffickers are developing the sex industry exponentially. Every woman and child, the marginalized and vulnerable will become a potential target and victim, unless we do something to stop it.

MISSION STATEMENT:

A MODERN EQUAL SOCIETY DOES NOT BUY AND SELL WOMEN AND CHILDREN.



THE CORPORATION OF THE CITY OF COURTENAY

STAFF REPORT

To: Council **File No**.: 3360-20-2014
From: Chief Administrative Officer **Date:** May 17, 2021
Subject: Zoning Bylaw Amendment No. 3025 and No. 3038 - Urban Agriculture Zoning Regulations

PURPOSE:

The purpose of this report is for Council to consider bylaw amendments to implementation urban agriculture across the City.

CAO RECOMMENDATIONS:

THAT based on the May 17, 2021 staff report entitled **"Zoning Bylaw Amendment No. 3025 - Urban Agriculture Zoning Regulations**" Council approve Option No. 1 and completes the following steps:

THAT Council proceed to First and Second Reading of Zoning Bylaw Amendment No. 3025 to establish urban agriculture zoning regulations;

THAT Council proceed to First and Second Reading of Zoning Bylaw Amendment No. 3038 to establish urban agriculture – raising of hens zoning regulations;

THAT Council direct staff to schedule and advertise a statutory Public Hearing with respect to the above referenced bylaws; and,

THAT Bylaw No. 3034 to amend the Animal Control Bylaw No. 1897, 1996 to allow honeybees to be kept outdoors throughout the City proceed to First, Second, and Third Reading.

THAT Bylaw No. 3039 to amend the Animal Control Bylaw No. 1897, 1996 to allow hens to be kept outdoors throughout the City proceed to First, Second, and Third Reading.

Respectfully submitted,

Geoff Garbutt, M.Pl., MCIP, RPP
Chief Administrative Officer

BACKGROUND:

On June 8th, 2020 Council passed the following resolution pertaining to urban agricultural opportunities in the City:

"Whereas the onset of COVID-19 has significantly impacted food security for local residents; and

Whereas there has been an upsurge and interest in urban food production, and efforts to enhance local food security; and

Whereas food security policy aligns with Council's strategic priorities of climate change mitigation and sustainability goals;

Therefore be it resolved that Council support urban agricultural opportunities and improved food security by directing staff to prepare a draft bylaw for Council's consideration that considers past research done by LUSH Valley Food Action Society and North Island College, and current input from the Planning department, the Comox Valley Food Policy Council, and residents, to allow small-scale commercial urban food production, including but not limited to chickens (not roosters), bees, and urban farm stands on all residential property within the City of Courtenay; and Furthermore, that staff consult with the Town of Comox's planning department in the interest of alignment with their proposed urban agriculture policy."

A staff report was prepared for the April 6th, 2021 Council meeting further exploring the topic and potential approaches to developing zoning regulations for urban agriculture. At this meeting Council directed staff to proceed with developing the bylaw and limiting consultation to the statutory public hearing. Staff have also consulted with the Town of Comox who have embarked on a similar amendment process but Comox Council decided to consult the general public before introducing the bylaw. Their consultation process is expected to conclude in the early summer.

Discussion:

The proposed bylaw has four components: 1) creating new land use definitions; 2) introduce provisions for produce sales stands where produce grown on the property may be sold; 3) introduce provisions for beekeeping; and, 4) developing provisions for the raising of hens.

1. Urban Agriculture Land Use:

The first component of the bylaw is to create a new land use definition for "urban agriculture" and "urban agriculture –raising of hens" so that the uses may then be permitted in certain situations throughout the City. The following definitions were developed:

""**urban agriculture**" means the growing of fruits and vegetables, flowers, native and ornamental plants, edible berries and food perennials for beautification, education, recreation, community use, personal consumption, sales of produce grown on the lot or the donation of vegetables, fruits, edible flowers and berries only. This includes the keeping of honey bees and when operating in accordance with Section 6.18.1."

"**urban agriculture – raising of hens**" means the raising of hens on a residential lot when operating in accordance with Section 6.18.1."

The definitions reference a new section in the zoning bylaw which contains the specific regulations pertaining to the three components of urban agriculture. Key, is that the new regulations introduce urban agriculture and urban agriculture – raising of hens as a permitted land uses throughout the City when conducted as an accessory use to any single residential dwelling within the parameters discussed below.

2. Produce Sales Stands:

A produce sales stand is a small structure where produce is displayed and purchased. As proposed, this will be permitted from any single residential dwelling across the City. The proposed bylaw introduces parameters for what may be sold from the stand as well as restrictions on the size and operation. The intent of the proposed regulations is to ensure the use remains small scale and only sells produce grown on the property:

a) a produce sales stand is considered an accessory structure subject to the requirements of the applicable zone except that:
    - the produce sales stand shall have a floor area of not more than 5.0m²;

- the produce sales stand shall not exceed a height of 2.5m;
- the produce sales stand must be located entirely on the lot in which the produce is grown; and,
- a produce sales stand may be located within the front yard.

b) a produce stand must only sell produce grown on the lot where it is located;
c) sales are only permitted between 7am and 7pm daily;
d) a produce sales stand must be removed seasonally when not in use; and,
e) there shall only be one non-illuminated sign, which shall not exceed 0.4m² in area.

The key parameter is that the stand may only sell produce which is produced on the property. Since this would then be considered a home based business (home occupation) an amendment to the home occupation regulations of the zoning bylaw has also been included in the zoning amendment bylaw to list "produce sales stand" as a permitted home occupation. Also for this reason, "produce sales stand" has been delineated from the other two components of urban agriculture as a specific land use. The intent of this is that it will eliminate any confusion in the home occupation regulations concerning which component of urban agriculture is permitted as a home based business.

3. Beekeeping:

Beekeeping is the keeping of a hive and bees for the purposes of generating honey. Again, this will be a permitted as an accessory use on all properties containing a single residential homes across the City so long as they meet the following requirements:

a) lots have a minimum lot width of 15.0m;
b) lots have a minimum lot area is 550.0m²;
c) hives shall be located at least 6.0m from all property lines;
d) hives shall be registered with the Provincial authority, BC Ministry of Agriculture and Lands;
e) only two hives with colonies shall be permitted on each lot; and,
f) honey production is for personal consumption only.

The regulations are designed to ensure hives are appropriately setback from property lines to ensure no disruption to adjacent properties. In doing so, a minimum lot width and area are specified as well as a minimum setback of a hive from any property line. A requirement is also added to remind those operating bee hives that they must register their hive with the BC Ministry of Agriculture and Lands as required through *The Bee Regulation* of *The Animal Health Act.*

4. Raising of Hens

The final proposed change will allow the keeping of hens for egg production. This has been separated from the rest of the urban agriculture amendment to streamline the administrative process should Council decide not to proceed with allowing the raising of hens but proceeds with the other components of urban agriculture. Again, this will be permitted as an accessory use on all properties containing a single residential dwelling across the City so long as they meet the following requirements:

a) a hen coop is considered an accessory structure subject to the requirements of the applicable zone except that a coop shall only be permitted in the rear yard;
b) the maximum number of hens shall be six (6) per lot;
c) roosters are not permitted;
d) sales of eggs, manure and other products associated with the keeping of hens are prohibited;
e) coops and runs shall be maintained in a clean condition and the coop shall be kept free of obnoxious odours, substances and vermin;

f) stored manure shall be kept in an enclosed structure such as a compost bin and no more than 3.0m^3 shall be stored at any one time; and,
g) home slaughter of hens is prohibited and any deceased hens shall be disposed of at a livestock disposal facility or through the services of a veterinarian.

The regulations are designed to ensure the coop is located in the rear yard and subject to the applicable zone's accessory building setbacks, lot coverage, height and other regulations designed to limit the scale of accessory buildings and structures in a residential setting. A maximum of six hens will be allowed. This limit was selected for regional consistency (both Cumberland and the CVRD allows six hens in residential settings). The remaining regulations are intent on ensuring that the coops are well maintained, free of odours and vermin and that older hens are properly treated. Restrictions on the sale of eggs is consistent with other municipalities across the Province with the intent of preventing the spread of disease such as salmonella.

FINANCIAL IMPLICATIONS:

There are no direct financial implications related to the bylaw development process as they are part of staff's regular administrative duties.

ADMINISTRATIVE IMPLICATIONS:

The zoning amendment will also warrant an amendment to the Animal Control Bylaw. Section 11 of the bylaw limits animals kept outside to dogs and cats. Bylaw No. 3034 and 3039 will be considered concurrently with Zoning Amendment Bylaw No. 3025 and 3038 and add honeybees and hens to permitted outdoor animals. At this time staff are recommending the first three readings of these bylaws. Should Council give the zoning amendment bylaw Third Reading then all bylaws would be subsequently adopted at the same time.

To date staff have spent approximately 35 hours on this file. Preparation of bylaw amendments and future reports and public hearings will require additional of staff time. Staff work plans will be updated accordingly to ensure that the additional work and timeline expectations are balanced with other priorities.

Staff anticipate an increased demand on bylaw enforcement resulting from the adoption of this bylaw. Staff will monitor this impact and adjust service levels in other enforcement areas if there is significant, on-going demand.

Municipalities across the Province have generally had positive results as a result of backyard chickens/raising of hen bylaws. The City of Vancouver noted a decrease in complaints regarding backyard chickens after the program and bylaws were in place. In contrast, the Town of Qualicum Beach ended a recent pilot project for backyard hens citing the 6-10 complaints they received since 2017 resulting from the 17 backyard hen operations that were permitted through the project.

ASSET MANAGEMENT IMPLICATIONS:

There are no immediate asset management implications related to the proposed bylaw.

2019 - 2022 STRATEGIC PRIORITIES REFERENCE:

● Communicate appropriately with our community in all decisions we make.

●▲ Support social, economic and environmental sustainability solutions

OPTIONS:

OPTION 1: (Recommended)

THAT based on the May 17, 2021 staff report entitled **"Zoning Bylaw Amendment No. 3025 - Urban Agriculture Zoning Regulations**" Council approve Option No. 1 and completes the following steps:

THAT Council proceed to First and Second Reading of Zoning Bylaw Amendment No. 3025 to establish urban agriculture zoning regulations;

THAT Council proceed to First and Second Reading of Zoning Bylaw Amendment No. 3038 to establish urban agriculture – raising of hens zoning regulations;

THAT Council direct staff to schedule and advertise a statutory Public Hearing with respect to the above referenced bylaws; and,

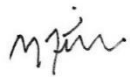
THAT Bylaw No. 3034 to amend the Animal Control Bylaw No. 1897, 1996 to allow honeybees to be kept outdoors throughout the City proceed to First, Second, and Third Reading.

THAT Bylaw No. 3039 to amend the Animal Control Bylaw No. 1897, 1996 to allow hens to be kept outdoors throughout the City proceed to First, Second, and Third Reading.

OPTION 2: Defer consideration pending receipt of further information.

OPTION 3: Not proceed with the Zoning and Animal Control Bylaw amendments.

Prepared by:



Matthew Fitzgerald, RPP, MCIP
Manager of Development Planning

Concurrence by:

Ian Buck, RPP, MCIP
Director of Development Services

Concurrence by:

Geoff Garbutt, M.Pl., MCIP, RPP
Chief Administrative Officer

THE CORPORATION OF THE CITY OF COURTENAY

STAFF REPORT

To: Council **File No.:** 5335-20

From: Chief Administrative Officer **Date:** May 17, 2021

Subject: Dike Replacement and Flood Management Strategy Adoption

PURPOSE:

The purpose of this staff report is to present the final draft of the Dike Replacement and Flood Management Strategy to council for adoption. This staff report also presents the actions that are required to implement the strategy at the City of Courtenay.

CAO RECOMMENDATIONS:

THAT based on the May 17, 2021 staff report "Dike Replacement and Flood Management Strategy Adoption" Council approve OPTION 1, and adopt the final draft of the strategy as presented; and support actions to implement the strategy as described within this staff report.

Respectfully submitted,

Geoff Garbutt, MCIP, RPP
Chief Administrative Officer

BACKGROUND:

The City of Courtney has experienced numerous floods over the last ten years. The most significant events occurred in 2009, 2010 and 2014. These flood events highlighted the vulnerabilities related to existing dike infrastructure, and a changing climate. In response, the City of Courtenay has been working on developing solutions.

In 2013, McElhanney completed the Integrated Flood Management Study (IFMS). The objective of this work was to model a range of flooding scenarios that are expected as a consequence of sea level rise, and develop solutions for the Ryan Road Commercial area. Three dike designs were considered, and a floodwall was proposed as an interim solution. Following consultation with the province, approval was not granted for the floodwall, because the proposed design could not withstand a 1:200 year event, and because it imposed an increased flood risk to properties upstream and downstream of the Ryan Road Commercial area.

To mitigate the immediate risks, the Courtney Flood Operations Manual was prepared in 2015, to specify a set of operational procedures that can be used to mitigate flooding and maintain important transportation links in Lewis Park and the Ryan Road Commercial area. These practices are currently used to deploy the Aqua Dam during the rainy season. In 2017, Urban Systems summarized the legal responsibilities and obligations of a City in regards to flood management. This prompted the Dike Replacement and Flood

Management Strategy. This strategy defined planning areas, and technically viable solutions for each area that contribute to a comprehensive flood management strategy for the City of Courtenay.

This project was initiated by council on February 19, 2019 when the application for grant funding was authorized through the Union of BC Municipalities (UBCM) Community Emergency Preparedness Fund (CEPF) Flood Risk Assessment Flood Mapping & Flood Mitigation Planning funding stream.

The Community Emergency Preparedness Fund is a suite of funding programs intended to enhance the resiliency of local governments and their residents in responding to emergencies. The flood risk assessment, flood mapping and flood mitigation planning stream is to support eligible applicants to ensure they have accurate knowledge of the flood hazards they face and to develop effective strategies to mitigate and prepare for those risks.

DISCUSSION:

Key Findings

Four dike options, listed below, were modelled to evaluate their performance under various flooding scenarios.

1. Limited widening (15 m) of Courtenay River west bank between 2nd Street and 10th Street
2. Connection of river flow paths through Lewis Park
3. Extreme widening (60 m) of Courtenay River from Lewis Park to the estuary
4. Extreme diking on the east side of Courtenay River from Lewis Park to the estuary

It was found that each of the proposed dike options offered ineffective, or inadequate flood protection. These models demonstrated that it was not possible to address flooding concerns with a single approach.

In response, localized flood management approaches were developed. Regions vulnerable to flooding were divided into six local areas. For each local area, flood impacts were assessed by modelling different flood scenarios, and technically viable solutions were identified using the provincial Sea Level Rise Adaption Planner.

In all areas, planning and regulatory tools were found to be effective. In some areas, structural and non-structural tools were identified as viable options, however it was noted that additional analysis and stakeholder consultation is required before a specific solution can be recommended for an area.

Plan Forward

This project provides a framework to guide future flood management at the City of Courtenay. To implement the flood management plan, the following actions are proposed:

- Review flood maps prepared by the Comox Valley Regional District, and verify flood models.
- Develop a flood risk map, to identify properties with an unacceptable flood risk.
- Implement the regulatory and planning tools that will manage the impacts of flooding in all areas. Specific regulatory and planning tools include:
    - Review Development Permit Areas designated in the Official Community Plan (OCP), and develop guidelines to address natural hazards;

  - Review and update Floodplain Management Bylaw No. 1743, including the flood construction level;
  - Review and update Building Bylaw No. 3001 to require flood proofing within the floodplain; and
  - Continue to participate in the Comox Valley Emergency Program and review and update the public plan regularly.
- Address properties identified to have an unacceptable flood risk by determining which structural and non-structural flood management options will be most effective at mitigating the risk. Factors such as public safety, cost, environmental impacts, and cultural significance will be considered. All plans will be developed in consultation with key stakeholders, and will be presented to council.

These actions are critical to implement the findings of this project, and build a flood management strategy that will better equip the City of Courtenay for the next flood event. The schedule presented below outlines the recommended timeframe for the implementation of recommendations.

SCHEDULE							
	2021			**2022**			
Deliverable	**Apr – Jun**	**Jul – Sept**	**Oct – Dec**	**Jan – Mar**	**Apr – Jun**	**Jul – Sept**	**Oct – Dec**
Stakeholder Engagement							
Bylaw development							
Develop Terms of Reference							
Issue RFP, award contract							
Flood Risk Assessment							
Project Close-out							

FINANCIAL IMPLICATIONS:

The Dike Replacement and Flood Management Strategy is a guiding document that outlines the next steps required to manage the flood risk, and prepare area specific plans. The City of Courtenay received the Community Emergency Preparedness Fund - Flood Risk Assessment, Flood Mapping & Flood Mitigation Planning stream. This grant is funded by the Province of BC and is administered by the Union of BC Municipalities to cover the cost of eligible activities to a maximum of $150,000.

A budget of $175,000 is currently available to implement the recommendations. Grants will be considered for subsequent phases of work, and will be pursued for eligible activities. Proposals and cost estimates will be sought before beginning follow-up work.

Once the recommended actions form this report are complete, information will be available to support the analysis and design of area specific flood management solutions. At that time, the costs associated with area specific solutions will be presented for consideration.

ADMINISTRATIVE IMPLICATIONS:

The Engineering Services Department has led the development of the Dike Replacement and Flood Management Strategy since work began. Consultants with technical knowledge specific to this work were used to complete the project. Staff will continue to work with Council to implement the approved recommendations and seek support from consultants as needed.

ASSET MANAGEMENT IMPLICATIONS:

The City of Courtenay is the designated Diking Authority for four dikes that are listed with the Province of British Columbia. On-going inspection and maintenance of existing dikes is part of the asset management program, and is conducted by the Asset Management division of the Public Works Department, in collaboration with Engineering Services. The construction of new dikes, or modifications to the existing dikes, will be aligned with this Dike Replacement and Flood Management Strategy.

STRATEGIC PRIORITIES REFERENCE:

The City of Courtenay's 2019-2022 Strategic Priorities include six themes and 28 priorities. The development of the Dike Replacement and Flood Management Strategy aligns with the priorities listed below.

We proactively plan and invest in our natural and built environment

- Focus on asset management for sustainable service delivery
- Look for regional infrastructure solutions for shared services
- Support actions to address climate change mitigation & adaptation
- Support social, economic and environmental sustainability solutions

We support diversity in housing & reasoned land use planning

- Complete an update of the City's OCP and Zoning Bylaws
- Assess how city owned land can support our strategic land purchases and sales
- Continue to develop and revisit all infrastructure master plans

OFFICIAL COMMUNITY PLAN REFERENCE:

The development of the Dike Replacement and Flood Management Strategy seeks to ensure Environmental Development Permit Areas, and the floodplain management bylaw offer sufficient protection from 1:200 year flood events. The Dike Replacement and Flood Management Strategy also aligns with the following policies described in the Official Community Plan. The OCP update project is underway. The new OCP will consider the findings of this study and applicable policies will be updated accordingly.

4.1.3.7.1 That council promote and preserve the downtown parks and greenway system according to the following guidelines:

- Prepare a detailed study of the Riverway concept as it relates and connects to downtown. Also, investigate the future riverway greenway development between Central Builders and the Courtenay River, in partnership with Central Builders,

along the future fisheries and floodplain setback. Alternately, the City could reserve a setback for a public walkway pending redevelopment of the site;

4.10.2.4 To protect residents and property from hazards which may be associated with such environmental conditions as steep slopes (greater than 30%), floodplains, unstable soils and fire hazards (urban/wildland interface).

4.10.3.2 No development or fill shall be allowed within the designated 200-year floodplain of the Tsolumn River and development along the Puntledge and Courtenay River systems will be subject to the 200-year floodplain regulations.

REGIONAL GROWTH STRATEGY REFERENCE:

The Dike Replacement and Flood Management Strategy is aligned with Goal 8: Climate Change of the Regional Growth Strategy:

- 8F-2 Promote inclusion of climate change modeling and impacts in future infrastructure and resources studies
- 8F-5 Local governments should consider a regional approach to floodplain mapping and management to account for climate change/potential sea level rise and to ensure consistent application of development controls within floodplain and coastal areas.
- 8F-6 All new development within established floodplains should be discouraged and redevelopment of lands within floodplain areas should only be supported where technical analysis by a qualified professional has been undertaken to ensure that lands are safe to use, development will not impact floodplain functions, and construction levels include safety factors to account for climate change and potential seas level rise and associated extreme storm surges.

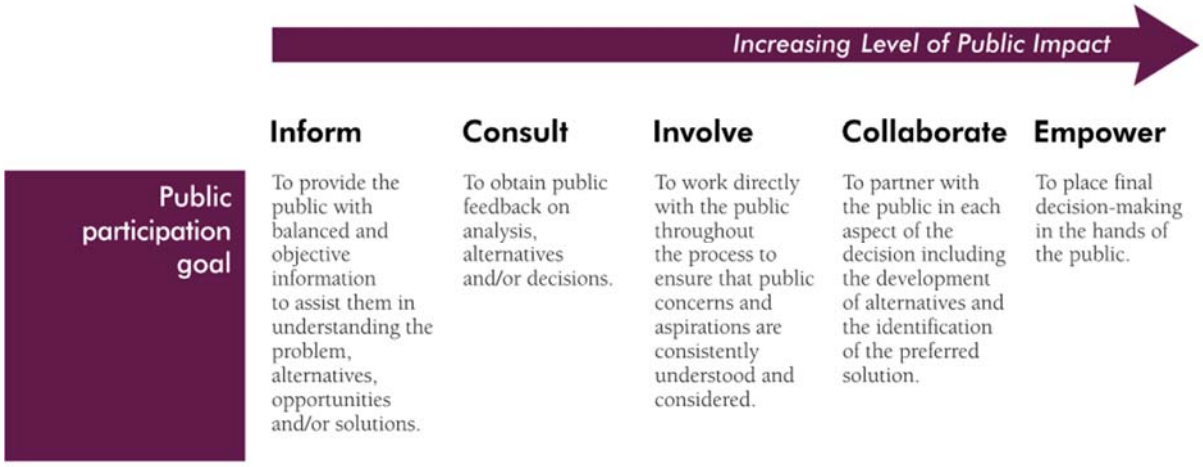
CITIZEN/PUBLIC ENGAGEMENT:

Staff have informed and consulted with stakeholder groups during the development of the Dike Replacement and Flood Management Strategy. However this engagement is considered preliminary, because no specific flood management options have been presented. The following stakeholder groups were engaged.

1. Comox Valley Regional District
2. K'ómoks First Nation
3. BC Hydro
4. Ministry of Transportation and Infrastructure
5. Inspector of Dikes from the Ministry of Air, Land, and Water
6. Town of Comox

Should staff be directed to proceed with the recommendations, a public engagement program would be initiated including follow up meetings with key stakeholders. Based on the design recommendation from the report, staff recommend to **Inform** the public and key stakeholder groups based on the IAP2 Spectrum of Public Participation:

https://iap2canada.ca/Resources/Documents/0702-Foundations-Spectrum-MW-rev2%20(1).pdf



OPTIONS:

Option 1: THAT council approve the final draft of the Dike Replacement and Flood Management Strategy, and direct staff to implement the recommendations, including:

1. Review flood maps prepared by the Comox Valley Regional District, and verify flood models.
2. Develop a flood risk map, to identify properties with an unacceptable flood risk.
3. Implement the regulatory and planning tools that will manage the impacts of flooding in all areas.
4. Address properties identified to have an unacceptable flood risk by determining which structural and non-structural flood management options will be most effective at mitigating the risk.

Option 2: THAT council refer the final draft of the Dike Replacement and Flood Management Strategy back to staff for further consideration or consultation.

Prepared by:

Jeanniene Tazzioli, P.Eng.
Environmental Engineer

Reviewed by:

Chris Davidson, P.Eng., PMP
Director of Engineering Services

Concurrence by:

Geoff Garbutt, MCIP, RPP
Chief Administrative Officer

ATTACHMENTS:

Attachment #1: Dike Replacement and Flood Management Strategy - Final Report

DIKE REPLACEMENT AND FLOOD MANAGEMENT STRATEGY

FINAL REPORT
MAY 2021

CITY OF COURTENAY

DIKE REPLACEMENT AND FLOOD MANAGEMENT STRATEGY

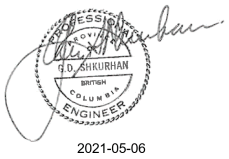
FINAL REPORT

City of Courtenay

3222.0051.03

550 – 1090 Homer Street,
Vancouver, BC V6B 2W9
T: 604-235-1701

Prepared and Reviewed by:



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Executive Summary

Purpose of this Strategy

Over the last 10 years, the community of Courtenay has experienced significant floods that highlight vulnerabilities in the City's current flood management system along the Puntledge River, Tsolum River, and Courtenay River. It is anticipated that risk will increase over time due to the influence of climate change and deteriorating condition of existing dikes. The City has responded to this issue by securing funding to assess flood risk and management options, with the goal of developing this *Dike Replacement and Flood Management Strategy* (DRFMS). The DRFMS:

- Demonstrates how the DRFMS fits within the City's existing flood management toolkit
- Summarizes the City's understanding of flood hazards due to flooding in the Tsolum, Puntledge, and Courtenay Rivers and due to sea level rise
- Outlines the technically viable flood management strategies that should be considered in various areas within the City
- Charts a path for what to do with the City's existing deteriorating diking infrastructure
- Guides next steps in the City's ongoing efforts to manage flood risk within the community

The DRFMS is just one key component of the City's overall flood management toolkit, which includes numerous tools and ongoing processes.

As a strategy, the DRFMS is a tool that offers strategic guidance for how to improve flood risk management within Courtenay given what are considered "technically viable" options for implementation. This means that the dike replacement and the flood management options presented in the DRFMS are considered technically sound and feasible. However, further analysis, evaluation, and engagement with First Nations and stakeholders is required before decisions are made as to which options are ultimately implemented. It is also important to note that the DRFMS is not a detailed action plan, nor does it offer lot-by-lot solutions to flood risks.

Analysis to Date

In 2013, the City completed a study to assess potential flood management options through river flow modelling, technical analyses, and stakeholder engagement. The preferred option from that study – a limited Tsolum River Floodwall – was rejected by the Province due to its inability to protect against a 1:200-year event, which is the current Provincial standard. The Province requested the City explores diking options further and set an expectation that the existing failing dikes would be upgraded to Provincial standards.

In 2019, the City commissioned the current study with funding support from the Province under the *Community Emergency Preparedness Fund*. The study aimed to build and expand upon the work completed in 2013 and included additional modelling to assess the potential effectiveness of various infrastructure asset-based and natural asset-based dike replacement and flood management options. Five dike replacement options were modelled under a variety of river flow, tide, and climate scenarios, including:

"Small Moves"

- Option 1: Limited widening of the west bank of the Courtenay River between 2nd Street and 10th Street
- Option 2: Connection of river flow paths through Lewis Park

"Big Moves"

- Option 3: Extreme channel widening (60 m) and naturalization
- Option 4: Extreme diking (diking on the east side of the Courtenay River from Lewis Park to the estuary, with tie-in to high ground to the northeast)
- Option 5: Managed retreat and naturalization of the floodplain

The modelling showed that no single option is likely to completely protect all flood-prone areas against a 1:200-year flood. In fact, protecting some areas can cause increased risk to other areas. In response to this finding, an area-based approach to flood management is recommended, meaning that flood management strategies like protective works, adaptation, avoidance, and managed retreat are considered on an area-by-area basis, based on the unique characteristics of each and their unique exposure to flood hazards.

Area-Based Flood Management Options

Six planning areas within the community have been identified for the purpose of area-based flood management:

- Area 1 – Puntledge River
- Area 2 – Condensory Park
- Area 3 – Tsolum River
- Area 4 – Ryan Road/Old Island Highway
- Area 5 – Riverway
- Area 6 – Comox Road

Based on an analysis of flood depths and extents within each area, technically viable strategies and implementation tools were identified for each area using the *Sea Level Rise Adaptation Primer* (BC Ministry of Environment, 2013) as guidance. These include continued implementation of existing flood management tools and/or updates to them.

The following strategies and tools are considered technically viable across all planning areas and should be considered for implementation:

PLANNING AREA	STRATEGIES	IMPLEMENTATION TOOLS
1 – Puntledge River	• Accommodate • Avoid	• Planning Tools • Regulatory Tools
2 – Condensory Park	• Accommodate • Protect	• Planning Tools • Regulatory Tools • Structural Tools
3 – Tsolum River	• Accommodate • Avoid • Retreat	• Planning Tools • Regulatory Tools
4 – Ryan Road/Old Island Highway	• Accommodate • Avoid • Retreat • Protect	• Planning Tools • Regulatory Tools • Non-Structural Tools • Structural Tools
5 – Riverway	• Accommodate • Avoid • Retreat • Protect	• Planning Tools • Regulatory Tools • Non-Structural Tools • Structural Tools
6 – Comox Road	• Accommodate • Avoid • Retreat • Protect	• Planning Tools • Regulatory Tools • Non-Structural Tools • Structural Tools

These are the options that are considered technically viable – that is, they are technically sound given the flood hazards within each area and they are considered feasible to implement from a technical and cost perspective, though some may be challenging from other perspectives such as social, legal, environmental, economic. Strategies that are ultimately implemented within each area will need to be determined through engagement with K'omoks First Nation and stakeholders such as affected landowners, BC Hydro, the Comox Valley Regional District, and the Inspector of Dikes.

Conclusions and Recommendations

The study completed in 2013 considered limited barrier solutions to protect an isolated pocket of development. This was rejected by the Province. The work conducted by the City since has focused on exploring broader solutions to protect against the 1:200-year level expected by the Province. Analysis to date has still been limited and coarse, intended only to test the system response to fundamental diking and natural asset-based options, but has resulted in the following key conclusions:

- There is no easy and singular solution to the problem. Shoreline restoration and widening of the river can be part of the solution but are not enough on their own. Partial diking cannot provide complete protection against a 1:200-year event. Extreme diking can be effective at protecting some properties, but at the expense of others. The challenge for the City is to find a "package" of solutions that optimally protects the broader community from both types of hazards it faces: river flows and tide, both of which may be worsened with climate change and its impact on frequency of flood events and on sea level rise. All solutions will result in property impacts, either from land acquisition needs for constructed works, or by continued flooding into the future.

- The critical design condition is the combination of high flood flow with high tide. This represents an extreme worst-case condition. The joint probability of the flood flow and tide levels (i.e., the likelihood of extreme flood flow and extreme tide level occurring simultaneously) has not yet been quantified. Moving forward, additional analysis should be conducted to consider the joint probability of these two elements, which will help the City make risk-based decisions about what actions to take. It is understood that floodplain mapping underway by the Comox Valley Regional District is based on joint probability analysis.

- A flood risk map is recommended to identify areas that have manageable to unacceptable risk in absence of interventions.

- Upgrading the existing dikes in the absence of broader solutions will have no reduction of flood risk. These current structures appear to function as soil retaining structures for the adjacent developments more than as flood protection barriers, yet they are inventoried as dikes in the eyes of the Province. Upgrading and expanding the dike system will create further responsibility on the City to look after indefinitely, so long as the City remains the diking authority.

What to do with the City's existing dikes will be informed by next steps of the DRFMS. There are several considerations in determining the fate of the existing dikes: their condition and the resource commitment to maintain them; the role they serve in protecting land; and the consequence to their removal. Based on the above considerations, it is likely that the dikes around Lewis Park would remain or potentially be enhanced. Those paralleling the Puntledge River, referred to as the "Condensory" and "Canterbury" dikes, would likely remain. The existing dikes with a more questionable future are those along Anderton Avenue. It can be argued that these vertical walls provide no flood protection but serve as retaining walls for past urban encroachment into the Courtenay River. The dikes along the Courtenay River have nearly reached the end of their service life and will be expensive to replace. Their cost to replace and maintain needs to be weighed against the value of lands they serve with recognition of the limited flood protection they offer.

Based on the options considered as part of the current study and the findings from the analysis conducted, it is recommended that the City takes the following actions. Details on these recommendations are provided in the body of the report.

1. Conduct a quantitative risk assessment and develop risk maps for all areas.

2. Conduct a detailed, site specific analysis of the financial, environmental, and social impacts/costs and benefits associated with each flood management strategy for Area 4 – Ryan Road/Old Island Highway, and Area 5 – Riverway, to inform decisions on what strategies and tools to implement.

3. Implement an "accommodate" strategy as a foundational approach across the City and use the planning and regulatory tools presented in this report to implement the strategy.

4. Continue to include emergency preparedness and response as a foundational approach to flood risk management across the City.

5. Provide support to developers through the creation of a guiding document that will help developers understand the City's requirements for new development applications and by working with developers through the application process.

6. Engage First Nations and key stakeholders as the City implements the above recommendations and prior to making final decisions on which flood management option(s) will be implemented in each area.

Table of Contents

Tables

Figures

1.0 Introduction

1.1 PURPOSE OF THIS STRATEGY

This *Dike Replacement and Flood Management Strategy* (DRFMS) is the result of a process the City has undertaken since 2012 with funding support from the provincial government. The DRFMS:

- Demonstrates how the DRFMS fits within the City's broader flood management toolkit
- Summarizes the City's understanding of flood hazards due to flooding in the Puntledge, Tsolum, and Courtenay Rivers and due to sea level rise
- Outlines the technically viable flood management options that should be considered for implementation in various areas within the City
- Charts a path for what to do with the City's existing deteriorating diking infrastructure
- Guides next steps in the City's ongoing efforts to manage flood risk within the community

The DRFMS and its implementation are just part of the City's overall flood management toolkit, as illustrated further below. The toolkit also includes emergency preparedness and response, public outreach, information sharing with other levels of government, advocating for funding, and ongoing operations and maintenance of flood protection infrastructure.

As a strategy, the DRFMS is a tool that offers strategic guidance for how to improve flood management given what appear to be technically viable and effective options. However, further analysis and engagement with First Nations and stakeholders is required before decisions are made as to which options are ultimately preferred. The DRFMS is a guiding document; it is not a detailed action plan and it does not offer lot-by-lot solutions.

CURRENT CITY OF COURTENAY FLOOD MANAGEMENT TOOLKIT		
Plans and Regulatory Tools	Ongoing Processes	Protective Infrastructure
• **Dike Replacement and Flood Management Strategy** • Integrated Rainwater Management Plan (IRMP) • Comox Valley Emergency Program Public Plan • Regulations (Floodplain Management Bylaw, Official Community Plan Bylaw, Subdivision and Development Servicing Bylaw, Building Bylaw)	• Implementation of the DRFMS and IRMP • Participation in the Comox Valley Emergency Program • Public communications • Partnerships with other jurisdictions • Advocating for funding • Operations and maintenance of diking infrastructure	• Flood walls • Shoreline vegetation and armouring

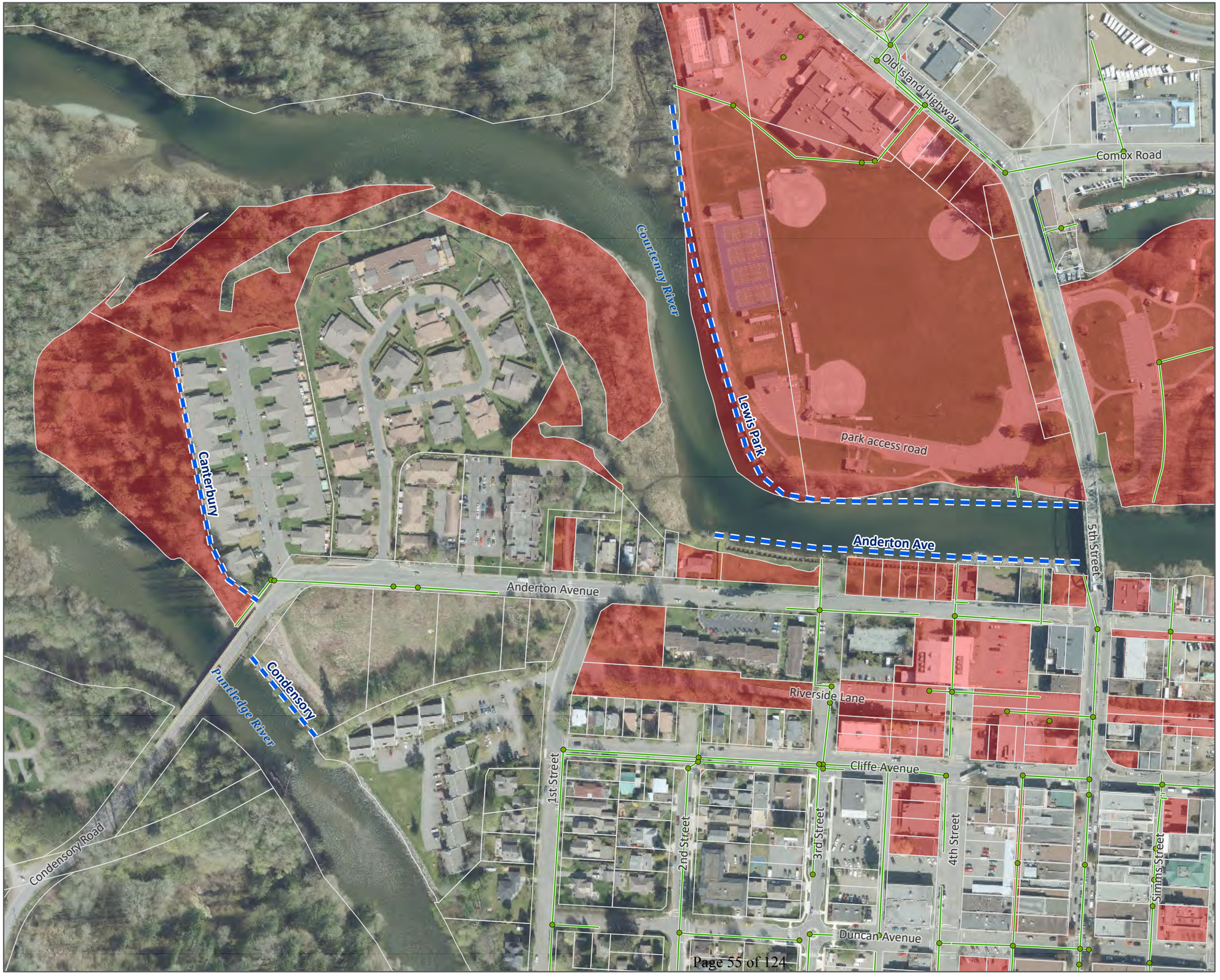
1.2 WHY THIS STRATEGY IS NEEDED

Over the last 10 years, significant Courtenay River floods have demonstrated vulnerabilities within the City's existing flood management system along the Puntledge River, Tsolum River, and Courtenay River, and highlighted the need for improvement. Community health and safety, public and private property, and engineered and natural assets within the City are exposed to hazards such as upper watershed runoff, tide surges, rising sea levels, deterioration of dike infrastructure, intense weather variability, and changes in channel capacity and channel integrity. The City is in a particularly complex situation in that it may be exposed to multiple hazards at the same time: for example, a 2013 study demonstrated that "floods in Courtenay are governed by timing and magnitude in the Puntledge River and Tsolum River as well as the level of the tide in Comox Bay. The most severe flooding will occur when extreme peak flows coincide with extreme high tides."[1]

[1] City of Courtenay Integrated Flood Management Study (KWL / McElhanney, 2013)

There are many possible actions the City could take to manage the risk associated with such hazards – such as increasing resiliency to flooding, building flood barriers, increasing conveyance routes, or implementing 'soft' actions such as retreating and regulating land use. These decisions need to be made with consideration for jurisdiction; land use, land ownership, and redevelopment potential; cost and cost recovery; safety; the interface with recreation and public spaces; aesthetics; geotechnical conditions; the environment; and the City's and community's broader goals as described in the Official Community Plan (OCP) and Council Strategic Plan. The OCP is currently in the process of being updated.

In addition to these broader strategy issues, the City needs to decide what to do with its existing dikes. As shown in Figure 1, there are four sections of dike that are the legal responsibility of the City under the *Dike Maintenance Act*, the extent of which is relatively limited compared to the shoreline length of the river within the municipal boundary. Practically speaking, these dikes function more as retaining walls for land infill than as flood protection barriers. The City currently holds significant responsibility for them with limited return as flood protection to the broader community. The decision of what to do with these existing dikes needs to consider their current state, the current level of protection they provide, and the level of protection that is needed to meet Provincial requirements for funding (which is protection against a 1:200-year flood), both today and in the future with consideration for climate change. Whether removed, replaced, or upgraded, there will be construction challenges and expected property impacts of some degree. This DRFMS charts a path forward for what to do with the City's existing dikes in a way that considers these important factors.



CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Municipal Dikes

Legend

- Storm Manholes
- Gravity Mains
- Dike Location (City Owned)
- Parcel Boundary
- Municipal Ownership

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

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Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:2,500
(When plotted at 11"x17")

Data Sources:

- Data provided by City of Courtenay, ParcelMap BC, Geobase

Project #:	3222.0051.02
Author:	AK
Checked:	SB
Status:	Draft
Revision:	A
Date:	2021 / 5 / 3

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FIGURE 1

2.0 Background

The DRFMS is the outcome of almost a decade of actions the City has taken to understand and manage flood risks to the community. The following sections describe the background work that led to the analysis conducted as part of the current study, and which ultimately resulted in the DRFMS.

Integrated Flood Management Study (2012-2013)

In 2012, the City applied for and was granted funding under the *Building Canada Fund – Communities Component, Flood Protection Program* (administered by Emergency Management BC), and subsequently initiated an Integrated Flood Management Study (IFMS). The City retained McElhanney Consulting Services Ltd., Kerr Wood Leidal (KWL), and HB Lanarc to lead the project. The motive for the project was the occurrence of two flood events in 2009 and 2010 in the Puntledge and Ryan Road Commercial Area that resulted in damage to properties and disruption to business. The major components and outcomes of the 2013 study are summarized in Table 1.

TABLE 1: SUMMARY OF THE 2012-2013 FLOOD MANAGEMENT STUDY

COMPONENT	KEY FINDINGS/OUTCOMES
Community engagement – to solicit public and senior government input on flood issues, and garner support for a preferred management option(s)	• Moderate support for costing and further study of interim short-term improvements (floodwall) • High support for 'soft path' options (managed retreat and land use restrictions) • No consensus on diking projects
Hydrologic and hydraulic modelling – to estimate current and potential future flood extents, accounting for climate change	• Floodplain mapping as shown in Figure 2. • Further analysis of upstream impacts and downstream boundary conditions required to support costing of flood mitigation options

COMPONENT	KEY FINDINGS/OUTCOMES
Return period analysis – to estimate the return period of recent events	• The hydrodynamic model was calibrated to the 2009 and 2010 flood events. The report states that "*Even though peak discharges and water levels in the upper reach of the Tsolum River were higher during the 2010 event, peak water level in the Courtenay River at the 5th Street Bridge was higher in the 2009 event because the peak tide level was higher, and it occurred at the peak flow during the 2009 event.*" Water levels (result of flow and tide) measured at the 5th Street bridge were used as a proxy to estimate the return period of those events. • The report estimated the 2009 flood event to be approximately a 1:20 year return period event based on historic climate. This event is expected to become more frequent due to predicted climate change impacts.
Options analysis – to identify a preferred flood management option	Three barrier options were considered as shown on Figure 3 • Option 1: Tsolum River Floodwall, <$1M[2] (Figure 4) • Option 2: Ring Dike, $5M (Figure 5) • Option 3: Partial Ring Dike and Floodway, $5M (Figure 6) Option 1 was found to not offer protection against a 200-year event. It was found to be preferable as an interim solution (20-50 years) to protect against more frequent, less severe flood events. Costs were concept-level. More analysis is required on cost and cost sharing of diking options.
Development of recommendations – to inform decisions on next steps	• Continue to protect the majority of the floodplain with compatible uses that will accommodate floods. Consider soft options like managed retreat. • Consider Option 1 (Floodwall) as an interim solution (20-50 years) • Review Emergency Plans for today, year 2100, and year 2200 (accounting for climate change) • Identify where and when additional diking may be warranted as a longer-term solution • Evaluate diking options, including financial and cost sharing analysis • Update regulation for Flood Construction Level (FCL) and floodproofing of buildings • Undertake longer-term Climate Change Adaptation Planning in coordination with senior government

[2] As costed at the time of study in 2013.

CITY OF
COURTENAY

Dike Replacement and Flood Management Strategy

Baseline Floodplain Mapping (2013 Integrated Flood Management Study)

Legend

- City of Courtenay Boundary
- Major Roads
- Model Network Alignment

Maximum Flood Depth (m)

- > 2.6
- 2.4 - 2.6
- 2.2 - 2.4
- 2.0 - 2.2
- 1.8 - 2
- 1.6 - 1.8
- 1.4 - 1.6
- 1.2 - 1.4
- 1.0 - 1.2
- 0.8 - 1.0
- 0.6 - 0.8
- 0.4 - 0.6
- 0.2 - 0.4
- 0.0 - 0.2

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Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:22,500
(When plotted at 11"x17")

Data Sources:

- Map provided by Kerr Wood Leidal consulting engineers (2013)

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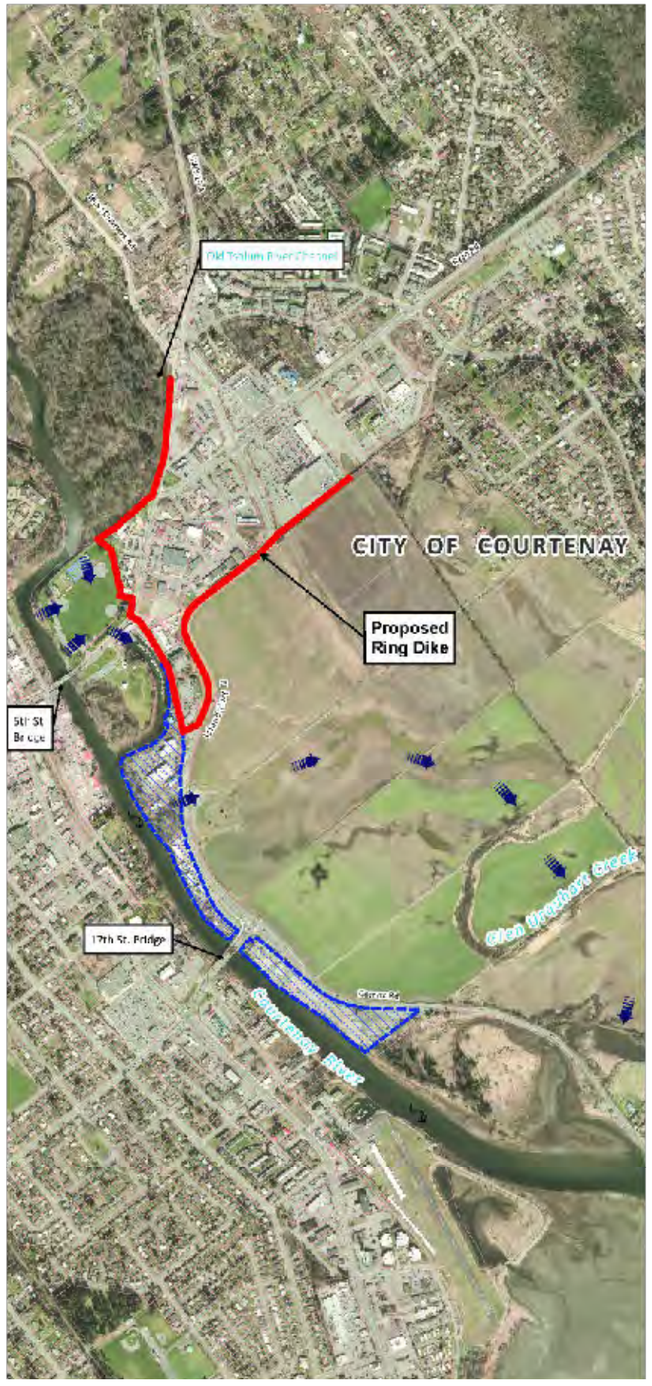
FIGURE 2

OPTION 1 - Floodwall Option



OPTION 2 - Ring Dike Option

OPTION 3 - Partial Ring Dike and Floodwall Option

CITY OF
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Dike Replacement and Flood Management Strategy
Previous Options Considered (2013 Integrated Flood Management Strategy)

Legend

- Area of Managed Retreat or Flood Proofing
- Overland Flood Route

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Scale: 1:16,000
(When plotted at 11"x17")

NAD 1983 UTM Zone 10N

Data Sources:

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FIGURE 3

CITY OF
COURTENAY

Dike Replacement and Flood Management Strategy

Tsolum River Floodwall Option (2013 Integrated Flood Management Strategy)

Legend

- City of Courtenay Boundary
- Proposed Floodwall Location
- Major Roads
- Model Network Alignment

Depth Difference (m) (Floodwall - Existing)

- > 0.05
- 0.04 - 0.05
- 0.03 - 0.04
- 0.02 - 0.03
- 0.01 - 0.02
- 0.008 - 0.01
- 0.006 - 0.008
- 0.004 - 0.006
- 0.002 - 0.004
- 0 - 0.002
- -0.2 - 0
- -0.4 - -0.2
- -0.6 - -0.4
- < -0.6

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Meters

Coordinate System:
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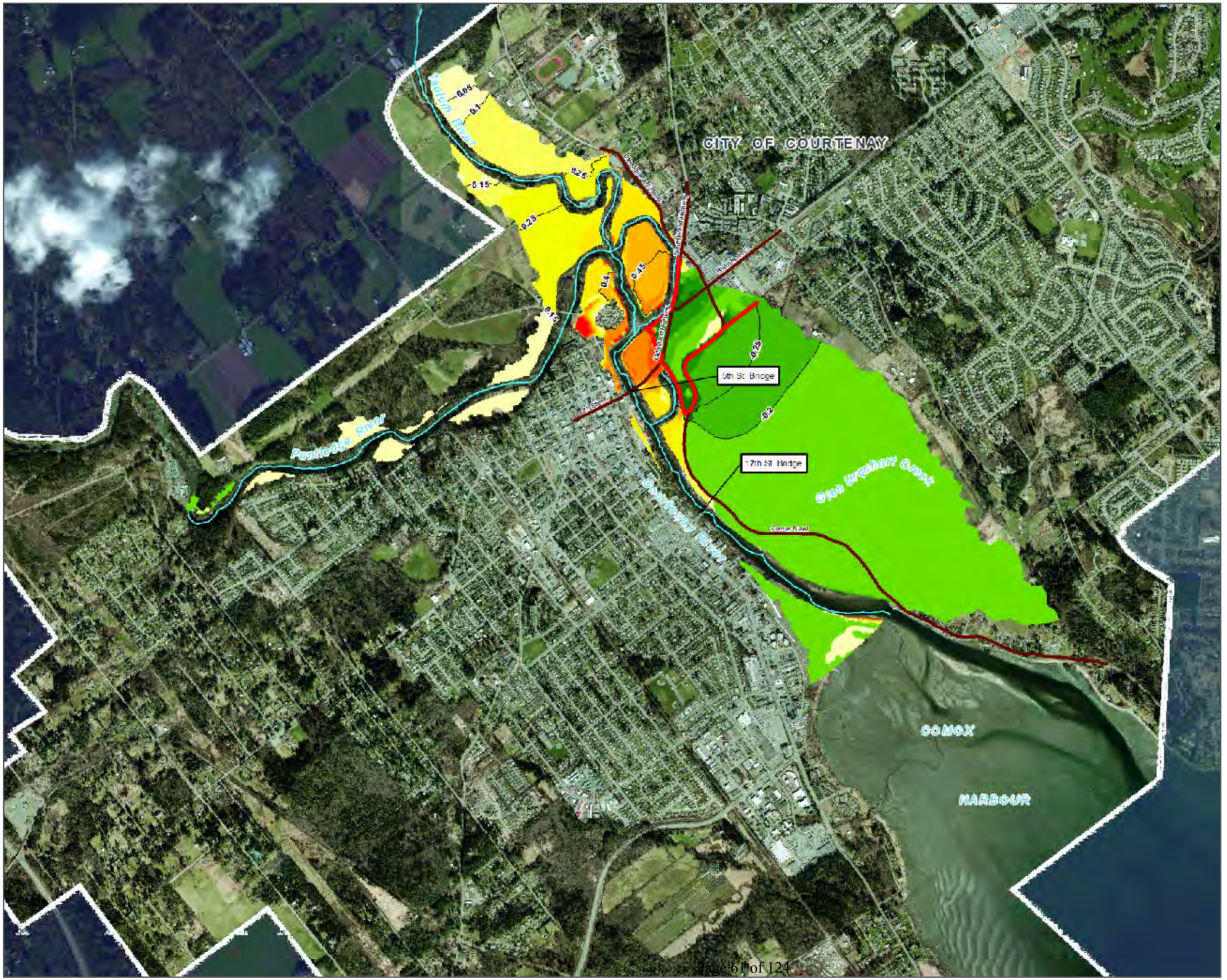
FIGURE 4



CITY OF
COURTENAY

Dike Replacement and Flood Management Strategy
Ring Dike Option (2013 Integrated Flood Management Strategy)

Legend

- City of Courtenay Boundary
- Proposed Ring Dike Location
- Major Roads
- Depth Difference Contour (m)
- Model Network Alignment

Depth Difference (m) (Ring Dike - Existing)

- > 0.8
- 0.7 - 0.8
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0 - 0.1
- -0.2 - 0
- -0.4 - -0.2
- -0.6 - -0.4
- < -0.6

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0 300 600 900
Meters

Coordinate System:
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FIGURE 5

CITY OF COURTENAY

Dike Replacement and Flood Management Strategy
Partial Dike and Floodway Option (2013 Integrated Flood Management Strategy)

Legend

- City of Courtenay Boundary
- Proposed Partial Ring Dike Location
- Major Roads
- Depth Difference Contour (m)
- Model Network Alignment

Depth Difference (m) (Ring Dike - Existing)

- > 0.8
- 0.7 - 0.8
- 0.6 - 0.7
- 0.5 - 0.6
- 0.4 - 0.5
- 0.3 - 0.4
- 0.2 - 0.3
- 0.1 - 0.2
- 0 - 0.1
- -0.2 - 0
- -0.4 - -0.2
- -0.6 - -0.4
- < -0.6

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Meters

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FIGURE 6

Funding Request for Tsolum River Floodwall Concept Rejected by EMBC (2013)

The recommendation of the 2013 IFMS was to develop the Option 1 Tsolum River Floodwall as an interim solution; however, it was found that it would not protect against a 1:200-year flood event. Therefore, the project was not supported by the Province and no longer qualified for funding assistance.

Staff responded to these findings by submitting a scope change request to support construction of the Tsolum River Floodwall as the first phase in a larger ring dike project. This request was not accepted by the grantor. Instead, it was recommended that the City submit a grant funding application to the 2013 Flood Protection intake in support of constructing the complete ring dike.

Actions Taken by the City (2013-2018)

In response to the Province's decision not to support the Tsolum River Floodwall concept, the City took the following actions to advance its development of a DRFMS:

- 2016 Emergency Improvements – Emergency improvements were implemented on Anderton Wall due to observed wall movements and settlement of adjacent buildings noted in 2014 flood inspections.

- 2017 Review of Dike Servicing Responsibilities and Choices – Urban Systems Ltd. (USL) was retained to conduct a review of the City's dike servicing responsibilities and choices. USL retained Chris Murdy of *Murdy and McAllister* to review topics such as service levels and the onus of responsibility for the City's further review. Findings were summarized in a July 25, 2017 technical memorandum to the City.

  Two key considerations outlined in the memorandum informed the steps subsequently taken to advance the development of the DRFMS:

  i. The City is a named diking authority responsible for the maintenance of flood protection infrastructure already in place; indeed, this is where the Inspector of Dikes tends to focus their efforts through review of studies and decisions regarding dike infrastructure direction to the City. The Inspector of Dikes does not typically participate directly in policy decisions pertaining to how a community will manage flood risk, but rather they ensure that chosen flood protection infrastructure meets provincial criteria and is appropriately maintained. The City (as a corporation) has a duty to ensure implemented works do not fail. If the City must take action to prevent failure, it would be expected that any upgrades protect against future climate change impacts, provided the actions do not result in impacts on other lands to do so. Therefore, it is important that the City does not make lot-by-lot decisions, but rather understands how decisions at a lot level influence an overall strategy.

ii. Where flood protection barriers do not currently exist, the municipality has freedom to make policy decisions around how flood risk is managed, provided the policies do not conflict with the *Dike Maintenance Act*. The City is not compelled to expand the flood barrier system through additional dikes or built infrastructure, but may manage risk through other means, most commonly regulations (land use processes).

- 2018 Review of River Model and Submission of CEPF Grant Application – It was recognized that the 2013 IFMS study looked at solutions for a limited pocket of development, not the broader community. In 2018, USL was retained to review the model developed as part of the 2013 IFMS and to help the City prepare an application for funding through the *Community Emergency Preparedness Fund* (CEPF) (administered by UBCM) to continue to develop the DRFMS. The CEPF grant application requested funding to assist with further modelling, technical analysis, and targeted stakeholder engagement to determine "technically viable option(s)" for flood risk management in Courtenay as part of a macro-level strategy. Broader community engagement was excluded from the funding request, as it was conceived at the time that this would be conducted in a later phase of work.

  The City was awarded $150,000 through the CEPF in 2019, to be spent by May 2021. The scope of work funded with this grant is the subject of this report.

3.0 Dike Replacement Options Analysis

3.1 SCOPE OF WORK

The 2013 IFMS involved technical analysis to identify the hazards associated with inland flooding and tidal flooding to year 2100, including the influence of climate change. The analysis is considered valid (and was reapplied as part of the 2019-2021 modelling work); however, it had the following limitations:

- The study was driven by flooding in the Ryan Road commercial area, and so it focused on assessing flood risk and identifying options for this specific area. It did not consider the Courtenay River floodplain as a whole.
- The study did not consider the implications of replacing the existing vertical flood walls, for which the City is the registered diking authority
- The study did not explore the land impacts and implementation challenges – which are known to be significant – of any proposed solution

The 2019-2021 work was therefore designed to be an extension of the 2013 IFMS. The objectives were to:

- Examine options to improve flood protection for the broader Courtenay River, Puntledge River, and Tsolum River floodplains
- Assess the ability of various dike replacement options to mitigate flood impacts, including both infrastructure asset-based options (like dike upgrades) and natural asset-based options (like channel widening/reconstruction and floodways)
- Examine how dike replacement options fit within a holistic flood management strategy
- Identify the preferred technically viable dike replacement option(s), given consideration to both infrastructure-based and natural asset-based solutions, that is supported in concept by all regulatory authorities

To meet these objectives, the scope of work was to include flood modelling of the Courtenay River, Puntledge River, and Tsolum River floodplains, flood modelling of five dike replacement options (described further in the following section), economic modelling to assess avoided damages for natural asset-based options, and preliminary engagement with First Nations and key stakeholders. Flood and tide levels reported in the 2013 IFMS were used in the current study. Broader community engagement was excluded from the CEPF funding request and scope of work, as it was conceived at the time that this would be conducted in a later phase of work.

The desired outcome of this work was to identify the preferred technically viable dike replacement solution(s) (considering both infrastructure-based and natural asset-based solutions) that could be supported in concept by regulatory authorities. The idea was that the solution(s) would be brought forward for direction from Council prior to broader public engagement. As is discussed in the following sections, the modelling showed that no single dike replacement option will mitigate community-wide impacts of a 1:200-year flood, which is the current Provincial standard. Therefore, it became recommended that an "area-based" approach be taken. The study area has been divided into six sub-areas and viable options of each explored.

Urban Systems Ltd. was engaged by the City to lead the technical analysis and development of the DRFMS. Economic modelling of the avoided damages associated with natural asset-based dike replacement options was completed by MNAI as part of a cohort-based pilot project. The City was selected to take part in the pilot project to better understand the current and potential future roles of natural assets in the Courtenay River corridor as they relate to flood risk mitigation in the downtown core.

3.2 METHODOLOGY

Definition of Flood Scenarios

Flood scenario development was reported in a May 31, 2019 technical memorandum from USL to the City, and are summarized below:

Future condition: The 2013 IFMS suggested design values for the year 2200; however, the methodology applied was felt too simplistic, and there remains too much uncertainty about that future when considering such a long timeframe. Therefore, the current study considered the year 2100 future condition. This condition factors in a 1 m increase in sea level, from the Guidelines for Management of Coastal Flood Hazard Land Use (BC Ministry of Environment, 2011) and a 15% increase in peak river flows, from the Association of Professional Engineers and Geoscientists Flood Hazard Guidelines (APEGBC, June 2012).

Return period: The Province requires registered dikes to be built to protect against a 1:200-year flood event, which has a 0.5% chance of occurrence in any given year. Therefore, this return period was used in the current study, as it was for the IFMS. For comparative purposes and to inform decisions about how to protect against less severe but more frequent floods, the current study also considered a 1:50-year river flood event, which has a 2% chance of occurrence in any given year. Additionally, the 2009 flood event was estimated to be approximately a 1:20 year event[3] (which has a 5% chance of occurrence in any given year),

[3] "Courtenay Integrated Flood Management Study, Hydrodynamic Model Development and Flood Management Options"- Kerr Wood Leidal (KWL), 2013.

based on historical climate data. The flood levels associated with these events are expected to be observed more frequently into the future due to the impacts of climate change.

Scenarios: Combinations of the above information, and information from real historic events, were used to develop eight environmental scenarios, which are summarized in Table 2.

TABLE 2 MODELLED SCENARIOS

	Tsolum River	Browns River	Puntledge River	Tide	Storm Surge / Wind / Wave	Climate Change
Scenario 1A	200-year	200-year	Max Release Rate	MWL[1]	No	No
Scenario 1B	200-year	200-year	Max Release Rate	MWL	No	Yes – Flow and Tides
Scenario 2	200-year	200-year	Max Release Rate	HHWLT[2]	No	No
Scenario 3	200-year	200-year	Max Release Rate	HHWLT	No	Yes – Flow and Tides
Scenario 4	200-year	200-year	Max Release Rate	HHWLT	Yes	Yes – Flow and Tides
Scenario 5	Observed 2009 Event	Observed 2009 Event	Observed 2009 Event	Observed 2009 Event	N/A	N/A
Scenario 6	Observed 2010 Event	Observed 2010 Event	Observed 2010 Event	Observed 2010 Event	N/A	N/A
Scenario 7	50-year	50-year	50-year	HHWLT	Yes	Yes – Tides
Scenario 8	Observed 2014 Event	Observed 2014 Event	Observed 2014 Event	Observed 2014 Event	N/A	N/A

1. MWL = mean water level (0 m geodetic)
2. HHWLT = higher high water large tide - The average of the highest high waters (tides), one from each of 19 years of predictions

These scenarios represent a range of potential river flow, tide, and climate conditions and include recently observed events (Scenario 5, 6, and 8), a potential "worst case" 1:200-year future event (Scenario 4), a less severe but more likely 1:50-year future event (Scenario 5), and present-day potential 1:200-year events under various tide conditions. This range of scenarios provide a solid basis on which to consider the City's tolerance for risk, which will inform decisions on mitigation options that are ultimately implemented given the tradeoffs between cost and risk.

It is important to note that the MWL and HHWLT values used in the analysis to date are based on historical data. These values are expected to increase over time as sea levels rise due to climate change. The analysis then considers a 1 m increase to water levels to 2100, in line with current provincial guidance. Actual tides may vary.

Dike Replacement Options Considered

Five infrastructure-based options (e.g., dikes) and natural asset-based options (e.g., channel widening / reconstruction and floodways) were modelled through the work completed by USL and MNAI. The options span incremental system changes: first looking at improvements in the vicinity of Lewis Park only, then looking at more extreme solutions with system improvement from Lewis Park to the Courtenay River estuary. These options are described below, including implementation considerations.

"Small Moves"

- Option 1: Limited widening of the west bank of the Courtenay River between 2nd Street and 10th Street – This option would involve removal of the existing portion of vertical retaining wall along the West bank and introducing a sloped bank. There would be no diking above existing grade. To allow for channel widening, properties would need to be acquired and altered in the area. The municipal sanitary pump station would also need to be relocated. Widening was applied in the model to the west bank of Courtenay River from approximately 2nd Street (Riverside Park) to 8th Street, approximately across from the Courtenay Slough connection point. On average, the channel was widened by 15 m with a new bank slope of approximately 3:1 (H:V). To accommodate this proposed bank geometry, all properties in this reach between Anderton Ave and the riverbank would be fully consumed by the widening and would need to be purchased and or repurposed. River widening would create more room for floodwaters from river flows but it would not protect against coastal flooding and would not mitigate the impacts of flooding during simultaneous river flooding/high tide condition.

- Option 2: Connection of river flow paths through Lewis Park – This option would involve creation of a diversion channel through Lewis Park, forming a controlled flood route connecting the Courtenay River at the north end of Lewis Park with the Courtenay Slough (small crafts harbour). The proposed flood channel through Lewis Park was modelled at approximately 15 m wide by 2 m deep, which would limit the existing usage of the park itself. A controlled flood route would not protect against coastal flooding and would not mitigate the impacts of flooding during simultaneous river flooding/high tide conditions.

"Big Moves"

- Option 3: Extreme channel widening and naturalization – This option involves 60 m widening of the Courtenay River from Lewis Park to the estuary, removing the existing sheet pile dikes, and sloping the banks of the river. Modelling of this option is illustrated in Figures 7 and 8. Kus Kus Sum has conceived a restoration project of the Fields Sawmill Site, which would presumably be integrated into this option. However, restoration of the Fields Sawmill Site would not in itself provide significant solution to the flooding problem. Extreme river widening would create more room for floodwaters from riverine flow, but it would not protect against coastal flooding and would not mitigate the impacts of flooding during a simultaneous river flooding/high tide condition.

- Option 4: Extreme diking – Whereas the 2013 study only considered an isolated dike, this option considers an extensive containment dike on the east side of the Courtenay River from Lewis Park to the estuary, with tie-in to high ground to the north-east. No expanded diking is established on the west side of the Courtenay River which has higher natural ground than the east side. It is understood that MOTI will not support the highway serving as the dike, and that a parallel dike would need to be created. The alignment of the dike assumed as part of the modelling immediately parallels the highway. Modelling of this option is illustrated in Figures 9, 10, and 11. Diking would limit the extent of flooding adjacent to the dike but the containment of flood water results in more extreme flooding upstream.

- Option 5: Managed retreat – This option focuses on re-naturalization of the encroached floodplain. A managed retreat may occur as a response to a flood event, or proactively before a future flood. When conducted opportunistically, managed retreat can be highly cost effective, with a minimum impact from flooding on people and businesses.

The effectiveness of Options 3 and 4 are illustrated on Figures 7 through 11 to illustrate the range in effectiveness of these various dike replacement options. Findings are discussed below.

3.3 KEY FINDINGS OF DIKE REPLACEMENT OPTIONS ANALYSIS

Finding #1: Channel bank naturalization and widening is insufficient to prevent flooding.

Channel bank restoration and naturalization of the Courtenay River can help meet environmental objectives and allow removal of obligations to operate and maintain existing retaining walls, however, is insufficient to improve flood protection. The modelling shows that extreme channel widening offers some reduction in flood depth, particularly for riverine flood flows, but is still insufficient to satisfy the level of flood protection when flood flow is coupled with a high tide.

Figures below show the flood depth and extents for a 1:200-year flood flow for the extreme (60 m) channel widening flood mitigation option: Figure 7 shows the results for the flood flow only; Figure 8 shows the results for tide only. As shown, both options still result in extensive flooding. However, for river flows (Figure 7), flooding is worse in the upstream portion of the system and less in the downstream, whereas for the tide (Figure 8), flooding is worse in the downstream portion and less in the upstream.

Finding #2: Partial diking cannot provide complete protection against a 1:200-year event.

As presented in the earlier 2013 study, limited diking cannot sufficiently protect against the 1:200-year event. Similar to the channel widening scenario, partial diking can be more effective against river flood flow, but not against sea level rise.

Finding #3: Extreme diking can be effective at protecting some properties, but at the expense of others.

The challenge with diking is that by constraining the flow path, the flood depth and extent increases upstream of the diking. Where tide is an influence, if the dikes are not continuous, tying into high ground, they provide limited benefit because flows will circumvent the dike. A partial "wing dike" can be effective against river flow flows alone where not influenced by tide. Analysis to date indicates that diking would only be required upstream of the 17th Avenue bridge to protect against river flooding, excluding the influence of tide.

Figures 9 through 11 below show the flood depth and extent for three sub-scenarios of an extreme dike option: Figure 9 for a 1:200-year river flood only; Figure 10 for a 2100-year tide level only; Figure 11 for a combination of a 1:200-year flood flow and 2100-year tide level. The graphics demonstrate the ability to limit the extent of flooding where the dikes exist, however it results in water being pushed to the west and upstream into the Puntledge River and Tsolum River. Table 4 below is complementary to the figures and outlines how the design water level rises at key points.

TABLE 3: CHANGE IN DESIGN WATER LEVEL ELEVATION (M) WITH EXTREME DIKING

SUB SCENARIO	REFERENCE FIGURE	17TH STREET BRIDGE (1)		5TH STREET BRIDGE (2)		NORTH END OF LEWIS PARK	
		NO DIKE	DIKE	NO DIKE	DIKE	NO DIKE	DIKE
River flow only	Figure 9	3.10	4.17	4.26	5.25	5.46	6.25
Tide only	Figure 10	4.49	4.49	4.50	4.50	4.51	4.51
Tide and river flow	Figure 11	4.64	5.22	4.89	5.99	5.75	6.78

(1) Low chord elevation of 17th Street Bridge is 5.60 m
(2) Low chord elevation of 5th Street Bridge is 5.55 m

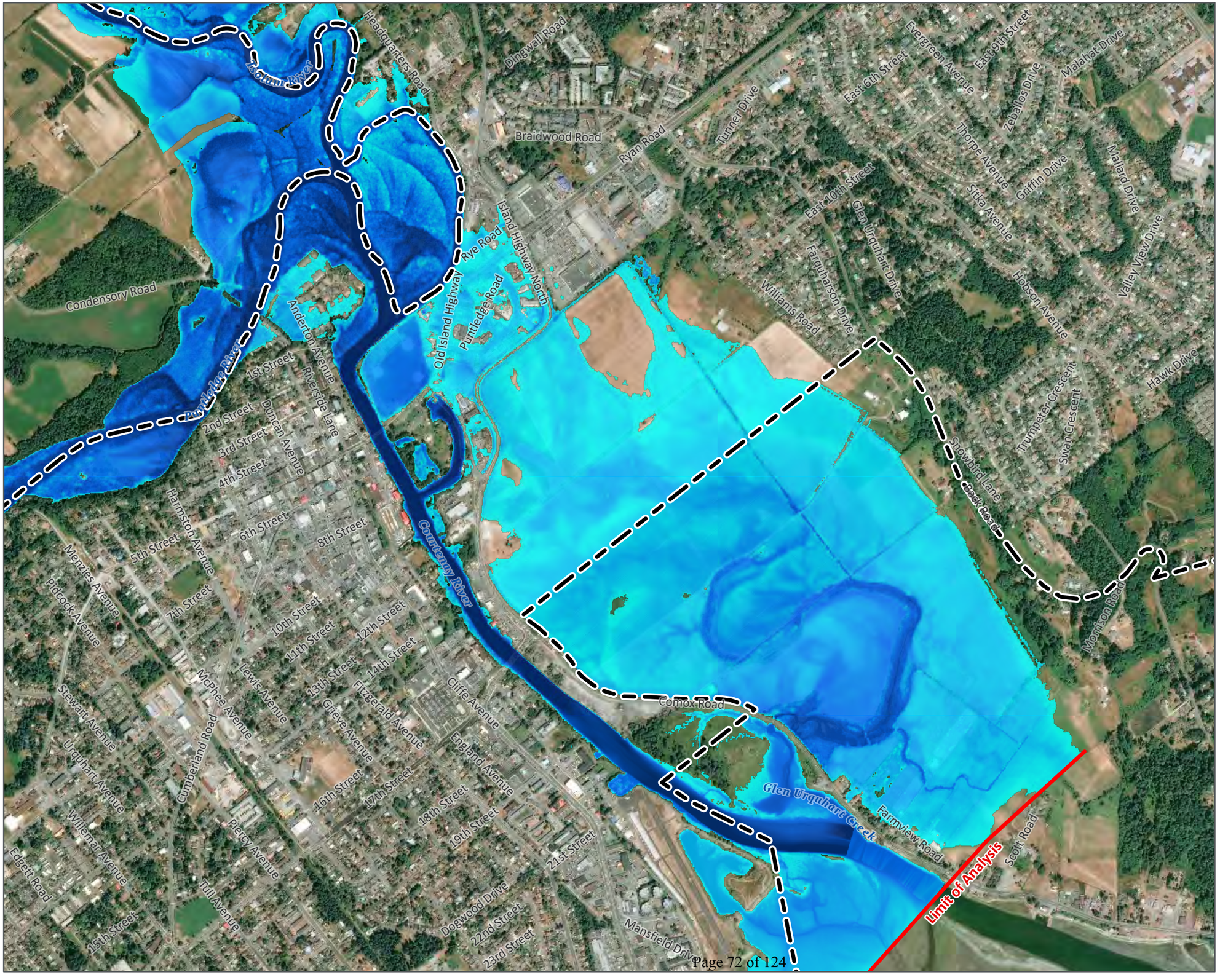
In Table 3, the value of 5.99 is highlighted red because this water level is higher than the low chord elevation of the bridge, which means that the bridge deck structure will be within the flood flow, creating potential structural impact. This is an undesirable condition.

Finding #4: The critical design condition is the combination of high flood flow and high tide.

The analysis results shown in Figure 11 demonstrates the combined effect of a simultaneous extreme tide with extreme flood flow. This is considered conservative. Moving forward, additional joint probability analysis should be conducted to determine the design condition for combined 1:200-year events. This will help the City make risk-based decisions.

Finding #5: There is no easy and singular solution to the problem.

The challenge for the City is to find a "package" of solutions that optimally protects the broader community from both types of hazards it faces: river flows and tide, both of which may be worsened with climate change and its impact on frequency of flood events and on sea level rise. All solutions will result in property impacts, either from land acquisition needs for constructed works, or by continued flooding into the future.



Dike Replacement and Flood Management Strategy

Flood depth and extent under 200-year flood condition with extreme channel widening, river flows only

Legend

- City of Courtenay Boundary
- Limit of Analysis

Max Flood Depth (m)

8.3

0.001

0 200 400 600 Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:12,000
(When plotted at 11"x17")

Data Sources:

- Bing Aerial.

Project #:	3222.0051.02
Author:	AK
Checked:	SB
Status:	Draft
Revision:	A
Date:	2021 / 5 / 3

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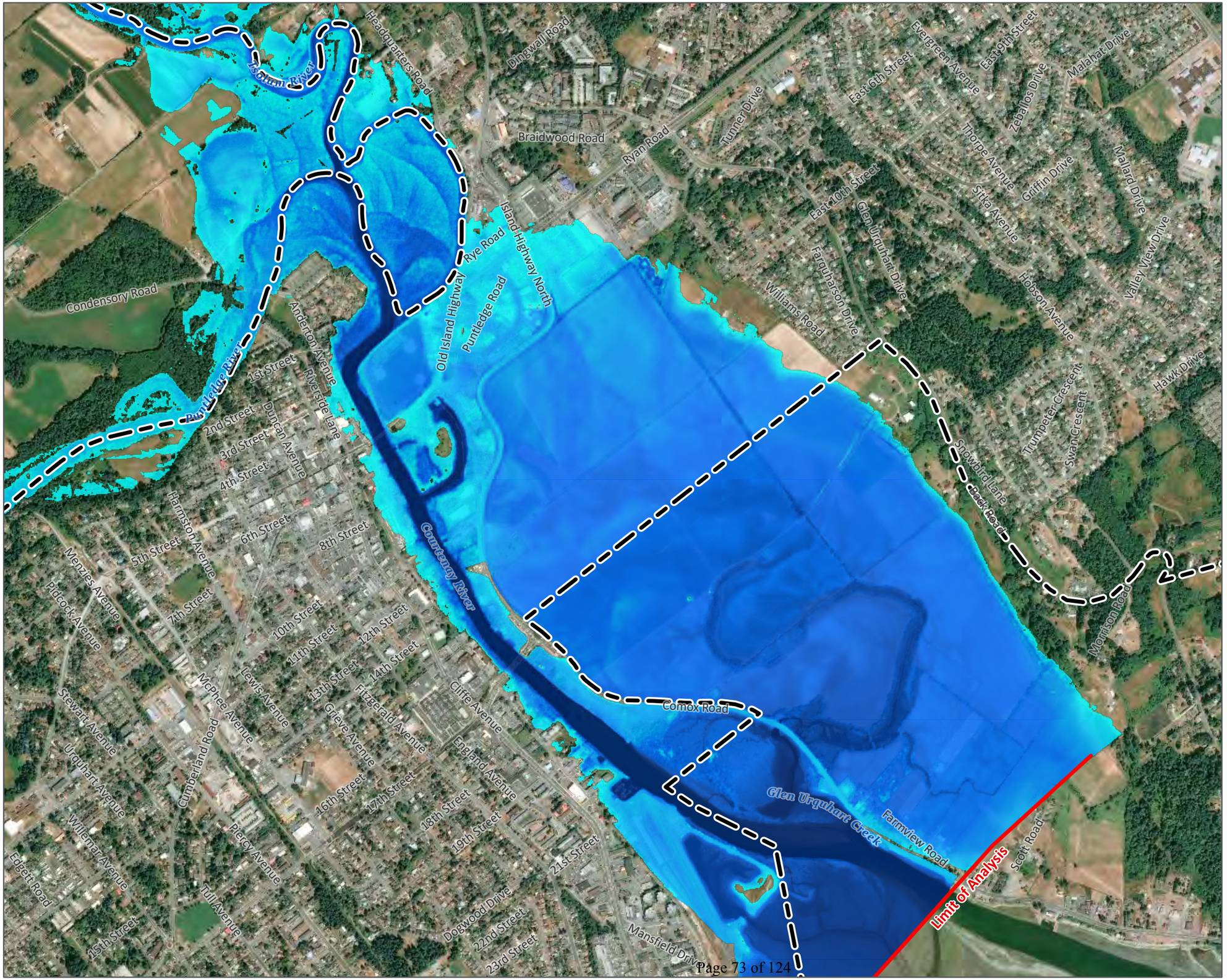
FIGURE 7



CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Flood depth and extent under year 2100 tide with extreme channel widening, tide only

Legend

- City of Courtenay Boundary
- Limit of Analysis

Max Flood Depth (m)

8.4

0.001

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

0 200 400 600 Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:12,000
(When plotted at 11"x17")

Data Sources:

- Bing Aerial.

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Author:	AK
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Date:	2021 / 5 / 3

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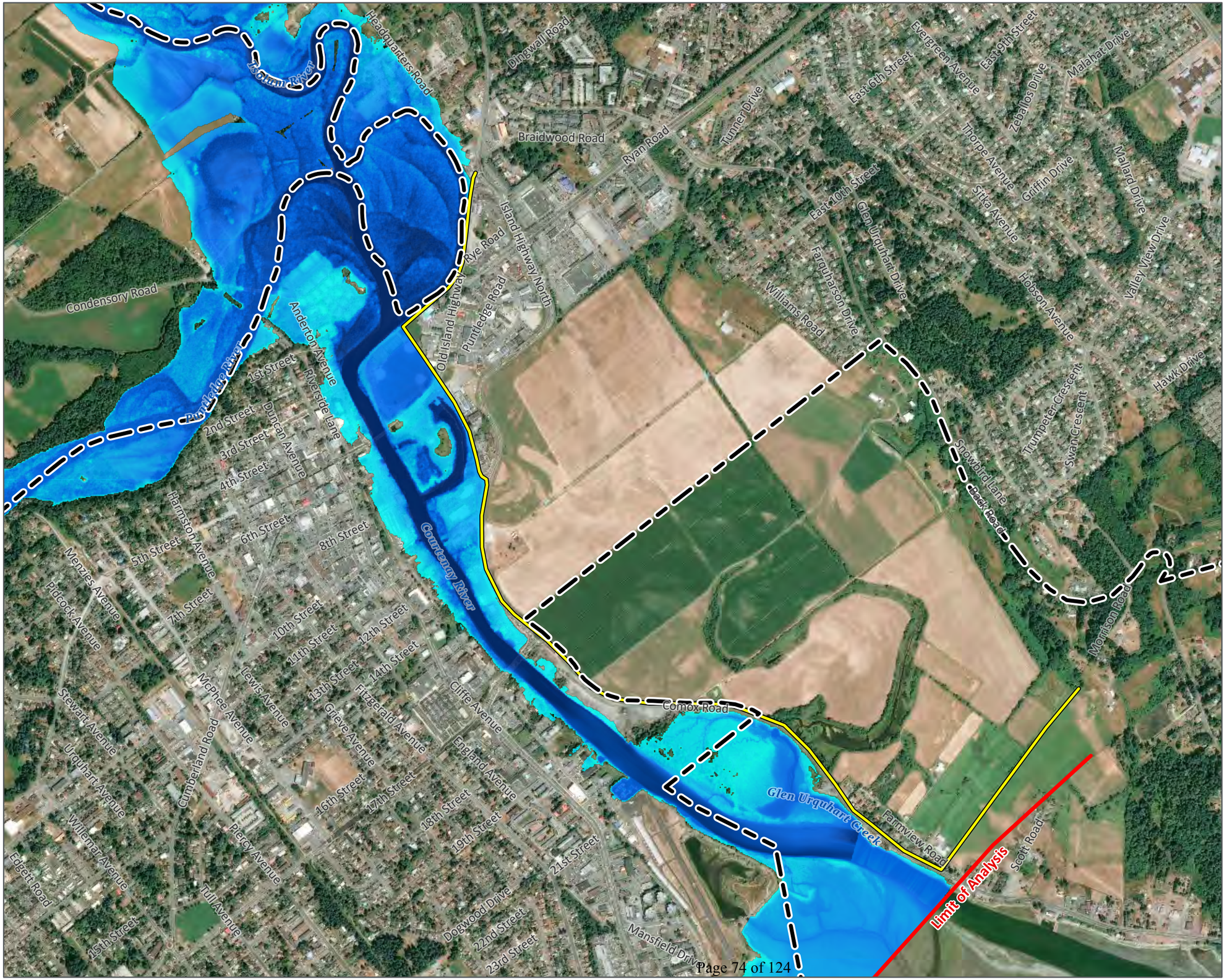
FIGURE 8



CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Flood depth and extent under 200-year flood condition with extreme diking, river flows only

Legend

- City of Courtenay Boundary
- Limit of Analysis
- Dyke Alignment

Max Flood Depth (m)

9.7

0.001

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0 200 400 600 Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:12,000
(When plotted at 11"x17")

Data Sources:

- Bing Aerial.

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Author:	AK
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Date:	2021 / 5 / 3

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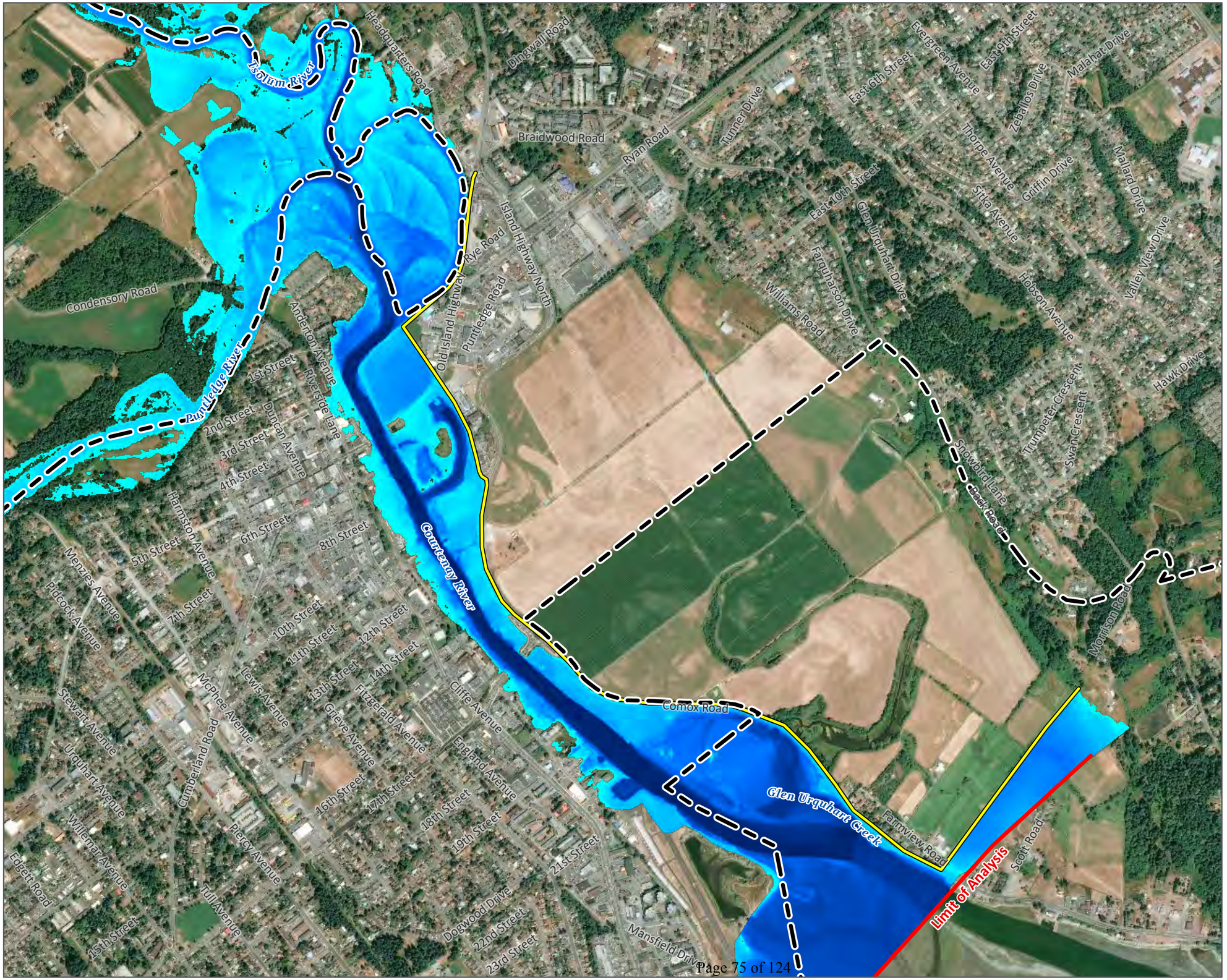
FIGURE 9



CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Flood depth and extent under year 2100 tide with extreme diking, tide only

Legend

- City of Courtenay Boundary
- Limit of Analysis
- Dyke Alignment

Max Flood Depth (m)

8.4

0.001

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0 200 400 600 Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:12,000
(When plotted at 11"x17")

Data Sources:

- Bing Aerial.

Project #:	3222.0051.02
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FIGURE 10

CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Flood Depth and Extent under year 2100 tide and 200 year Flow with Extreme Diking

Legend

- City of Courtenay Boundary
- Dyke Alignment
- Limit of Analysis

Max Flood Depth (m)

10.2

0.001

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0 200 400 600

Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:12,000
(When plotted at 11"x17")

Data Sources:

- Bing Aerial.

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FIGURE 11

3.4 LIMITATIONS OF THE ANALYSIS TO DATE

Analysis herein has been conducted using flood flow and tide levels as reported by the 2013 IFMS, which did not consider the joint probability of 1:200-year river flows and HHWLT condition. Joint probability should be considered as part of next steps. It is understood that new flood mapping being finalized by the Comox Valley Regional District (CVRD) is based on more recent analysis and includes joint probability. Once available, the CVRD's mapping should be compared to the results described herein. The CVRD's mapping is not expected to fundamentally change the near-term decisions the City makes because it is evidently clear that flood risk exists. However, further refinements of the analysis may change design elevations.

The analysis to date has focused on changes the City can make within its jurisdiction. It has not considered any future changes to discharge from the upstream BC Hydro Power Station on the Puntledge River. From the 2013 study, it is understood that a reservoir operation model was developed based on BC Hydro's Operating Orders to simulate how the dam is operated under flood conditions. Under the orders, flow releases from the dam are to be reduced during high tide periods to limit the potential for flooding; however, this is limited by the storage capacity of Comox Lake. Discussions occurred with BC Hydro representatives as part of this study, who believe they are operating the dam in best way possible to minimize flood risk, but it has been acknowledged that risk does exist. BC Hydro has noticed a change in weather over time, causing high volume events more frequently. Comox Lake is relatively small, and water levels can rise quickly. BC Hydro monitors seven-day rainfall forecasts daily and do their best to lower lake water levels in advance of concerning forecasts. It takes approximately two hours for water to reach the estuary from the dam. Operational protocols are revisited each year based on what they are experiencing. There is consideration to upgrading the dam around year 2028. BC Hydro has protocols to disseminate flood risk warnings. We recommend that communication with BC Hydro representatives for the dam continue, with encouragement for BC Hydro to revisit forecasting and operating protocols as new information becomes available and to review an Emergency Preparedness and Response Program together. Additionally, if dam upgrades are being contemplated, the City should inquire and encourage as to how this upgrade will include improved flood risk management.

4.0 Area-Based Options Analysis

Because no single action was found sufficient to universally protect the floodplain, it is recommended that the City take an area-based approach to flood management; meaning that different, and perhaps multiple, flood management actions be applied within different areas to suit their unique flood hazards, risks, and land characteristics.

4.1 FLOOD SCENARIOS CONSIDERED

Three different flood scenarios were considered in the area-based options analysis. These scenarios were selected from the previously described nine scenarios for which dike replacement modelling was conducted. For Scenario 5, the event of 2009 was selected as a benchmark for comparison. This was previously estimated to be a 1:20 year event. It is understood that the flood of 2014 may have been worse, however statistics for that event were not readily available for application within the scope of this study. Future analysis may expand the review of historic events to include 2014. Scenario 3 was selected as the most applicable design event supportable by the Province. Scenario 1B was selected to create a range of design conditions with and without the influence of high tide.

TABLE 4 FLOOD SCENARIOS CONSIDERED FOR AREA-BASED PLANNING

	TSOLUM RIVER	BROWNS RIVER	PUNTLEDGE RIVER	TIDE CONDITION	STORM SURGE / WIND / WAVE	CLIMATE CHANGE CONSIDERED
Scenario 1B: 2100 MWLT 1:200-Year Flood	1:200-year	1:200-year	Max Release Rate	MWL[1]	No	Yes – Flow and Tides (1m SLR)[3]
Scenario 3: 2100 HHWLT 1:200-Year Flood	1:200-year	1:200-year	Max Release Rate	HHWLT[2]	No	Yes – Flow and Tides (1m SLR)
Scenario 5: 2009 Observed Flood Event, Existing Conditions	Observed 2009 Event	Observed 2009 Event	Observed 2009 Event	Observed 2009 Event	N/A	N/A

1. MWL = mean water level (1 m geodetic in year 2100 accounting for 1 m of sea level rise)
2. HHWLT = higher high water large tide
3. SLR = sea level rise

As previously mentioned, despite the 2013 IFMS looking at a year 2200 condition, assessment herein is limited to a year 2100 condition.

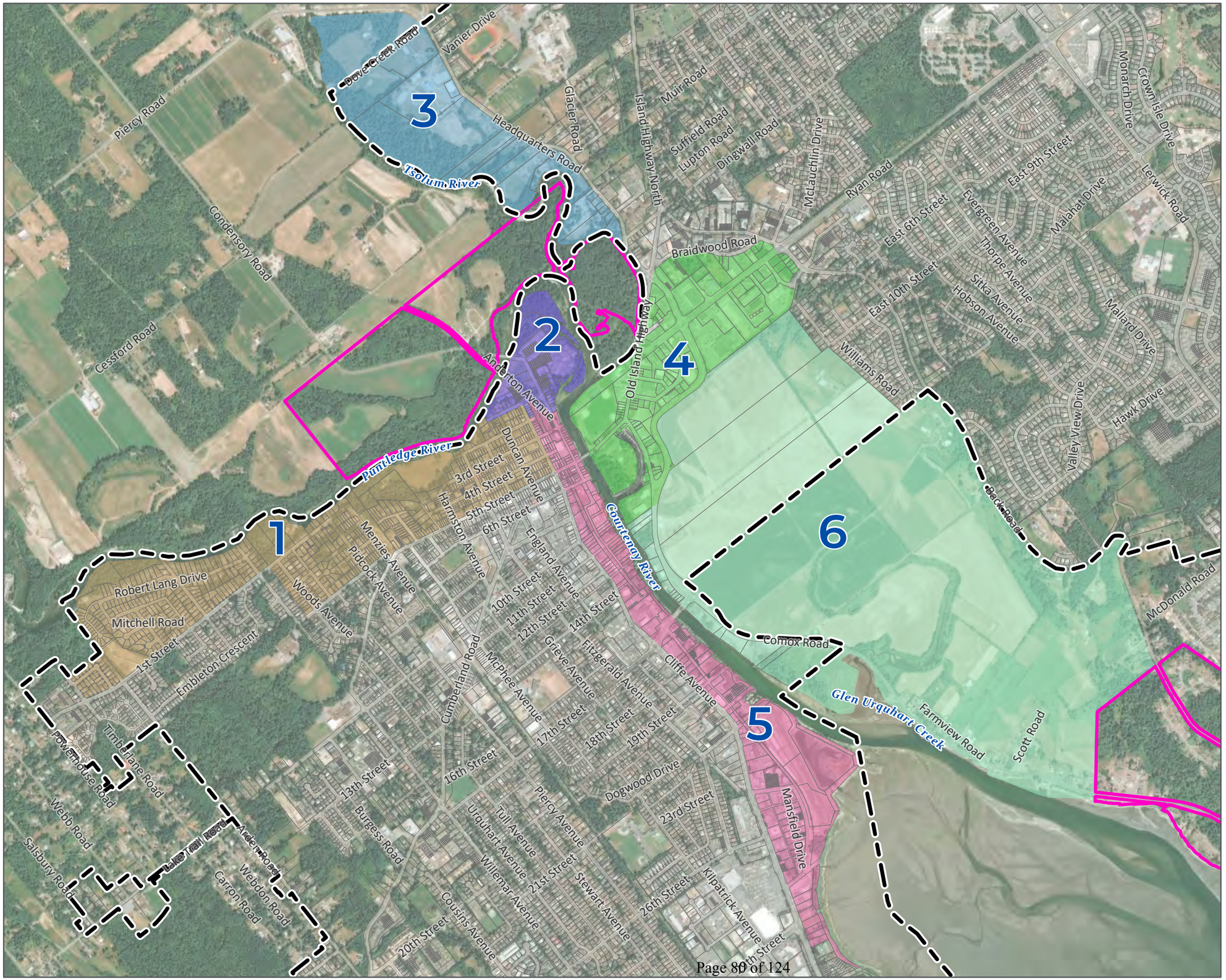
4.2 PLANNING AREAS

Planning areas were identified based on a review of available information on the unique attributes of the land within the flood extents for the scenarios described above. Attributes that were considered included: topography, flood depth and extent, existing land uses, future planned land uses, proximity to similar land uses, zoning, parcel size, building locations, property ownership, and jurisdiction. Based on these attributes, six planning areas were identified as listed below and shown in Figure 12.

- Area 1 – Puntledge River
- Area 2 – Condensory Park
- Area 3 – Tsolum River
- Area 4 – Ryan Road/Old Island Highway
- Area 5 – Riverway
- Area 6 – Comox Road

Characteristics of each planning area are described in Table 5.

To conduct the area-based options analysis, static planning area boundaries are defined using lot parcel boundaries. Not every lot parcel is exposed to flooding under all flood scenarios. The boundary of flood extents varies with the flood scenario considered. Only legally registered parcels of land are represented; not riparian corridors, other crown lands, or properties outside the City jurisdiction.



CITY OF COURTENAY

Dike Replacement and Flood Management Strategy

Flood Planning Areas

Legend

Flood Planning Areas
- 1
- 2
- 3
- 4
- 5
- 6

City of Courtenay Boundary

Courtenay Parcels (2016)

First Nations Reserve Boundary

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0 200 400 600
Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale: 1:17,500
(When plotted at 11"x17")

Data Sources:
- Bing Aerial.

Project #:	3222.0051.03
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FIGURE 12

TABLE 5 PLANNING AREA CHARACTERISTICS

AREA NAME	SIZE	ELEVATION	DESCRIPTION
Area 1 – Puntledge River	84.1 ha	- Min: 3.6m - Max: 43.4m - Average: 19.7m	- Bound by the Puntledge River and the City's municipal boundary to the northwest, 1st Street to Willemar Avenue, and then 4th Street/5th Street to Cliffe Avenue - Includes residential parcels (generally zoned R-2) and Puntledge Park and Bear James Park
Area 2 – Condensory Park	15.5 ha	- Min: 0.2m - Max: 20.0m - Average: 5.4m	- Bound by the Puntledge River to the north and west, the Tsolum River to the east, and generally by 1st Street to the south. - Includes Canterbury Estates, which is zoned R-3A and R-4 and includes multi-family residential development. There are a few single-family homes on small lots. - Includes Anderton Avenue, Condensory Park, and Anderton and 1st Park
Area 3 – Tsolum River	59.3 ha	- Min: 0.9m - Max: 10.3m - Average: 5.5m	- Bound by the Toslum River and the City's municipal boundary to the south, Dove Creek Road to the northwest, and Headquarters Road to the northeast. - Includes agricultural lands designated as part of the Agricultural Land Reserve (ALR). Also includes residential parcels zoned R1-A except for one parcel zoned RR-5. It excludes the Pentledge Indian Reserve 2 which is outside the City's limits due to its position between the arms of the river.
Area 4 – Ryan Road/Old Island Highway	57.3 ha	- Min: -0.2m - Max: 16.0m - Average: 4.7m	- Bound by Braidwood Road to the north, Old Island Highway and the Tsolum River around Lewis Park to the west, the Courtenay River to the south, and Island Highway North and the ALR of Planning Area 6 to the east. - Includes the Sandwick Commercial area, the marina, and several City assets, including Lewis Park, Simms Millennium Park, the Courtenay

AREA NAME	SIZE	ELEVATION	DESCRIPTION
			Recreation Lewis Centre, and Memorial Outdoor Pool.
Area 5 – Riverway	57.4 ha	- Min: -1.0m - Max: 15.6m - Average: 4.8m	- Bound by Planning Area 2/1st Street to the north, Cliffe Avenue to the west to just past 29th Street, and the estuary to the south. - Includes Riverside Park, Cliffe and 5th Park, Courtenay Marina Park, the Airpark, and Rotary Skypark, and the Southwest Heritage Walk. - Land uses are primarily commercial or mixed-use.
Area 6 – Comox Road	307.2 ha	- Min: -1.3m - Max: 51.2m - Average: 4.2m	- Bound by the estuary and the Courtenay River to the south and west, Comox IR #1 to the southeast, Back Road to the east, and the Sandwick commercial area of Planning Area 4 to the north. - Includes designated ALR land and the Courtenay Riverside Commercial area, which together are more vulnerable to flooding than the adjacent Sandwick commercial, which is protected by Highway 19A/Island Highway North. The Courtenay Riverside Commercial area consists primarily of car sales and rentals businesses. - Includes Kus-kus-sum, which is the new name for the Field Sawmill lands on the north side of the Courtenay River. This industrial parcel is planned for restoration. - Also includes the parcel where the Courtenay Regional Lift Station is situated.

4.3 FLOODING IN EACH AREA

Flood extents (coverage in terms of hectares and percent of planning area) and flood depths (meters above ground elevation) for the three scenarios considered, Scenarios 1B, 3 and 5, are shown in Figures 13, 14 and 15, respectively. Observations for each scenario are presented below and in Tables 6, 7, and 8.

Scenario 1B: 2100 MWL 1:200-Year Flood

This event results in localized, minor flooding of less than 1 m depth along the banks of the Tsolum and Puntledge Rivers, confined to natural areas. Impacts worsen at the confluence with the Courtenay River. From this confluence to the estuary, flooding is observed in Condensory Park, Lewis Park, Simms Millenium Park, and in the ALR south of Comox Road (much of which is outside the City's boundary), with depths up to 5 m. Minor flooding of less than 1 m depth is also observed along the west banks of the Courtenay River in downtown Courtenay.

TABLE 6 FLOOD IMPACTS UNDER SCENARIO 1B: 2100 MWLT 1:200-YEAR FLOOD

PLANNING AREA	FLOODED AREA		FLOOD DEPTH	IMPACTED ASSETS
	Area (ha)	% of Total Area	Mean (m)	
1 – Puntledge River	2.9	3.5%	0.3	- Bear James Park - Puntledge Park - Back of properties fronting the Puntledge River
2 – Condensory Park	2.2	14.5%	0.5	- Condensory Park - Anderton & 1st Park - Back of properties fronting the Courtenay River
3 – Tsolum River	0.6	0.9%	0.8	- None – natural areas fronting the Tsolum River
4 – Ryan Road/Old Island Highway	4.2	7.4%	0.5	- Lewis Park, including community building - Simms Millenium Park
5 – Riverway	6.4	11.3%	1.4	- Riverside park - Some impacts to commercial properties fronting Courtenay River between 5th Street and 11th Street - Some impacts to residential properties fronting Courtenay River - Courtenay Marina Park - Air Park - Rotary Skypark
6 – Comox Road	11.4	3.8%	1.2	- Some impacts to commercial properties southwest of Comox Road - Kus-kus-sum

Scenario 3: 2100 HHWLT 1:200-Year Flood

This event results in widespread flooding due to the higher tide condition compared to Scenario 1B. Flooding from the Puntledge River is generally still limited to natural areas and does not affect residential properties but flooding from the Tsolum River affects the ALR land, with depths observed up to 1 m. Flood impacts worsen at the confluence and downstream to the estuary. Flooding is observed in Condensory Park and significant flooding, up to 5m depth, is observed in the Lewis Park/Simms Millenium Park/Ryan Road area and the ALR. There is also greater depth and extent of flooding in downtown Courtenay and in the vicinity of the Air Park, compared to Scenario 1B.

TABLE 7 FLOOD IMPACTS UNDER SCENARIO 3: 2100 HHWLT 1:200-YEAR FLOOD

PLANNING AREA	FLOODED AREA		FLOOD DEPTH	IMPACTED ASSETS
	Area (ha)	% of Total Area	Mean (m)	
1 – Puntledge River	5.5	6.6%	0.4	- Bear James Park - Puntledge Park - Back of properties fronting the Puntledge River
2 – Condensory Park	5.8	37.2%	1.7	- Condensory Park - Anderton & 1st Park - Back of properties fronting the Courtenay River
3 – Tsolum River	12.4	21.2%	0.6	- Agricultural fields - Driveways - Mobile home park
4 – Ryan Road/Old Island Highway	35.9	62.9%	1.2	- Lewis Park, including community building - Simms Millenium Park - Over 50% of the commercial properties - Major roadways
5 – Riverway	23.6	41.5%	1.7	- Riverside park - Major impacts to commercial, residential and institutional properties fronting Courtenay River - Courtenay Marina Park - Air Park - Rotary Skypark
6 – Comox Road	253.4	77.7%	2.6	- Major impacts to commercial properties southwest of Comox Rd - Kus-kus-sum - Major impacts to agricultural land - Some agricultural buildings

Scenario 5: 2009 Observed Event, Existing Conditions

This event results in localized flooding less than 2 m in depth along the banks of the Puntledge River that is confined to natural areas. Flooding from the Tsolum River results in impacts to the ALR land in the area, up to 2 m in depth. There is flooding of less than 1m depth in Lewis Park and the surrounding commercial areas. Flooding in the ALR is less widespread than in the other scenarios and is generally limited to the south side of Comox Road in the vicinity of the outlet of Glenn Urquahart Creek to the Courtenay River. Flooding is limited in the Courtenay riverway but is observed in the vicinity of the Air Park.

TABLE 8 FLOOD IMPACTS UNDER SCENARIO 5: 2009 OBSERVED FLOOD, EXISTING CONDITIONS

PLANNING AREA	FLOODED AREA		FLOOD DEPTH	IMPACTED ASSETS
	Area (ha)	% of Total Area	Mean (m)	
1 – Puntledge River	12.1	14.4%	1.2	- Bear James Park - Puntledge Park - Back of properties fronting the Puntledge River
2 – Condensory Park	6.0	38.5%	1.4	- Condensory Park - Anderton & 1st Park - Back of properties fronting the Courtenay River
3 – Tsolum River	18.0	30.8%	0.7	- Agricultural fields - Driveways - Mobile home park
4 – Ryan Road/Old Island Highway	13.6	23.9%	0.5	- Lewis Park, including community building - Simms Millenium Park - About 25% of the commercial properties - Major roadways
5 –Riverway	5.2	9.1%	1.4	- Riverside park - Some impacts to commercial, residential and institutional properties fronting Courtenay River - Courtenay Marina Park - Air Park - Rotary Skypark
6 – Comox Road	29.5	9.7%	0.4	- Some impacts to commercial properties southwest of Comox Rd - Kus-kus-sum

Although Scenario 3 is, all things considered, a more severe event than Scenario 5, Scenario 5 results in more upstream flooding (impacting Areas 1-3) because it is governed by river flows, whereas Scenario 5 is governed by the HHWLT tide condition.

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Flood Management Strategy

Figure 13: Flood Depth and Extent Under Scenario 1B: 2100 MWL 1:200-Year Flood

Courtenay Boundary
Flood Planning Areas
First Nations Reserve Boundary

Flood Depth - 2100_MWLT
- ≤ 1 m
- ≤ 2
- ≤ 3
- ≤ 4
- ≤ 5
- ≤ 6
- ≤ 8.3

0 100 200 300
Meters

Coordinate System:
NAD 1983 UTM Zone 10N

Scale:
1:9,000
(When plotted at 22"x34")

Data Sources:
- City of Courtenay

Project #:	3222.0051.03
Author:	BG
Checked:	BD/GS
Status:	DRAFT
Revision:	A
Date:	2021 / 5 / 3

URBAN systems

FIGURE 13

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Flood Management Strategy

Figure 14: Flood Depth and Extent Under Scenario 3: 2100 HHWLT 1:200-Year Flood

Courtenay Boundary
Flood Planning Areas
First Nations Reserve Boundary

Flood Depth - 2100_HHWLT
- ≤ 1 m
- ≤ 2
- ≤ 3
- ≤ 4
- ≤ 5
- ≤ 6
- ≤ 8.3

0 100 200 300
Meters

Coordinate System: NAD 1983 UTM Zone 10N

Scale: 1:9,000 (When plotted at 22"x34")

Data Sources:
- City of Courtenay

Project #:	3222.0051.03
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URBAN systems

FIGURE 14

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Flood Management Strategy

Figure 15: Flood Depth and Extent Under Scenario 5: Observed 2009 Event, Existing Conditions

Courtenay Boundary
Flood Planning Areas
First Nations Reserve Boundary

Max Flood Depth - 2009 Event (Existing Conditions)

- ≤ 1 m
- ≤ 2
- ≤ 3
- ≤ 4
- ≤ 5
- ≤ 6
- ≤ 8.3

0 100 200 300 Meters

Coordinate System: NAD 1983 UTM Zone 10N

Scale: 1:9,000 (When plotted at 22"x34")

Data Sources: - City of Courtenay

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FIGURE 15

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Flood Management Strategy

Figure 16: Flood Depth and Extent Under Scenario X: 2200 HHWLT 1:200-Year Flood

Courtenay Boundary
Flood Planning Areas
First Nations Reserve Boundary

Flood Depth - 2200_HHWLT
- ≤ 1 m
- ≤ 2
- ≤ 3
- ≤ 4
- ≤ 5
- ≤ 6
- ≤ 9.4

The accuracy & completeness of information shown on this drawing is not guaranteed. It will be the responsibility of the user of the information shown on this drawing to locate & establish the precise location of all existing information whether shown or not.

0 100 200 300
Meters

Coordinate System: NAD 1983 UTM Zone 10N

Scale: 1:9,000 (When plotted at 22"x34")

Data Sources:
- City of Courtenay

Project #:	3222.0051.03
Author:	BG
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FIGURE 16

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4.4 POTENTIAL OPTIONS FOR EACH AREA

Guidance on Strategies and Tools to Consider

Area-based options were identified using the *Sea Level Rise Adaptation Primer* (BC Ministry of Environment, 2013) (referred to herein as "the Primer") as guidance. The Primer outlines the four different adaptation strategies, a decision-making framework, and 21 implementation tools to help decision-makers make informed choices about how to respond to flood risks.

The four different adaptation strategies are categorized as follows by the "PARA" framework:

- Protect – this strategy includes solutions that aim to prevent valued elements from being exposed to flooding. It includes sea walls, dikes, flood walls, and any other sort of barrier that serves to prevent exposure.
- Accommodate – this strategy includes solutions that aim to minimize impacts to valued elements when they are exposed to flooding. It includes flood construction levels, wet flood proofing, and flood storage areas.
- Retreat – this strategy includes solutions that aim to reduce development in the floodplain where it already exists. It includes easements, land acquisition, and restoration.
- Avoid – this strategy includes solutions that aim to prevent development in the floodplain. It includes development restrictions, land acquisition, and transfer of development rights.

These are not "one size fits all" strategies – the City may choose to implement one strategy in one area, and another strategy in a different area. The most appropriate strategy for a geographic area may also change over time.

These strategies can be achieved through the implementation of a variety of tools. They are described in detail in the Primer and include the following:

- Planning tools – including local government growth management objectives and policies, mapping of potential coastal hazards, risk management and emergency preparedness.
- Regulatory tools – including the regulation of subdivision, land use and buildings. These regulatory tools are generally prescribed by legislation and require the approval of a decisionmaker or "gatekeeper" responsible for the protection of the public interest.
- Land use change or restriction tools – these focus on the change or restriction of land use through functions other than the ones noted above.
- Structural tools – including physical structures on land or in water to protect land and buildings from coastal hazards. A wide range of hard protection and armouring fit in this category

- **Non-structural or soft armouring tools –** these are natural asset-based options and include reclamation and enhancement of natural systems such as wetlands, riparian corridors, floodways, etc.

These tools are not mutually exclusive – two or more may be used in combination in a single area to achieve a chosen strategy and to address a variety of risks. For example, a local government may require that all new buildings be built to a minimum flood construction level, and construct a dike, and undertake emergency response preparedness.

Tools Currently Utilized by the City

The City currently uses a variety of tools to manage flood risk within the community. These are summarized in Table 9.

TABLE 9 FLOOD MANAGEMENT TOOLS CURRENTLY UTILIZED BY THE CITY OF COURTENAY

TYPE OF TOOL	TOOLS CURRENTLY UTILIZED BY THE CITY
Planning tools	• Comox Valley Emergency Program Public Plan and participation in the Comox Valley Emergency Program – the program is a partnership with Comox, Courtenay, Cumberland, and the Comox Valley Regional District to provide coordinated emergency programming to the entire valley • Official Community Plan Bylaw No. 2387, 2005 (currently being updated) – applies to the entire municipality and is the principal policy document for matters such as land use, growth management, and design of the built environment. It does not currently make use of Development Permit Areas for natural hazards like flooding. • Floodplain Bylaw No. 1743, 1994 – a bylaw to reduce the risk of injury, loss of life, and damage to buildings and structures due to flooding. Defines floodplains, setbacks, and flood construction levels (FCLs).
Regulatory tools	• Building Bylaw No. 3001, 2020 – a bylaw for administration of the Building Code and regulation of construction • Subdivision and Development Servicing Bylaw No. 2919, 2018 – a bylaw to regulate subdivision and development of land.
Land use change or restriction tools	• None beyond those outlined above that fulfill this purpose
Structural tools	• Anderton Avenue Retaining Wall (west bank of Courtenay River) • Lewis Park Dike (east bank of Courtenay River) • 3L Development and Canterbury Lane dikes (Puntledge River)
Non-structural or soft armouring tools	• Shoreline vegetation and rip-rap

Technically Viable Options for All Areas

The strategies and tools outlined in Table 10 are considered technically viable for implementation in all planning areas. Interventions beyond planning tools and regulatory tools will only be required if the flood risk in a particular area is deemed to be unacceptable following a risk assessment.

TABLE 10 TECHNICALLY VIABLE OPTIONS APPLICABLE TO ALL AREAS

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools • Continue to participate in the Comox Valley Emergency Program and review and update the Public Plan regularly. • Review and update the Floodplain Bylaw, including Flood Construction Levels (FCL's) • Define Development Permit Areas for natural hazards in the OCP; develop DPA guidelines for natural hazards • Develop a Flood Risk Map to identify areas with manageable to unacceptable flood risk.	✓	✓	✓
	Regulatory tools • Review and update the Building Bylaw to require floodproofing of buildings within the floodplain • Continue to implement the Subdivision and Development Servicing Bylaw	✓	✓	✓

The area-wide strategy of accommodating flooding means a focus on using planning and regulatory tools to ensure that development occurs in a way that will be resilient to the impacts of flooding, should it occur.

This is a low-cost strategy that does not require land acquisition and it places the cost of accommodating flooding on the developer/homeowner versus the broader community.

Implementation of widespread avoidance and retreat strategies is not considered viable given the level of development in the community. These strategies may be deployed in targeted areas as discussed further below.

Area 1 – Puntledge River

The strategies and tools outlined in Table 11 are considered technically viable for implementation in Area 1 – Puntledge River.

TABLE 11 TECHNICALLY VIABLE OPTIONS FOR AREA 1

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for existing and new development)	✓	✓	✓

Protective strategies and tools such as flood walls or earth dikes are not recommended in this area given that it is primarily Bear James Park and Puntledge Park that are impacted by flooding under the three scenarios and these parks do not have the same degree of built infrastructure assets as Lewis Park.

Technically Viable Options for Area 2 – Condensory Park

The strategies and tools outlined in Table 12 are considered technically viable for implementation in Area 2 – Condensory Park.

TABLE 12 TECHNICALLY VIABLE OPTIONS FOR AREA 2

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for existing and new development)	✓	✓	✓
PROTECT	Structural tools • Expand existing wall around Condensory Estates	✓	✓	✓

Technically Viable Options for Area 3 – Tsolum River

The strategies and tools outlined in Table 13 are considered technically viable for implementation in Area 3 – Tsolum River.

TABLE 13 TECHNICALLY VIABLE OPTIONS FOR AREA 3

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for redevelopment of existing buildings only)	✓	✓	✓
AVOID or RETREAT	Regulatory Tools • Continue to restrict new/infill development in this area as per current OCP policy • Limit expansion of the existing campground or consider relocation	✓	✓	✓

Technically Viable Options for Area 4 – Ryan Road/Old Island Highway

The strategies and tools outlined in Table 14 are considered technically viable for implementation in Area 4 – Ryan Road/Old Island Highway.

TABLE 14 TECHNICALLY VIABLE OPTIONS FOR AREA 4

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for existing and new development) Provide a route for floodwaters using structural tools	✓	✓	✓
PROTECT	Structural Tools • Raise Old Island Highway to protect the commercial area (by 0.9m + freeboard for Scenario 3, and by 0.2m + freeboard for Scenario 5) • Raise North Island Highway (by 1.3m + freeboard for Scenario 3) • Install perimeter barriers around the community centre • Raise Lewis Park (this option requires sensitivity analysis of the model in order to assess upstream impacts)		✓	✓
RETREAT	Planning tools • Relocate the outdoor pool at the end of its service life to a less vulnerable location		✓	✓

If the City decides to implement only an "accommodate" strategy for this area, it will mean making the choice to allow for floodplain activation into Lewis Park. While this would result in impacts to Lewis Park, which may

be significant under Scenario 3, it would help mitigate impacts upstream. Furthermore, an "accommodate" only strategy may result in impacts to buildings in the commercial area that have not yet been raised to an appropriate FCL under more severe flood scenarios, such as Scenario 3 or 5.

Technically Viable Options for Area 5 – Riverway

The strategies and tools outlined in Table 15 are considered technically viable for implementation in Area 5 – Riverway.

TABLE 15 TECHNICALLY VIABLE OPTIONS FOR AREA 5

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for existing and new development)	✓	✓	✓
PROTECT	Structural Tools • Construct a floodwall • Raise vertical floodwalls • Raise Anderton Road (by 0.4m + freeboard)	✓	✓	✓
RETREAT	Non-structural tools • Acquire properties within the floodplain and restore the banks to their natural condition	✓	✓	✓

A retreat strategy in Area 5, while technically viable, will be challenging to implement. It would involve a significant change to the look and feel of the riverway, and individual agreements would need to be struck with multiple private landowners.

Implementation of a protect strategy will also be challenging to implement and comes with trade-offs. There is insufficient footprint available for an earth dike in Area 5 without consuming significant portions of many properties, meaning that floodwalls would be the only protective option. This option would constrict the floodplain and is likely to worsen flood impacts upstream. Construction would need to be by barge unless

buildings are removed. Raising floodwalls would require approval by the Inspector of Dikes, and floodwalls are typically not preferred due to their ongoing maintenance requirements. However, the Inspector of Dikes has indicated that the Province will be open to a floodwall if there is a strong case for it. If the City chooses to pursue this option, it will need to develop a strong business case and demonstrate its ability to properly maintain the floodwall over its entire lifecycle.

Technically Viable Options for Area 6 – Comox Road

The strategies and tools outlined in Table 16 are considered technically viable for implementation in Area 6 – Comox Road.

TABLE 16 TECHNICALLY VIABLE OPTIONS FOR AREA 6

STRATEGIES	TOOLS	SCENARIO 1B	SCENARIO 3	SCENARIO 5
ACCOMMODATE	Planning tools as described in Table 10	✓	✓	✓
	Regulatory tools as described in Table 10 (for existing and new development)	✓	✓	✓
PROTECT	Structural Tools • Raise Comox Road to protect the ALR on the north side of Comox Rd. Land and buildings on the south side of Comox Rd would remain vulnerable. The road would need to be raised at least 1.2m + freeboard.		✓	

5.0 Conclusions and Recommendations

5.1 CONCLUSIONS

The study completed in 2013 considered limited barrier solutions to protect an isolated pocket of development. This was rejected by the Province. The work conducted by the City since and described herein focused on exploring broader solutions to protect against the 1:200-year level expected by the Province. Analysis to date has still been limited and coarse, intended only to test the system response to fundamental actions. Further analysis will be required, as described further in the recommendations, but must be informed through important discussions with decision makers.

There is no easy or singular solution to the problem. There will be property impacts, regardless of what actions are taken.

Aside from seeking to prevent future flooding, another catalyst for this study was to respond to the Province's expectation that the existing failing dikes would be upgraded to Provincial standards. The City is free to decide on its policy on how to manage flood risk. Upgrading the existing dikes in the absence of broader solutions will have little to no reduction of flood risk. These current structures appear to function as soil retaining structures for the adjacent developments more than as flood protection barriers, yet they are inventoried as dikes in the eyes of the Province. Upgrading and expanding the dike system will create further responsibility on the City to look after indefinitely, so long as the City remains the diking authority.

What to do with the existing dikes will be informed by each relevant area-based solution. There are several considerations in determining their fate: their condition and the resource commitment to maintain them; the role they serve in protecting land; and the consequence to their removal. Analysis to date has indicated that raising these structures in themselves will offer no additional flood protection and their role in a broader diking program remains uncertain. Based on the above considerations, it is likely that the dikes around Lewis Park would remain or potentially be enhanced. Those paralleling the Puntledge River, referred to as the "Condensory" and "Canterbury" dikes, would likely remain. The existing dikes with a more questionable future are those along Anderton Avenue. It can be argued that these vertical walls provide no flood protection but serve as retaining walls for past urban encroachment into the Courtenay River. They have nearly reached the end of their service life and will be expensive to replace. Their cost to replace and maintain needs to be weighed against the value of lands they serve with recognition of the limited flood protection they offer.

For those existing dikes that are to remain and not be enhanced, it is recommended that each dike be fully assessed, and that the Province be engaged where deemed appropriate to have them removed from the inventory of dikes regulated under the Dike Maintenance Act.

5.2 RECOMMENDATIONS

Based on the options considered as part of the current study and the findings from the analysis conducted, it is recommended that the City takes the following actions:

1. Conduct a quantitative risk assessment and develop risk maps for all areas.

   Complete a flood risk assessment, which includes quantifying the likelihood and consequence of flooding under each scenario, and present the risk on a flood map. Identify areas where flooding poses an unacceptable risk, and require intervention to minimize the risk to an acceptable level. The flood risk assessment should be conducted prior to the implementation of other regulatory and planning tools, to inform those tools.

2. Conduct a detailed, site specific analysis of the financial, environmental, and social impacts/costs and benefits associated with each flood management strategy for Area 4 – Ryan Road/Old Island Highway, and Area 5 – Riverway, to inform decisions on what strategies and tools to implement.

   There are considerable trade-offs between these strategies, including collateral impacts such as land acquisition to consider, so the decision of what to implement should be risk-based. Recommended actions include:

   a. Identify options to mitigate the risk in each scenario. These include but may ultimately not be limited to:

      - Raising Lewis Park and implementing perimeter barriers around park assets to protect against the 2100 MWLT 1:200-Year Event and 2009 Event
      - Raising highways (Old Island Highway, North Island Highway, Comox Road, and Anderton Road) to protect land and assets against a 2100 HHWLT 1:200-Year Event
      - Raising and extending the existing pony wall around Condensory Park to protect against a 2100 HHWLT 1:200-Year event and 2009 Event
      - Constructing flood walls along the riverway to protect against a 2100 HHWLT 1:200-Year event
      - Accommodating flooding through planning and regulatory tools described in this report
      - Acquiring land and allowing it to naturalize, as part of an avoidance strategy, particularly pertinent to properties between the Courtenay River and Anderton Avenue.

   b. Engage First Nations, stakeholders, and Council in discussions to inform decisions on the City's risk tolerance. Decisions on risk tolerance should be informed not only by an

understanding of the level of risk under each flood scenario, but of the cost to mitigate risk to varying degrees. What is deemed an "acceptable" level of risk would be the outcome of this engagement.

c. For areas, or sub-areas within them, that carry an unacceptable level of risk and protective measures are desired, prepare a detailed cost-benefit and feasibility analysis. This would include preparing concept-level drawings of the configuration of protective works such as flood walls, and assessing environmental, social, and financial impacts, including class D cost estimates. The cost-benefit analysis should consider ongoing maintenance and operations needs and their contribution to lifecycle costs. The analysis should also consider the financial impacts of protective works, land acquisition, and legal fees to the City. Funding strategies need to be considered, including impacts to taxation rates.

d. Engage the Inspector of Dikes. Fully assess *existing* dikes and decide on their removal or enhancement and expansion. New dikes will include a business case, which should be comprised of the cost-benefit analysis and feasibility analysis discussed above.

3. Implement an "accommodate" strategy as a foundational approach across the City and use the planning and regulatory tools presented in this report to implement the strategy.

The goal of this strategy is to both reduce exposure of vulnerable assets to flooding, and to reduce the consequences of flooding if it occurs. Recommended actions include:

a. Setting objectives and policies related to flood risk management in the OCP. The current OCP could be strengthen by designating the floodplain as Development Permit Areas given their natural hazards.

b. Review and update the Floodplain Management Bylaw, including updating floodplain mapping and flood construction levels (FCL) as required. Floodplain maps and FCLs should be based on a review of the flood hazard mapping prepared by the Comox Valley Regional District and the mapping completed as part of the current study and should be based on flood levels due to the governing flood scenario in each area. Ensure floodplain mapping aligns with provincial guidance.

c. Integrate the flood hazard mapping under the various scenarios described in this report into the City's GIS system to facilitate risk assessments and risk-based planning

d. Review and update the Building Bylaw to require that upgrades to existing developments include wet floodproofing and any other requirements such as flood construction levels (FCLs)

e. Update the City's planning and regulatory tools as required to reflect the outcomes of the risk assessment.

4. Continue to include emergency preparedness and response as a foundational approach to flood risk management across the City.

   The goal of such an approach is to reduce the consequence of flooding when it occurs. Recommended actions include:

   a. Continue to participate in the Comox Valley Emergency Program
   b. Regularly review and update the Comox Valley Emergency Program Public Plan
   c. Ensure that local emergency preparedness and response procedures and policies align either provincial best practices, and in coordination with BC Hydro
   d. Ensure first responders are adequately trained and prepared to facilitate flood response
   e. Regularly review and identify evacuation routes and ensure infrastructure along these routes is robust enough to facilitate an evacuation

5. Provide support to developers through the creation of a guiding document that will help developers understand the City's requirements for new development applications and by working with developers through the application process.

   The goal here is to help ensure that all new development applications occur only in areas where new development is appropriate, and that development occurs in a way that aligns with local policies and regulations. Recommended actions include:

   a. Create a guiding document, including checklist of requirements, that helps developers understand the City's requirements.
   b. Work with developers through the application process to ensure they meet all requirements.

6. Engage First Nations and key stakeholders as the City implements the above recommendations and prior to making final decisions on which flood management option(s) will be implemented in each area.

   Key decision makers, regulators, and stakeholders should be engaged on any policy decisions that arise out of this DRFMS, and to inform decisions on the implementation of protective works that need to be evaluated further. A communications plan will need to be developed and implemented. Key participants include:

   - City Council
   - Senior City Staff
   - Legal Counsel
   - Inspector of Dikes
   - BC Hydro
   - Ministry of Transportation and Infrastructure
   - Comox Valley Regional District)

- Town of Comox
- Ministry of Forests, Lands and Natural Resources
- Department of Fisheries and Oceans
- Agricultural Land Commission
- K'omoks First Nation
- Transport Canada
- Vancouver Island Health Authority
- Chamber of Commerce

It will be particularly important to engage with landowners who may be impacted by solutions that would result in changes to land use, existing assets, or ownership, prior to making decisions on what solution to implement. Engagement with K'omoks First Nation should occur on a government-to-government basis.

THE CORPORATION OF THE CITY OF COURTENAY

BRIEFING NOTE

To: Council **File No.:** 0400-02

From: Chief Administrative Officer **Date:** May 17, 2021

Subject: Capstone Project Mural Request

ISSUE:

The purpose of this briefing note is to report back to Council on the status of the Capstone Project mural request to paint a mural on the Connect Warming Centre building as well as consider other suitable locations.

BACKGROUND:

At the April 19th, 2021 Council meeting, the following resolution was adopted:

> *"THAT in response to the correspondence dated April 1st, 2021 from Annika Funk, Grade 12 Student, Mark R. Isfeld Secondary, requesting Council's support for her Capstone Project to paint an inspirational mural with a "Be Kind" message in it;*
> *THAT Council provide its support in principle for Ms. Funk's Capstone Project; and,*
> *THAT Council direct staff to work with Ms. Funk to explore suitable locations for the inspirational mural and report back at a future meeting."*

Arising from the resolution, staff have engaged with Ms. Funk and the Comox Valley Community Arts Council (CVCAC) to explore options for the mural request and ensure appropriate measures are put in place to support the artist and their artwork.

DISCUSSION:

The City of Courtenay has a history of supporting mural projects, especially those involving local youth and local artists. Historically these mural programs have been done in partnership with the Comox Valley Community Arts Council (CVCAC) who provided oversight and support for artists including risk management and mentorship. The following highlights some of these projects that occurred from 2009 until 2016:

- The Youth Mural Mentorship Program paired established artists with teams of local youth to create murals on City property.
- The Utility Box Painting Program engaged with local artists to install murals on utility boxes in partnership with Telus and BC Hydro in an effort to reduce graffiti and promote utility box beautification.
- The Community Mural Partnership Program resulted in several murals being painted on City facilities, City owned retaining walls and other highly visible City locations
- The Art on the Wall Program which included the Diversity mural involved ten youth under the guidance of a professional mural artist and professional curator. Key organizations involved in this partnership included the Comox Valley Art Gallery, the Elks Lodge and the Comox Valley Community Justice Centre.

At this time the City's partnering mural programs are currently on hold due to feedback received from CVCAC and core cultural partners that a key component missing from the program was a mural by-law or public art policy. Such overarching policies and guidance would ensure mural installation requests are processed in a fair and open process, City standards are identified (i.e. acceptable materials, maintenance, risk management, decommissioning and permits), input from key stakeholders is included, and overlapping city policies are considered.

CVCAC has been tasked to assist the City in the development of a public art policy through the fee for service agreement it holds with the City. CVCAC is in the early phase of this work and is in the initial process of assembling a public art inventory.

Another step towards a policy will be through the future development of a regional cultural master plan as recommended as a key strategy in the 2019 Patricia Huntsman Cultural Service Review. Development of the regional cultural master plan has been identified as part of the 2021-2025 Financial Plan with budget funds identified for this project in 2022, subject to Council approval.

Although the mural program is currently on hold, staff recognize the meaningful intent of Ms. Funk's request and its effort to spread supportive messaging to bring the community together during the COVID-19 pandemic. The role of art and culture has been highlighted from the start of the pandemic with people turning to arts and culture for comfort, connection and well-being. The project also meets the mandate of the original mural programs of having community youth partnering with a local artist to produce mural artwork.

NEXT STEPS

As Ms. Funk has identified the Connect Warming Centre as a potential location for the mural, and in the absence of a mural or public art policy, staff are proceeding with Ms. Funk, with the support of CVCAC, on the mutual understanding that the proposed installation is temporary.

Staff have considered the suitability of the site and are moving forward based on Council's in principle support based on the following process:

1. Engagement with neighbouring businesses through the Downtown Courtenay Business Improvement Association (DCBIA). A letter of support has been obtained from the DCBIA and is attached (Attachment 1).

2. Confirmation of support from the Comox Valley Transition Society (CVTS) as they currently hold a licence of occupation for a portion of the building to operate the Connect Warming Centre. Letters of support have been obtained from the CVTS and the Comox Valley Coalition to End Homelessness and are attached (Attachment 2).

3. Partnership with Comox Valley Community Arts Council (CVCAC) to assist in the coordination and execution of the project and address risk management by providing the following:
    a. Hold general liability insurance for the project.
    b. Administer a mural site ownership agreement that outlines the respective roles and responsibilities including mural ownership, timeline, acceptable materials to be used, and who will be responsible for repair and maintenance.

c. Create COVID-19 Safety Plans compliant with the current Provincial Health Officer orders, guidelines and recommendations.
d. Conduct project risk assessment and create safe work procedures to ensure Ms. Funk and any volunteers are properly trained to carry out the work.
e. Engagement with the local mural artist who has offered to assist Ms. Funk in this project.

4. The City's Civic Property Maintenance Division will conduct advance hazardous materials testing. Should hazardous materials be found, the site may not be considered a suitable mural location due to the potential cost to remediate the hazardous materials before a mural is installed.

Should it be determined that the Connect Warming Centre is not a feasible location, the DCBIA has offered to work with Ms. Funk to identify an alternate site. The DCBIA has received interest from downtown businesses who are interested in having murals painted on their property.

CONCLUSION

Staff and CVCAC are working closely with Ms. Funk to discuss next steps for the mural project and finalize a suitable final location to support her in completing her project by her course deadline of June 2, 2021.

In anticipation of potential future mural requests, staff will continue to work with CVCAC to ensure appropriate processes and protocols are followed in regards to mural installations.

Prepared by:

Joy Chan,
Manager of Business Administration

Reviewed by:

Susie Saunders,
Director, Recreation, Culture and Community Services

Concurrence by:

Geoff Garbutt, M.PI., MCIP, RPP
Chief Administrative Officer

Attachment 1: DCBIA Capstone Project Support Letter

Attachment 2: Comox Valley Transition Society Support Letter & Comox Valley Coalition to End Homelessness Support Letter

Downtown Courtenay Business Improvement Association
#203 580 Duncan Ave
Courtenay. BC
V9N 2M7
(250)800-94

April 29,2021

To whom it may concern,

The Downtown Courtenay Business Improvement Association is in support of Annika Funk's "Be Kind" mural project. Annika has let us know about the proposed site (Connect Warming Centre on Cliffe Ave) and has sent us the mock-up artwork of her design. If this site is not approved, we have businesses who have expressed an interest in having murals painted on their walls. We are aware there is a quick turnaround timeline for this Grade 12 Capstone Project. Hence, we will work with Annika in a timely manner to acquire an alternate site if need be.

Feel free to contact me with any further questions at info@downtowncourtenay.com or (250)800-9497.

Sincerely,

Tracey Clarke
Executive Director

250.897.0511 | admin@cvts.ca
625 England Ave, Courtenay, BC V9N 2N5

May 10, 2021

City of Courtenay

Dear Mayor and Council,

On behalf of the Connect Warming Centre, I am writing to express our organization's support for the mural project proposed by Annika Funk.

Ms. Funk's design, incorporating the message of "Be Kind" is a perfect fit for the services delivered in the Warming Centre building and is also a reminder of Dr. Bonnie Henry's pandemic messaging.

We are delighted that Ms. Funk is choosing to offer such a positive message in such an attractive form.

We thank you for your support of this meaningful project.

Yours sincerely,

Heather Ney

Executive Director

City of Courtenay
830 Cliffe Ave
Courtenay, BC V9N 2J7

May 7, 2021

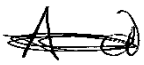
To Whom It May Concern,

The Comox Valley Coalition to End Homelessness (the Coalition) on behalf of the Comox Valley Transition Society is writing this letter in support of Annika Funk's "Be Kind" mural being painted on the side of Connect at 685 Cliffe Ave.

The mural is eye-catching, and the message is not only timely, but truly relevant to the work we do supporting people experiencing homelessness at Connect. We could all use a bit more kindness and this mural will serve as a beautiful reminder to all.

We wholeheartedly support Annika Funk's capstone project, and we look forward to working with Annika in whatever way is needed. Please do not hesitate to reach out should you have any questions.

Thank you,



Andrea Cupelli
Coordinator for the Comox Valley Coalition to End Homelessness

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 3025

A bylaw to amend Zoning Bylaw No. 2500, 2007

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Zoning Amendment Bylaw No. 3025, 2021"**.

2. That "Zoning Bylaw No. 2500, 2007" be hereby amended as follows:

(a) Amending Division 3 – Interpretation, Part 1 – Definitions by adding the following:

"**urban agriculture**" means the growing of fruits and vegetables, flowers, native and ornamental plants, edible berries and food perennials for beautification, education, recreation, community use, personal consumption, sales of produce grown on the lot or the donation of vegetables, fruits, edible flowers and berries only. This includes the keeping of honey bees when operating in accordance with Section 6.18.1."

"**produce sales stand**" means an accessory structure used for the sole purpose of displaying and selling urban agriculture products produce grown on the property where the stand is located and operated in accordance with Part 3 and Part 18 of Division 6 of this Bylaw"

(b) Amending Division 6 – General Regulations, Part 3 Home Occupation, Section 6.3.1 through the addition of:

"(ix) produce sales stand"

(c) Amending Division 6 – General Regulations, Part 3 Home Occupation by deleting Section 6.3.5 and replacing it with the following:

"6.3.5 No part of the premises shall be used as a warehouse or retail outlet except in the case of a produce sales stand"

(d) Amending Division 6 – General Regulations by adding the following:

"Part 18 Urban Agriculture

6.18.1 Urban Agriculture is allowed as an accessory use to any single residential dwelling, subject to the following:

a) Urban agriculture activity shall not generate odour, waste, noise, smoke, glare, fire hazard, visual impact, or any other hazard or nuisance, in excess of that which is characteristic of the zone in which it is located under normal circumstances wherein no urban agriculture exists.

b) A produce sales stand is permitted on all lots allowing urban agriculture for the sale of urban agriculture products grown on the lot subject to the following:

i. a produce sales stand is considered an accessory structure subject to the requirements of the applicable zone except that:
    i. the produce sales stand shall have a floor area of not more than 5.0m²;
    ii. the produce sales stand shall not exceed a height of 2.5 metres;
    iii. the produce sales stand must be located entirely on the lot in which the produce is grown; and,
    iv. a produce sales stand may be located within the front yard
ii. a produce stand must only sell produce grown on the lot where it is located;
iii. sales are only permitted between 7am and 7pm daily;
iv. a produce sales stand must be removed seasonally when not in use; and,
v. there shall only be one non-illuminated sign, which shall not exceed 0.4 square metres in area.

c) Beekeeping is permitted on all lots allowing urban agriculture subject to the following:

i. lots have a minimum lot width of 15.0m;
ii. lots have a minimum lot area is 550.0m²;
iii. hives shall be located at least 6.0m from all property lines;
iv. hives shall be registered with the Provincial authority, BC Ministry of Agriculture and Lands;
v. only two hives with colonies shall be permitted on each lot; and,
vi. honey production is for personal consumption only.

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this	day of	, 2021
Read a second time this	day of	, 2021
Considered at a Public Hearing this	day of	, 2021
Read a third time this	day of	, 2021
Finally passed and adopted this	day of	, 2021

Mayor

Corporate Officer

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 3038

A bylaw to amend Zoning Bylaw No. 2500, 2007

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Zoning Amendment Bylaw No. 3038, 2021"**.

2. That "Zoning Bylaw No. 2500, 2007" be hereby amended as follows:

   (a) Amending Division 3 – Interpretation, Part 1 – Definitions by adding the following:

   "**urban agriculture – raising of hens**" means the raising of hens on an residential lot when operating in accordance with Section 6.18.1."

   (b) Amending Division 6 – General Regulations by adding the following to Part 18 Urban Agriculture, Section 6.18.1:

   "d) The keeping of hens is permitted on all lots allowing urban agriculture subject to the following:

   i. a hen coop is considered an accessory structure subject to the requirements of the applicable zone except that a coop shall only be permitted in the rear yard;
   ii. the maximum number of hens shall be six (6) per lot;
   iii. roosters are not permitted;
   iv. the sale of eggs, manure and other products associated with the keeping of hens is prohibited;
   v. coops and runs shall be maintained in a clean condition and the coop shall be kept free of obnoxious odours, substances and vermin;
   vi. stored manure shall be kept in an enclosed structure such as a compost bin and no more than 3.0m³ shall be stored at any one time; and,
   vii. home slaughter of hens is prohibited and any deceased hens shall be disposed of at a livestock disposal facility or through the services of a veterinarian."

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this day of , 2021

Read a second time this day of , 2021

Considered at a Public Hearing this day of , 2021

Read a third time this day of , 2021

Finally passed and adopted this day of , 2021

Mayor

Corporate Officer

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 3034

A bylaw to amend Animal Control Bylaw No. 1897, 1996

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Animal Control Bylaw Amendment Bylaw No. 3034, 2021"**.

2. That "Animal Control Bylaw No. 1897, 1996" be hereby amended as follows:

   (a) Amending Part IV – Animal Control and Prohibitions, Section 11 by deleting the section and replacing it with the following:

   "11. No person shall keep any animal except a dog or cat or honeybees outdoors on any property within the City, other than on property zoned for agricultural use by the City's zoning bylaw. Except as otherwise provided in this bylaw, every animal shall be kept under the control of its owner or the owner's agent at all times."

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this	day of	, 2021
Read a second time this	day of	, 2021
Considered at a Public Hearing this	day of	, 2021
Read a third time this	day of	, 2021
Finally passed and adopted this	day of	, 2021

Mayor

Corporate Officer

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 3039

A bylaw to amend Animal Control Bylaw No. 1897, 1996

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Animal Control Bylaw Amendment Bylaw No. 3039, 2021"**.

2. That "Animal Control Bylaw No. 1897, 1996" be hereby amended as follows:

   (a) Amending Part IV – Animal Control and Prohibitions, Section 11 by deleting the section and replacing it with the following:

   "11. No person shall keep any animal except a dog or cat or honeybees or hens outdoors on any property within the City, other than on property zoned for agricultural use by the City's zoning bylaw. Except as otherwise provided in this bylaw, every animal shall be kept under the control of its owner or the owner's agent at all times."

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this	day of	, 2021
Read a second time this	day of	, 2021
Considered at a Public Hearing this	day of	, 2021
Read a third time this	day of	, 2021
Finally passed and adopted this	day of	, 2021

_____ _____

Mayor Corporate Officer

THE CORPORATION OF THE CITY OF COURTENAY

BYLAW NO. 2994

A bylaw to amend Zoning Bylaw No. 2500, 2007

The Council of the Corporation of the City of Courtenay in open meeting assembled enacts as follows:

1. This bylaw may be cited for all purposes as **"Zoning Amendment Bylaw No. 2994, 2021"**.

2. That "Zoning Bylaw No. 2500, 2007" be hereby amended as follows:

   (a) Amending Division 8 - Classification of Zones through the addition of:

   Part 58 - Comprehensive Development Thirty One Zone (CD-31) 310 Hunt Road as attached in **Attachment A**.

   (b) by rezoning Lot A, Section 14, Comox District, Plan EPP101533 (310 Hunt Road) as shown in bold outline on **Attachment B** which is attached hereto and forms part of this bylaw, from Land Use Contract (LUC) to Comprehensive Development Zone Thirty One (CD-31)

   (c) That Schedule No. 8, Zoning Map be amended accordingly.

3. This bylaw shall come into effect upon final adoption hereof.

Read a first time this 1st day of February, 2021

Read a second time this 1st day of February, 2021

Published in two editions of the Comox Valley Record on the 17th day of February, 2021 and the 24th day of February, 2021

Considered at a Public Hearing this 3rd day of March, 2021

Published in two editions of the Comox Valley Record on the 31st day of March, 2021 and the 7th day of April, 2021

Considered at a Public Hearing this 12th day of April, 2021

Read a third time this 19th day of April, 2021

Finally passed and adopted this day of , 2021

Mayor

Corporate Officer

Attachment A

Part 58 – Comprehensive Development Thirty One Zone (CD-31) (310 Hunt Road)

8.58.1 Intent

The CD-31 Zone is intended to accommodate a Hotel on the property legally described as Lot A, Section 14, Comox District, Plan EPP101533. The property shall be developed substantially in accordance with Schedules A and B which form part of this zone.

8.58.2 Permitted Uses

The following uses are permitted and all other uses are prohibited except as otherwise noted in this bylaw:

1. Hotel

8.58.3 Minimum Lot Size

A *lot* shall have an area of not less than 7320m².

8.58.4 Floor Area Ratio

The maximum floor area ratio shall not exceed 0.75

8.58.5 Lot Coverage

A *lot* shall not be covered by buildings to a greater extent than 20% of the total area of the lot.

8.58.6 Setbacks

Except where otherwise specified in this bylaw the following minimum *building setbacks* shall apply:

(1) *Front Yard* (interpreted as the yard adjacent to the south property line): 45.0m
(2) *Rear Yard* (interpreted as the yard adjacent to the north property line): 15.0m
(3) *Side Yard* (interpreted as the yard adjacent to the west property line): 5.0m
(4) *Side Yard* (interpreted as the yard adjacent to the east property line): 14.98m

8.58.7 Height of Buildings

Maximum *building height* shall be 15.0m and in accordance with Schedule B and includes rooftop parapets, elevator and roof top mechanical systems.

8.58.8 Accessory Structures

Shall not be permitted except for waste and recycling facilities and exterior bicycle storage areas.

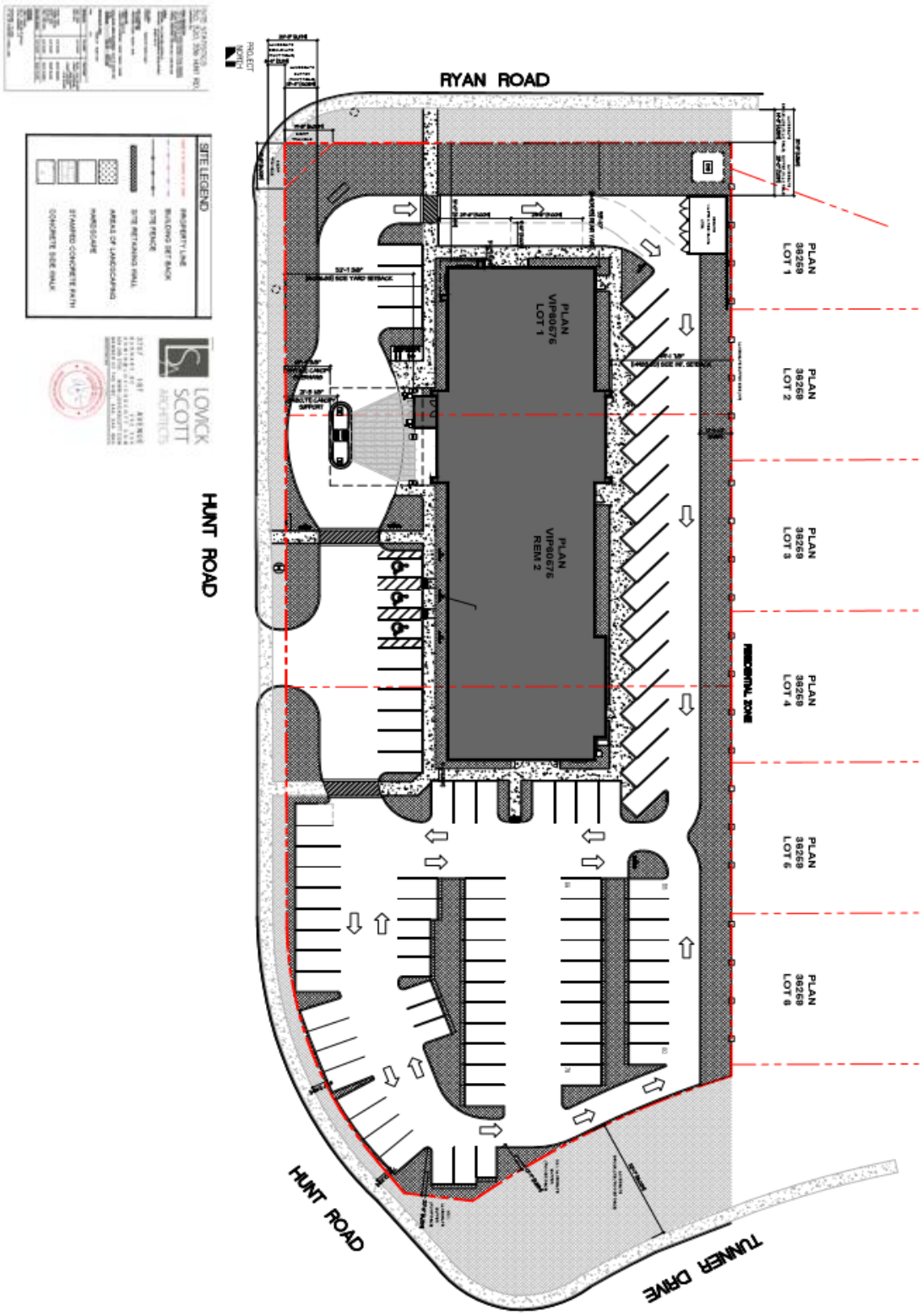
8.58.9 Off-Street Parking and Loading

Off-*street* parking, small car parking and loading shall be provided and maintained in accordance with the requirements of Division 7 of *Zoning Bylaw No. 2500.*

8.58.10 Landscaping and Screening

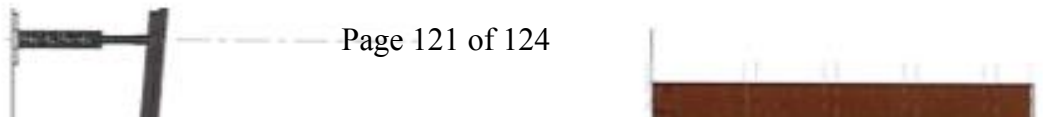
(1) A landscape area of at least 7.0m in width extending along Ryan Road shall be provided.
(2) A landscape area of at least 3.5m in width extending along the eastern property line shall be provided.
(3) A landscape area of at least 0m to 6.0m in width extending along Hunt Road shall be provided.
(4) A landscape area of at least 0 to 3.5m in width extending along Tunner Drive shall be provided.
(5) Loading areas, garbage and recycling containers shall be screened and gated to a minimum *height* of 2.0m by a landscaping screen or solid decorative *fence* or combination thereof.

Attachment A



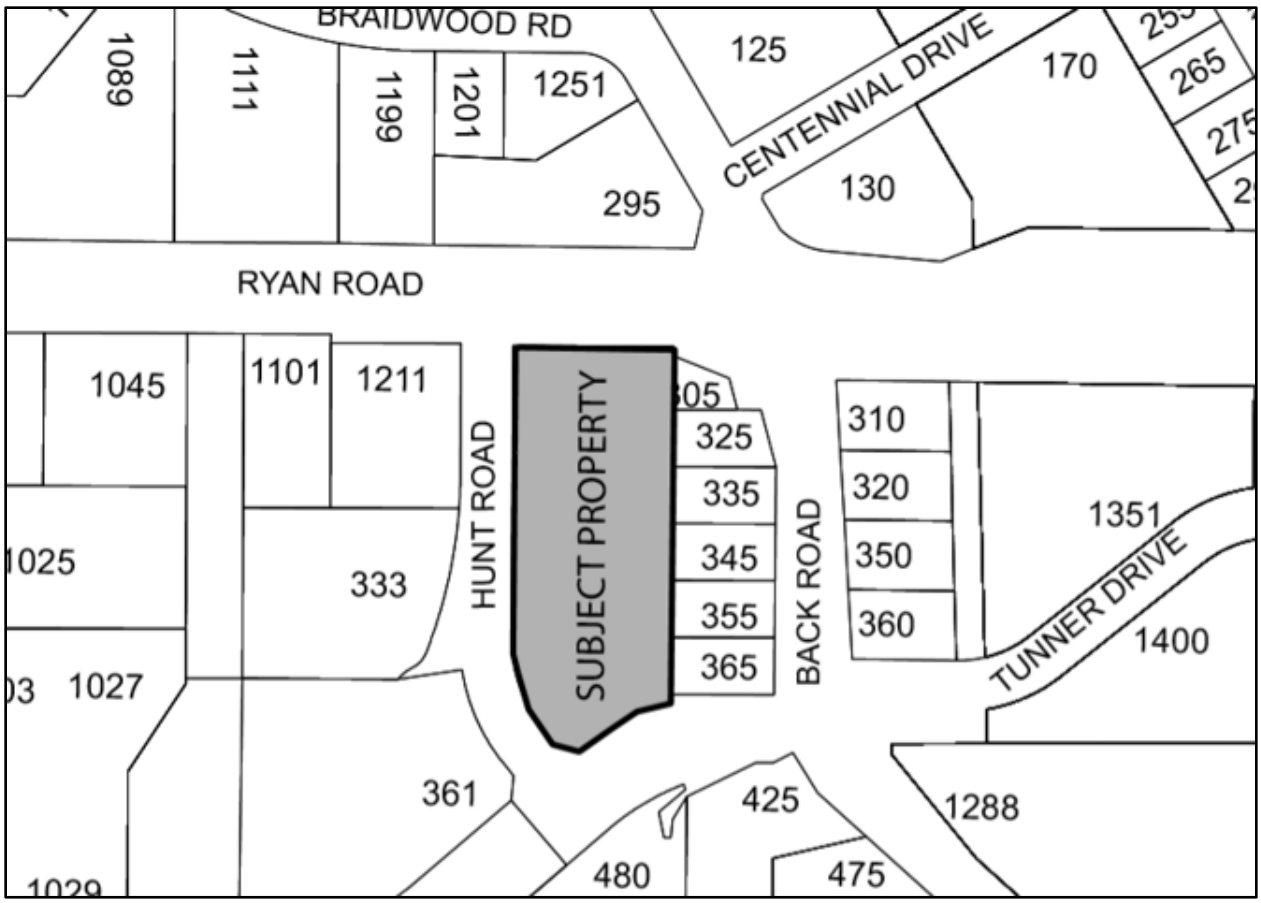
SCHEDULE A

Note: Please Refer to Ful




Express

Attachment B



Subject Property Map