



City Council

**Council Chambers, City Hall
6911 No. 3 Road**

**Monday, November 22, 2021
7:00 p.m.**

Pg. # ITEM

MINUTES

1. *Motion to:*

| | |
|----------------------------------|---|
| CNCL-10 UPDATED | (1) <i>adopt the minutes of the Regular Council meeting held on November 8, 2021; and</i> |
|----------------------------------|---|

| | |
|----------------|--|
| CNCL-25 | (2) <i>adopt the minutes of the Regular Council meeting for Public Hearings held on November 15, 2021.</i> |
|----------------|--|



AGENDA ADDITIONS & DELETIONS

PRESENTATION

Patricia Bell, Director of Capacity Development, Community Energy Association, to present the Climate and Energy Action Award to Council.

COMMITTEE OF THE WHOLE

2. *Motion to resolve into Committee of the Whole to hear delegations on agenda items.*



3. Delegations from the floor on Agenda items.

PLEASE NOTE THAT FOR LEGAL REASONS, DELEGATIONS ARE NOT PERMITTED ON ZONING OR OCP AMENDMENT BYLAWS WHICH ARE TO BE ADOPTED.

4. *Motion to rise and report.*



RATIFICATION OF COMMITTEE ACTION

CONSENT AGENDA

PLEASE NOTE THAT ITEMS APPEARING ON THE CONSENT AGENDA WHICH PRESENT A CONFLICT OF INTEREST FOR COUNCIL MEMBERS MUST BE REMOVED FROM THE CONSENT AGENDA AND CONSIDERED SEPARATELY.

RECOMMENDATIONS FROM COMMITTEE WILL APPEAR ON THE REVISED COUNCIL AGENDA, EITHER ON THE CONSENT AGENDA OR NON-CONSENT AGENDA DEPENDING ON THE OUTCOME AT COMMITTEE.

CONSENT AGENDA HIGHLIGHTS

- Receipt of Committee minutes
- Request from CHIMO Community Services
- Barnes Drive and Flury Drive - Traffic Calming Update
- TransLink 2022 Cost-Share Funding Applications
- Award of Contract 6691Q - Supply And Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis
- Award of Contract 6437F - Supply of Drainage Pumps, Parts and Services
- Change Order Approval – Contract 6715P – Traffic Control Services
- Land use applications for first reading (to be further considered at the Public Hearing on December 13, 2021):
 - 8231 No. 3 Road – Rezone from Single Detached (RS1/E) Zone to “Compact Single Detached (RC2)” Zone (Enrich Custom Homes Ltd. – Applicant)
- Increase of Maximum Fines for Tree Protection Bylaw 8057

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ITEM

- Richmond Comments on Metro Vancouver's Draft Updated Regional Growth Strategy, Metro 2050

5. *Motion to adopt Items No. 6 through No. 15 by general consent.*

☐

Consent
Agenda
Item

6. **COMMITTEE MINUTES**

That the minutes of:

CNCL-32 (1) the **Community Safety Committee** meeting held on November 9, 2021;

CNCL-37 (2) the **General Purposes Committee** meeting held on November 15, 2021;

(3) the *Public Works and Transportation Committee* meeting held on November 16, 2021 (distributed separately); and

CNCL-373 (4) the **Planning Committee** meeting held on November 17, 2021;

ADDED

be received for information.

☐

Consent
Agenda
Item

7. **REQUEST FROM CHIMO COMMUNITY SERVICES**

(File Ref. No.)

CNCL-41

See Page CNCL-41 for background information

GENERAL PURPOSES COMMITTEE RECOMMENDATION

That a letter be written to the Minister of Mental Health and Addictions and the Minister of Health as well as Local Members of the Legislative Assembly to stop the ongoing process to put the crisis services, 1-800-SUICIDE, 310-6789 Mental Health line, out to tender, delaying the important work of CHIMO Community Services and risking the introduction of more for-profit operations in the system as well as the more significant concern of jeopardizing ongoing access to crisis services.

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8. **BARNES DRIVE AND FLURY DRIVE - TRAFFIC CALMING UPDATE**

(File Ref. No. 10-6450-09-01) (REDMS No. 6752296)

CNCL-45

[See Page CNCL-45 for full report](#)

PUBLIC WORKS AND TRANSPORTATION COMMITTEE RECOMMENDATION

- (1) *That Option 3 to establish a 30 km/h speed limit on Barnes Drive and Flury Drive as described in the staff report titled “Barnes Drive and Flury Drive – Traffic Calming Update” dated October 12, 2021, from the Director, Transportation, be endorsed; and*
- (2) *That should Option 3 be endorsed, Traffic Bylaw No. 5870, Amendment Bylaw No. 10301, to revise the posted speed limit on Barnes Drive and Flury Drive to 30 km/h, be introduced and given first, second and third reading.*



Consent
Agenda
Item

9. **TRANSLINK 2022 COST-SHARE FUNDING APPLICATIONS**

(File Ref. No. 01-0154-04) (REDMS No. 6755808)

CNCL-51

[See Page CNCL-51 for full report](#)

PUBLIC WORKS AND TRANSPORTATION COMMITTEE RECOMMENDATION

That as described in the report titled “TransLink 2022 Cost-Share Funding Applications” dated October 10, 2021 from the Director, Transportation:

- (a) *the submission of road, pedestrian, bicycle, and transit facility improvement projects as part of the TransLink 2022 cost-share programs be endorsed and the information be considered in the 2022 Capital Budget process; and*
- (b) *the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the successful funding agreements.*



Consent
Agenda
Item

10. **AWARD OF CONTRACT 6691Q - SUPPLY AND DELIVERY OF ONE (1) SEWER VACUUM COMBO UNIT ON A CITY PROVIDED CAB AND CHASSIS**

(File Ref. No. 10-6370-01) (REDMS No. 6764224)

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CNCL-66

See Page CNCL-66 for full report

PUBLIC WORKS AND TRANSPORTATION COMMITTEE RECOMMENDATION

That the acquisition of a hydro excavator be approved in the total amount of \$760,000 as outlined in the staff report titled, “Award of Contract 6691Q - Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis”, dated October 13, 2021, from the Interim Director, Public Works Operations as follows:

- (1) That Contract 6691Q Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis be awarded to Vimar Equipment Ltd. in the total tendered amount of \$473,852.00 excluding outfitting, contingency and taxes; and*
- (2) That the supply of one (1) cab and chassis be awarded to Peterbilt Pacific Ltd. in the amount of \$210,462.00 excluding outfitting, contingency and taxes in accordance with the standardization method approved by Council and as outlined in the staff report titled, “Standardization of City’s Single and Tandem Axle Vehicle Fleet”, dated April 3, 2017.*



Consent
Agenda
Item

11. AWARD OF CONTRACT 6437F - SUPPLY OF DRAINAGE PUMPS, PARTS AND SERVICES

(File Ref. No. 10-6050-01) (REDMS No. 6760871)

CNCL-70

See Page CNCL-70 for full report

PUBLIC WORKS AND TRANSPORTATION COMMITTEE RECOMMENDATION

- (1) That Contract 6437F – Supply of Drainage Pumps, Parts and Services be awarded to KSB Pumps Inc. on an “as and when required” basis for a term of five years with a maximum contract value not to exceed \$2.51 million, plus applicable taxes;*
- (2) That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to negotiate and execute on behalf of the City, the contract identified above and as outlined in the staff report titled, “Award of Contract 6437F – Supply of Drainage Pumps, Parts, and Services” dated October 7, 2021, from the Interim Director, Public Works Operations.*



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12. CHANGE ORDER APPROVAL – CONTRACT 6715P – TRAFFIC CONTROL SERVICES

(File Ref. No. 10-6000-01) (REDMS No. 6740009)

CNCL-74

See Page CNCL-74 for full report

PUBLIC WORKS AND TRANSPORTATION COMMITTEE RECOMMENDATION

- (1) *That staff be authorized to issue a change order to increase the value of the current contract between the City of Richmond and Ansan Traffic Group, Lanesafe Traffic Control, and Traffic Pro Services as detailed in the staff report titled “Change Order Approval – Contract 6715P – Traffic Control Services”, dated October 13, 2021 from the Interim Director, Public Works Operations, by \$906,110, bringing the new contract value to \$2.4 million over the maximum available term of three years; and*
- (2) *That the Chief Administration Officer and the General Manager, Engineering and Public Works be authorized to execute a contract amendment with Ansan Traffic Group, Lanesafe Traffic Control and Traffic Pro Services, to reflect the increase in predicted usage of services over the three year term.*



Consent
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Item

13. APPLICATION BY ENRICH CUSTOM HOMES LTD. FOR REZONING AT 8231 NO. 3 ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE

(File Ref. No. 12-8060-20-010309; RZ 20-905210) (REDMS No. 6767318)

CNCL-78

See Page CNCL-78 for full report

PLANNING COMMITTEE RECOMMENDATION

ADDED

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10309, for the rezoning of 8231 No. 3 Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, be introduced and given first reading.



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14. **INCREASE OF MAXIMUM FINES FOR TREE PROTECTION BYLAW 8057**

(File Ref. No. 12-8360-01) (REDMS No. 6764640)

CNCL-97

See Page **CNCL-97** for full report

PLANNING COMMITTEE RECOMMENDATION

ADDED

That Tree Protection Bylaw No. 8057, Amendment Bylaw 10307 increasing the maximum fine to \$50,000 for an offence, be introduced and given first, second, and third reading.

Consent
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Item

15. **RICHMOND COMMENTS ON METRO VANCOUVER'S DRAFT UPDATED REGIONAL GROWTH STRATEGY, METRO 2050**

(File Ref. No. 01-0157-30-RGST1) (REDMS No. 6766254)

CNCL-101

See Page **CNCL-101** for full report

PLANNING COMMITTEE RECOMMENDATION

ADDED

That staff forward the report titled "Richmond Comments on Metro Vancouver's Draft Updated Regional Growth Strategy, Metro 2050" dated October 20, 2021 from the Director, Policy Planning, to Metro Vancouver, providing comments as outlined in Attachment 1.

CONSIDERATION OF MATTERS REMOVED FROM THE CONSENT AGENDA

NON-CONSENT AGENDA ITEMS

GENERAL PURPOSES COMMITTEE

Mayor Malcolm D. Brodie, Chair

16. **SOIL USE FOR THE PLACEMENT OF FILL APPLICATION FOR THE PROPERTY PID: 005-480-663 (17260 BLOCK OF RIVER ROAD - SAHOTA)**

(File Ref. No. 12-8080-12-01) (REDMS No. 6758919)

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CNCL-243

See Page CNCL-243 for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

Opposed: Cllr. Wolfe

That the ‘Soil Use for the Placement of Fill’ application, submitted by Harinder (Harry) Sahota (the “Applicant”), proposing to deposit soil for the purpose of developing a garlic farm on the property identified as PID: 005-480-663, located south of 17260 River Road, be authorized for referral to the Agricultural Land Commission (ALC) for the ALC to review and determine the merits of the proposal from an agricultural perspective as the Applicant has satisfied all of the City’s current reporting requirements.



PUBLIC ANNOUNCEMENTS AND EVENTS

NEW BUSINESS

BYLAWS FOR ADOPTION

CNCL-346

Alexandra District Energy Utility Bylaw No. 8641 Amendment

Bylaw No. 10289

Opposed at 1st/2nd/3rd Readings – None.



CNCL-348

Oval Village District Energy Utility Bylaw No. 9134 Amendment

Bylaw No. 10290

Opposed at 1st/2nd/3rd Readings – None.



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|----------|--|--------------------------|
| CNCL-350 | City Centre District Energy Utility Bylaw No. 9895 Amendment Bylaw No. 10291 Opposed at 1 st /2 nd /3 rd Readings – None. | <input type="checkbox"/> |
| CNCL-352 | Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10311 Opposed at 1 st /2 nd /3 rd Readings – None. | <input type="checkbox"/> |
| CNCL-361 | Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No. 10312 Opposed at 1 st /2 nd /3 rd Readings – None. | <input type="checkbox"/> |
| CNCL-365 | Solid Waste & Recycling Regulation Bylaw No. 6803, Amendment Bylaw No. 10313 Opposed at 1 st /2 nd /3 rd Readings – None. | <input type="checkbox"/> |
| CNCL-371 | Richmond Zoning Bylaw No. 8500, Amendment Bylaw No. 10120 (10931 Seaward Gate, RZ 19-858458) Opposed at 1 st Reading – None. Opposed at 2 nd /3 rd Readings – None. | <input type="checkbox"/> |
| | ADJOURNMENT | <input type="checkbox"/> |



Regular Council

Monday, November 8, 2021

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie
Councillor Chak Au
Councillor Carol Day
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty
Councillor Linda McPhail
Councillor Harold Steves (by teleconference)
Councillor Michael Wolfe (by teleconference)

Corporate Officer – Claudia Jesson

Call to Order: Mayor Brodie called the meeting to order at 7:00 p.m.

RES NO. ITEM

MINUTES

- R21/19-1 1. It was moved and seconded
That:
- (1) *the minutes of the Regular Council meeting held on October 25, 2021, be adopted as circulated; and*
 - (2) *the Metro Vancouver 'Board in Brief' dated October 29, 2021, be received for information.*

CARRIED



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Monday, November 8, 2021

2. APPOINTMENT OF COUNCIL MEMBERS TO EXTERNAL ORGANIZATIONS

R21/19-2

It was moved and seconded

- (a) *That Councillor Alexa Loo be appointed as the Council representative to the Richmond Olympic Oval Corporation until November 9, 2022; and*
- (b) *That Councillor Harold Steves be appointed as the Council representative, and Councillor Carol Day as the alternate to the Steveston Harbour Authority Board until the Annual General Meeting of the Board in November 2022.*

CARRIED

3. NAMING OF STANDING COMMITTEES AND THEIR COMPOSITION BY THE MAYOR
(in accordance with the *Community Charter*)

Mayor Brodie announced the following Standing Committees and their membership:

COMMUNITY SAFETY COMMITTEE

Cllr. Linda McPhail (*Chair*)
Cllr. Carol Day (*Vice-Chair*)
Cllr. Bill McNulty
Cllr. Andy Hobbs
Cllr. Alexa Loo
Cllr. Harold Steves



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FINANCE COMMITTEE

Mayor Malcolm Brodie (*Chair*)
All members of Council

GENERAL PURPOSES COMMITTEE

Mayor Malcolm Brodie (*Chair*)
All members of Council

PARKS, RECREATION & CULTURAL SERVICES COMMITTEE

Cllr. Harold Steves (*Chair*)
Cllr. Michael Wolfe (*Vice-Chair*)
Cllr. Chak Au
Cllr. Bill McNulty
Cllr. Linda McPhail

PLANNING COMMITTEE

Cllr. Bill McNulty (*Chair*)
Cllr. Alexa Loo (*Vice-Chair*)
Cllr. Carol Day
Cllr. Chak Au
Cllr. Harold Steves
Cllr. Andy Hobbs

PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Cllr. Chak Au (*Chair*)
Cllr. Alexa Loo (*Vice-Chair*)
Cllr. Andy Hobbs
Cllr. Linda McPhail
Cllr. Michael Wolfe



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4. APPOINTMENT OF MEMBERS OF COUNCIL (AND THEIR ALTERNATES) AS THE LIAISONS TO CITY ADVISORY COMMITTEES AND ORGANIZATIONS

Appointment of Council liaisons (and where applicable, their alternates) until November 9, 2022:

R21/19-3

It was moved and seconded

That the following Council liaisons (and where applicable, their alternates) be appointed until November 8, 2021:

- (a) *Advisory Committee on the Environment – Cllr. Michael Wolfe;*
- (b) *Child Care Development Advisory Committee – Cllr. Carol Day;*
- (c) *Council / School Board Liaison Committee – Cllrs. Andy Hobbs and Alexa Loo;*
- (d) *Economic Advisory Committee – Cllrs. Chak Au and Alexa Loo;*
- (e) *Heritage Commission – Cllr. Michael Wolfe;*
- (f) *Minoru Centre for Active Living Program Committee – Cllr. Chak Au;*
- (g) *Richmond Centre for Disability – Cllr. Andy Hobbs;*
- (h) *Richmond Chamber of Commerce – Cllr. Alexa Loo;*
- (i) *Richmond Community Services Advisory Committee – Cllr. Bill McNulty;*
- (j) *Richmond Food Security and Agricultural Advisory Committee – Cllr. Harold Steves;*
- (k) *Richmond Intercultural Advisory Committee – Cllr. Linda McPhail;*
- (l) *Richmond Public Art Advisory Committee – Cllr. Harold Steves;*
- (m) *Richmond Sister City Advisory Committee – Cllr. Andy Hobbs;*
- (n) *Richmond Sports Council – Cllr. Bill McNulty;*
- (o) *Richmond Sports Wall of Fame Nominating Committee – Cllr. Harold Steves;*
- (p) *Seniors Advisory Committee – Cllr. Carol Day;*



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- (q) *Steveston Historic Sites Building Committee – Cllrs. Bill McNulty and Harold Steves; and*
- (r) *Vancouver Coastal Health/Richmond Health Services Local Governance Liaison Group – Cllr. Chak Au.*

CARRIED

5. **APPOINTMENT OF MEMBERS OF COUNCIL AS LIAISONS
TO COMMUNITY ASSOCIATIONS**

R21/19-4

It was moved and seconded

That the following Council liaisons to community associations (and where applicable, their alternates) be appointed until November 9, 2022:

- (a) *Arenas Community Association – Cllr. Michael Wolfe;*
- (b) *City Centre Community Association – Cllr. Andy Hobbs;*
- (c) *East Richmond Community Association – Cllr. Carol Day;*
- (d) *Hamilton Community Association – Cllr. Michael Wolfe;*
- (e) *Richmond Art Gallery Association – Cllr. Carol Day;*
- (f) *Richmond Fitness and Wellness Association – Cllr. Carol Day;*
- (g) *Sea Island Community Association – Cllr. Harold Steves;*
- (h) *South Arm Community Association – Cllr. Bill McNulty;*
- (i) *Thompson Community Association – Cllr. Chak Au; and*
- (j) *West Richmond Community Association – Cllr. Linda McPhail.*

CARRIED



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6. APPOINTMENT OF MEMBERS OF COUNCIL AS THE
LIAISONS TO VARIOUS BOARDS

R21/19-5

It was moved and seconded

That the following Council liaisons (and where applicable, their alternates) be appointed until November 9, 2022:

- (a) Aquatic Services Board – Cllr. Alexa Loo;
- (b) Museum Society Board – Cllr. Michael Wolfe;
- (c) Richmond Gateway Theatre Society Board – Cllr. Chak Au; and
- (d) Richmond Public Library Board – Cllrs. Linda McPhail and Bill McNulty (Alternate).

CARRIED

7. APPOINTMENT OF MEMBERS OF COUNCIL AS LIAISONS TO
VARIOUS SOCIETIES

R21/19-6

It was moved and seconded

That the following Council liaisons (and where applicable, their alternates) be appointed until November 9, 2022:

- (a) Britannia Heritage Shipyard Society – Cllr. Harold Steves;
- (b) Gulf of Georgia Cannery Society – Cllr. Chak Au;
- (c) London Heritage Farm Society – Cllr. Andy Hobbs;
- (d) Minoru Seniors Society – Cllr. Andy Hobbs;
- (e) Richmond Nature Park Society – Cllr. Michael Wolfe;
- (f) Steveston Community Society – Cllr. Alexa Loo; and



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(g) *Steveston Historical Society – Cllr. Bill McNulty.*

CARRIED

8. **APPOINTMENT OF PARCEL TAX ROLL REVIEW PANEL FOR
LOCAL AREA SERVICES**

R21/19-7

It was moved and seconded

*That the members of the Public Works and Transportation Committee be
appointed as the Parcel Tax Roll Review Panel for Local Area Services
until November 9, 2022.*

CARRIED

9. **APPOINTMENT OF ACTING MAYORS FROM NOVEMBER 8,
2021 TO NOVEMBER 9, 2022**

R21/19-8

It was moved and seconded

That the following Acting Mayors be appointed until November 8, 2021:

November 9, 2021 – December 15, 2021 Cllr. Michael Wolfe

December 16, 2021 – January 31, 2022 Cllr. Bill McNulty

February 1, 2022 – March 15, 2022 Cllr. Carol Day

March 16, 2022 – April 30, 2022 Cllr. Linda McPhail

May 1, 2022 – June 15, 2022 Cllr. Chak Au

June 16, 2022 – July 31, 2022 Cllr. Andy Hobbs

August 1, 2022 – September 15, 2022 Cllr. Harold Steves

September 16, 2022 – November 7, 2022 Cllr. Alexa Loo

CARRIED



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Mayor Brodie noted that since no members of the public were present at the meeting, a motion to resolve into Committee of the Whole to hear delegations from the floor on Agenda items and to rise and report (Items No. 10 to 12) would not be necessary.

CONSENT AGENDA

- R21/19-9 13. It was moved and seconded
That Items No. 14 through No. 20 be adopted by general consent.

CARRIED

14. **COMMITTEE MINUTES**

That the minutes of:

- (1) *the Parks, Recreation and Cultural Services Committee meeting held on October 26, 2021;*
 - (2) *the General Purposes Committee meeting held on November 1, 2021;*
 - (3) *the Finance Committee meeting held on November 1, 2021; and*
 - (4) *the Planning Committee meeting held on November 2, 2021;*
- be received for information.*

ADOPTED ON CONSENT

15. **STEVESTON HERITAGE INTERPRETIVE FRAMEWORK**
(File Ref. No. 08-4200-09) (REDMS No. 6751987)

- (1) *That the Draft Steveston Heritage Interpretive Framework as detailed in the staff report titled “Steveston Heritage Interpretive Framework,” dated September 21, 2021, from the Director, Arts, Culture and Heritage Services be endorsed for the purpose of seeking stakeholder and public feedback; and*



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- (2) *That the final Steveston Heritage Interpretive Framework, including the results of the stakeholder and public feedback, be reported back to Council.*

ADOPTED ON CONSENT

16. STEVESTON MUSEUM AND POST OFFICE VISITOR EXPERIENCE IMPROVEMENTS

(File Ref. No. 11-7141-01; 06-2050-20-SPO; 03-1000-10-057; 03-1000-10-118) (REDMS No. 6750875; 6755781)

- (1) *That the Steveston Museum and Post Office Visitor Experience Improvements as detailed in the staff report titled “Steveston Museum and Post Office Visitor Experience Improvements,” dated September 20, 2021, from the Director, Arts, Culture and Heritage Services be endorsed to guide the future planning and operations of the Steveston Museum and Post Office; and*
- (2) *That expenditures totaling \$354,000 for facility improvements with an annual operating budget impact of \$12,300 for ongoing operating costs and an annual municipal contribution of \$40,000 paid to the Steveston Historical Society for the period from 2022-2026 be considered in the 2022 budget process.*

ADOPTED ON CONSENT

17. RECREATION AND SPORT STRATEGY (2019-2024) – PROGRESS UPDATE

(File Ref. No. 01-0370-20-003) (REDMS No. 6732765)

- (1) *That the staff report titled, “Recreation and Sport Strategy (2019-2024) – Progress Update,” dated September 21, 2021, from the Director, Recreation and Sport Services, be received for information; and*



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- (2) *That the achievements document, Recreation and Sport Strategy (2019-2024) – Progress Update, Attachment 1, in the staff report titled “Recreation and Sport Strategy (2019-2024)–Progress Update,” dated September 21, 2021, from the Director, Recreation and Sport Services, be posted on the City website and circulated to key stakeholders including Community Recreation Associations and Societies, Richmond Sports Council, and the Aquatic Advisory Board for their information.*

ADOPTED ON CONSENT

**18. AMENDMENTS TO THE COUNCIL PROCEDURE BYLAW-
ELECTRONIC MEETINGS AND ELECTRONIC PARTICIPATION**

(File Ref. No. 12-8060-20-010302; 01-0105-00) (REDMS No. 6766603; 6709686; 6709911; 6761133)

- (1) *That Council Procedure Bylaw No. 7560, Amendment Bylaw No. 10302, which introduces amendments relating to electronic meetings and electronic participation, be introduced and given first, second and third readings;*
- (2) *That Council authorize participation by the public and the holding of public hearings and board of variance hearings by means of electronic or other communication facilities as contemplated in the report titled “Amendments to the Council Procedure Bylaw – Electronic Meetings and Electronic Participation” and dated October 18, 2021 from the Director, City Clerk’s Office;*
- (3) *That staff report back to Council in the event technical or operational issues arise through the implementation of Recommendation 2 of the report titled “Amendments to the Council Procedure Bylaw – Electronic Meetings and Electronic Participation” and dated October 18, 2021 from the Director, City Clerk’s Office; and*
- (4) *That Council Procedure Bylaw No. 7560, Amendment Bylaw No. 10302 be amended to insert the following at the end of Section 1.4.1: “provided the member of Council is approved to participate in this manner by Council Resolution.”*

ADOPTED ON CONSENT



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19. 2022 DISTRICT ENERGY UTILITY RATES

(File Ref. No. 01-0060-20-LIEC1; 12-8060-20-010289; 12-8060-20-010290; 12-8060-20-010291)
(REDMS No. 6714877; 6761132; 6736871; 6736872)

- (1) That the Alexandra District Energy Utility Bylaw No. 8641, Amendment Bylaw No. 10289 be introduced and given first, second and third readings;*
- (2) That the Oval Village District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 10290 be introduced and given first, second and third readings; and*
- (3) That the City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10291 be introduced and given first, second and third readings.*

ADOPTED ON CONSENT

20. APPLICATION BY TAMAS AJTONY FOR A ZONING TEXT AMENDMENT AT 2351 SIMPSON ROAD

(File Ref. No. ZT 21-938101; 12-8060-20-010304) (REDMS No. 6763006; 3387639; 6763339)

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10304, for a Zoning Text Amendment to the “Industrial Business Park (IB1)” zone to allow one residential security/operator unit at 2351 Simpson Road, be introduced and given First Reading.

ADOPTED ON CONSENT

**CONSIDERATION OF MATTERS REMOVED FROM THE
CONSENT AGENDA**

NON-CONSENT AGENDA ITEMS



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FINANCE COMMITTEE

Mayor Malcolm D. Brodie, Chair

21. **2022 UTILITY BUDGETS AND RATES**

(File Ref. No. 03-0970-01; 12-8060-20-010311; 12-8060-20-010312; 12-8060-20-010313; 03-1070-03-02) (REDMS No. 6755531)

R21/19-10

It was moved and seconded

- (1) *That the 2022 utility budgets, as presented in Option 2 for Water (page 6) including Option B for universal multi-family water metering, Option 3 for Sewer (page 14), Option 2 for Drainage and Diking (page 22), and Option 3 for Solid Waste and Recycling (page 24), as outlined in the staff report titled, “2022 Utility Budgets and Rates”, dated October 22, 2021, from the General Manager, Engineering and Public Works and the Acting General Manager, Finance and Corporate Services, be approved as the basis for establishing the 2022 utility rates and included in the Consolidated 5 Year Financial Plan (2022-2026) Bylaw; and*
- (2) *That the General Manager, Engineering and Public Works be authorized to negotiate and execute on behalf of the City, the Municipal Recycling Depot Services Agreement with the Greater Vancouver Sewerage and Drainage District, as outlined in the staff report titled, “2022 Utility Budgets and Rates”, dated October 22, 2021, from the General Manager, Engineering and Public Works and the Acting General Manager, Finance and Corporate Services.*

The question on the motion was not called as discussion ensued with regard to the increasing portion of costs attributed to increasing Metro Vancouver utility rates and options to mitigate those costs such as the proposal to install water meters in multi-family dwellings, and the proposed grease collection and Sea Bin river debris collection initiatives.

Discussion then ensued with regard to meeting the 2031 target dike operation and maintenance rates, as described in the staff report, and as a result, the following **amendment motion** was introduced:



Regular Council
Monday, November 8, 2021

R21/19-11

It was moved and seconded

That Part (1) be amended to select Drainage and Diking Utility Option 3, as outlined in the staff report titled, "2022 Utility Budgets and Rates", dated October 22, 2021, from the General Manager, Engineering and Public Works and the Acting General Manager, Finance and Corporate Services.

DEFEATED

Opposed: Mayor Brodie

Cllrs. Au

Loo

Hobbs

McNulty

McPhail

The question on the main motion was then called and it was **CARRIED** with Cllrs. Day and Wolfe opposed.

22. 2022 UTILITY RATE AMENDMENT BYLAWS

(File Ref. No. 12-8060-20-010311; 12-8060-20-010312; 12-8060-20-010313; 03-1070-03-02) (REDMS No. 6773089; 6773105; 6773132; 6767895)

R21/19-12

It was moved and seconded

That each of the following bylaws be introduced and given first, second, and third readings:

- (1) *Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10311;*
- (2) *Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No. 10312; and*
- (3) *Solid Waste & Recycling Regulation Bylaw No. 6803, Amendment Bylaw No. 10313.*

CARRIED



Regular Council
Monday, November 8, 2021

PUBLIC ANNOUNCEMENTS AND EVENTS

Mayor Brodie announced the following advisory body appointments:

Sister City Advisory Committee

Allen Chan, Charon Gill, Joan Page, Sue Tian, Jenny Zhang, Melissa Zhang, Victor Zhuo, and David Yang were appointed to the Sister City Advisory Committee (SCAC) for a two-year term to expire on December 31, 2023.

Advisory Design Panel

Alan Tse, Van Nguyen, Christopher Lee, and Pamela Andrews were appointed to the Advisory Design Panel for a two-year term to expire on December 31, 2023.

Advisory Committee on the Environment

Erzsebet Institoris, Anthony Leung, Samuel McCulligh, CJ Schneider, and Cynthia Zhou were reappointed to the Advisory Committee on the Environment for a two-year term to expire on December 31, 2023.

Board of Variance

Krista Kienapfel, Alim Sunderji, and Sheng Zhong were appointed to the Board of Variance for a three year term to expire on December 31, 2024.

Mayor Brodie then spoke on the City's upcoming Remembrance Day ceremony that will be livestreamed. He added that details on the event will be available on the City's website.

BYLAWS FOR ADOPTION

R21/19-13

It was moved and seconded

That the following bylaws be adopted:

Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10283; and

Consolidated 5 Year Financial Plan (2021-2025) Bylaw No. 10239, Amendment Bylaw No. 10292.

CARRIED



Regular Council
Monday, November 8, 2021

ADJOURNMENT

R21/19-14

It was moved and seconded
That the meeting adjourn (8:26 p.m.).

CARRIED

Certified a true and correct copy of the
Minutes of the Regular meeting of the
Council of the City of Richmond held on
Monday, November 8, 2021.

Mayor (Malcolm D. Brodie)

Corporate Officer (Claudia Jesson)



**Regular Council meeting for Public Hearings
Monday, November 15, 2021**

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie, Chair
Councillor Chak Au
Councillor Carol Day (by teleconference)
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty (by teleconference)
Councillor Linda McPhail (by teleconference)
Councillor Harold Steves (by teleconference)
Councillor Michael Wolfe (by teleconference)

Matthew O'Halloran, Acting Corporate Officer

Call to Order: Mayor Brodie opened the proceedings at 7:00 p.m.

1. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 10294**
(Location: 13340 Smallwood Place; Applicant: Regional Animal Protections Society (RAPS))

Applicant's Comments:

The applicant was available to respond to queries.

Written Submissions:

None.

Submissions from the floor:

None.

PH21/10-1

It was moved and seconded

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10294 be given second and third readings.

CARRIED



**Regular Council meeting for Public Hearings
Monday, November 15, 2021**

2. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAWS 10297 AND 10260 (LOW END MARKET RENTAL HOUSING PROGRAM AMENDMENTS)**

(Location: City-wide; Applicant: City of Richmond)

Applicant's Comments:

The applicant was available to respond to queries.

Written Submissions:

- (a) Justin Reid, Richmond Resident (Schedule 1)
- (b) De Whalen, Richmond Poverty Reduction Coalition (Schedule 2)

Submissions from the floor:

De Whalen, representing the Richmond Poverty Reduction Coalition, referred to her submission (attached to and forming part of these minutes as Schedule 2), spoke on the proposed Low End Market Rental (LEMR) Housing Program Amendments, and expressed concern with regard to (i) the need of affordable housing in Richmond, (ii) the LEMR tenancy process, and (iii) the target number of LEMR units in the City.

Teresa Head, Richmond resident, spoke on her experience living in a BC Housing unit and encouraged the City to support affordable housing in Richmond.

PH21/10-2

It was moved and seconded

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10297 and 10260 be given second and third readings.

The question on the motion was not called as discussion ensued with regard to (i) the number of Richmond residents on the BC Housing waiting list, (ii) advocating senior levels of government for affordable housing support, and (iii) the number of future and instream LEMR projects in Richmond.

In reply to queries from Council, staff noted that (i) the Kiwanis and Storeys housing developments were in addition to the over 900 LEMR units secured, (ii) staff will be reporting on a referral on the number LEMR units in the second quarter of 2022, and (iii) staff can provide a memorandum on a statistic summary of LEMR units in the City and incoming applications.

The question on the motion was then called and it was **CARRIED** with Cllr. Wolfe opposed.



**Regular Council meeting for Public Hearings
Monday, November 15, 2021**

PH21/10-3

It was moved and seconded

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10297 and 10260 be adopted.

CARRIED

ADJOURNMENT

PH21/10-4

It was moved and seconded

That the meeting adjourn (7:40 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the Regular meeting for Public Hearings of the City of Richmond held on Monday, November 15, 2021.

Mayor (Malcolm D. Brodie)

Acting Corporate Officer
(Matthew O'Halloran)

From: MayorandCouncillors
Sent: November 15, 2021 1:25 PM
To: Somerville, Kim M; Hopkins, John; Spencer, Cody; Nikolic, Diana
Cc: Reis, Joshua; Smith, Suzanne; Craig, Wayne; Jesson, Claudia; MayorandCouncillors
Subject: FW: Affordable rental housing crisis in Richmond

Good Afternoon,

Please see below correspondence received for Item 2 of this evening's Public Hearing. The correspondence will not be distributed On Table, but it will be noted during the meeting.

Thank you,

Matt O'Halloran | Manager, Legislative Services
City of Richmond | 6911 No.3 Road, Richmond, BC V6Y 2C1
Phone: 604-276-4098 | Fax: 604-278-5139
Email: mohalloran@richmond.ca

From: Justin Reid <reidjust@gmail.com>
Sent: November 4, 2021 3:15 PM
To: MayorandCouncillors <MayorandCouncillors@richmond.ca>
Subject: Affordable rental housing crisis in Richmond

City of Richmond Security Warning: This email was sent from an external source outside the City. Please do not click or open attachments unless you recognize the source of this email and the content is safe.

Dear Richmond counsel,

As I am a renter and have been living in the Richmond community for over four years, let me tell you, it has been a nightmare to find affordable housing!

As my family has grown recently, and we are now three people, we are desperate to upgrade our current one bedroom apartment (530 square feet) to a two bedroom apartment. We have been on the lookout for about a year (since we found out I am pregnant), but have been unsuccessful in our pursuit.

We are on most of the co-ops waiting lists (as per their data up to 5 year wait). We have emailed most of the new developments going up in Richmond to inquire about low market rental units (which they are required to have) and only gotten notice that they do not have any.

We are on the BC housing registry (also a wait of a few years). We are in contact with Chimo Community Service (and they have also not been very helpful, as the reply email we got just stated that they cannot help with finding affordable housing, which is ironic, because on the City of Richmond website they say they can. Further, the affordable guideline page from the City of Richmond is outdated. Many emails and phone numbers are not connected with no response and some lead to developers that have no idea what we are talking about, if we ask them about affordable rental options.

This is especially frustrating, as the apartment next to us (two bedrooms) has been empty since we moved in almost three years ago. There are at least another five empty apartments you can spot in the nearby condo buildings that have been empty ever since we moved in. It is clear that these are investment properties and the owners never intend to rent them out or use them for themselves. But how can I be mad at them? They just do what works best for them and their investment strategy. If they are not forced to rent those places, why would they? I do, however, blame the policymakers (in this case you) for not being more bold with decision making and implementation of policies! If our elected politicians are afraid (or not interested) in making policies

that work for people living in the community, we will end up as an empty city, with only the rich living here! The Richmond council should consider what kind of people they would like to have living in their community. Do you want to help the middle class citizens to live a decent life, or do you want to make the rich even more rich?

I call on the Richmond council to be better at their job, to be bolder at their job and to be more innovative at their job! Change has to happen now! This does not mean celebrating an increase in LEMR units from 10% to 15% in new development condos.

Sincerely,

Justin Reid

Written and Oral Submission to City of Richmond Public Hearing November 15, 2021

My name is Deirdre Whalen, and I am a long-time resident of Richmond. I have been asked by the Richmond Poverty Reduction Coalition (RPRC) to speak on item # 2: 0260 (Low End Market Rental Housing Program).

RPRC members include individual Richmond residents as well as several local non-profit organizations representing hundreds of low-income clients and/or members. We are committed to reducing poverty levels in Richmond starting with adequate and affordable housing.

The Coalition does not have an opinion on whether 10% or 15% is the proper percentage for city centre LEMR units. It is a start but it does not get at the nub of the issue, which we believe is to provide truly affordable housing in Richmond based on documented need.

And here are our reasons why. Recently the RPRC established a Housing Committee. We are examining many issues, including reviewing City of Richmond documents such as the Affordable Housing Strategy where 'Low End Market Rentals' or LEMR units are defined.

Firstly, we discovered that the 2007 Affordable Housing Strategy stated '*affordable subsidized rental housing*' as its No. 1 priority and it had a target of 73 affordable subsidized rental housing units per year. Now LEMR has become the Strategy's first priority.

Secondly, we looked for a target number of LEMR units so we could understand exactly how many LEMR units have been provided since the establishment of the Affordable Housing Strategy in 2007.

The numbers we found troubled us, as we read the following documents:

- The Affordable Housing Strategy (2017-2027) states that 429 LEMR units are secured,
- The City's 2019 Market Rental Policy states there are 798 LEMR units (257 have occupancy), and
- The City's 2021 Affordable Housing Guide references 383 LEMR units.

These numbers represent the number of LEMR units provided in a 14 year period - not a lot, no matter which number is correct.

We also noted that anyone looking for a LEMR unit were advised to contact each property manager directly. These contacts include developers, housing societies, and even someone called 'Eric.'

The Coalition sees two issues with the foregoing:

1. If the City doesn't know how many LEMR units have been created, how can they know when their target has been achieved. Is there a target number?

2. This 'hands-off' approach is not transparent and opens the LEMR tenancy process to abuse. There is no oversight and as the City directive states, *'the City of Richmond does not keep a waiting list for LEMR units.'* Perhaps they should.

The Housing Committee also found that there are **838 on the BC Housing waiting list** looking for subsidized housing in Richmond. The Coalition agrees this number is more realistic of the real need out there.

We hear lived experience stories every day from the people we serve – people who live in the market-driven rental supply. For example the Food Bank states that 52% of their clients are in market rentals. Only 5% are in subsidized housing.

Thirdly, we note that even when LEMR units are let, they are rented out at 10% below market (2017 rates). Seeing that in Richmond market rents are ridiculous, this 'affordable' housing is really only affordable for a select few.

Finally, we note that LEMR units can be moved offsite through a 'special circumstance,' so there is no guarantee these LEMR units will actually be built in city centre.

In conclusion, the RPRC encourages City Council to revisit the whole LEMR process and the Affordable Housing Strategy to ensure the ratio of market to non-market subsidized supply is what Richmond actually needs.

Thank You,

Deirdre Whalen

President, RPRC
c/o 100-5800 Cedarbridge Way,
Richmond, V6X2A7



Community Safety Committee

Date: Tuesday, November 9, 2021

Place: Council Chambers
Richmond City Hall

Present: Councillor Linda McPhail, Chair
Councillor Carol Day
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty
Councillor Harold Steves (by teleconference)

Also Present: Councillor Chak Au
Councillor Michael Wolfe (by teleconference)

Call to Order: The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded

That the minutes of the meeting of the Community Safety Committee held on July 13, 2021 and October 13, 2021, be adopted.

CARRIED

NEXT COMMITTEE MEETING DATE

December 7, 2021, (tentative date) at 4:00 p.m. in the Council Chambers

AGENDA ADDITIONS & DELETIONS

The Chair noted that Item No. 1, delegation from, Daniel Xiao and Martin van den Hemel, KABU-Ride Inc., was removed from the agenda.

Community Safety Committee
Tuesday, November 9, 2021

It was moved and seconded

That Illegal Ridesharing be added to the agenda as Item No. 7A, and Crisis Hotline Status be added to the agenda as Item No. 7B.

CARRIED

COMMUNITY SAFETY DIVISION

2. COMMUNITY BYLAWS PARKING ENFORCEMENT AND ANIMAL SERVICES MONTHLY ACTIVITY REPORT – SEPTEMBER 2021

(File Ref. No. 12-8060-01) (REDMS No. 6762449)

In response to queries from the Committee, staff noted that completion of the construction of the Animal Shelter is anticipated late January or early February, 2022. It was later suggested Council have a tour of the facility once completed.

It was moved and seconded

That the staff report titled “Community Bylaws Parking Enforcement and Animal Services Monthly Activity Report – September 2021”, dated October 13, 2021, from the General Manager, Community Safety, be received for information.

CARRIED

3. PROPERTY USE MONTHLY ACTIVITY REPORT – SEPTEMBER 2021

(File Ref. No. 09-5350-00) (REDMS No. 6763310)

In response to queries from the Committee, staff noted the reporting detail provided by staff is consistent with prior years, however the complexity of the workload, predominantly complaint driven, has increased (e.g., follow-up inspections to ensure compliance), which may lead to the possibility of additional staff.

A brief discussion ensued with respect to soil deposit proposals. Staff noted the current number of non-compliance files that are moving closer to compliance.

It was moved and seconded

That the staff report titled “Property Use Monthly Activity Report – September 2021”, dated October 13, 2021, from the General Manager, Community Safety, be received for information

CARRIED

Community Safety Committee
Tuesday, November 9, 2021

4. **RICHMOND FIRE-RESCUE MONTHLY ACTIVITY REPORT – SEPTEMBER 2021**

(File Ref. No. 99-Fire Rescue/) (REDMS No. 6760381)

Discussion ensued with respect to the suggestion of a newsletter from Richmond Fire-Rescue (similar to the Crime Prevention quarterly newsletter issued from the RCMP) noting that it would compliment the components already in place through social media.

It was further suggested a record of the addresses/intersections of the motor vehicle incidents responded by Richmond Fire-Rescue listed in a report, rather than the mapping image, would provide greater documentation.

It was moved and seconded

That the staff report titled “Richmond Fire-Rescue Monthly Activity Report – September 2021”, dated October 12, 2021, from the Fire Chief, be received for information.

CARRIED

5. **FIRE CHIEF BRIEFING**

(Verbal Report)

Items for discussion:

None.

6. **RCMP MONTHLY ACTIVITY REPORT- SEPTEMBER 2021**

(File Ref. No. 09-5000-01) (REDMS No. 6756236)

Chief Supt. Ng provided a brief review of the report noting a reduction in most categories for the month of September compared to the previous month and prior year.

Discussion ensued with respect to the substantial road safety enforcement efforts. It was reported that Richmond is No. 1 in the lower mainland for speed enforcement and total violation tickets issued, and also topping the charts with respect to electronic devices. It was further noted that the Integrated Road Safety Unit (independent of Richmond RCMP) provides additional enforcement in Richmond, and staff are also working with ICBC to provide more speeder reader boards and education through social media.

It was moved and seconded

That the staff report titled "RCMP Monthly Activity Report – September 2021", dated October 14, 2021, from the Officer in Charge, Richmond RCMP Detachment, be received for information.

CARRIED

Community Safety Committee

Tuesday, November 9, 2021

7. RCMP/OIC BRIEFING

(Verbal Report)

Items for discussion:

Chief Supt. Ng noted the Annual Toy Drive on November 20, 2021 at Landsdowne Centre from 8:00 a.m – 1:00 p.m.

7A. ILLEGAL RIDESHARING

The Committee expressed public safety concerns with respect to unlicensed ride sharing operations in Richmond, particularly as it pertains to young, vulnerable students that may not be aware the drivers are not licensed. It was further noted that many incidents that may happen will likely be unreported.

In response, Chief Supt. Ng reported on the implementation of an education awareness campaign, not only at schools but for all those utilizing transportation, to draw attention to these types of illegal operations. It was further reported that the topic will be raised with the British Columbia Association of Chiefs of Police in an effort to collaborate and look for ways to provide more action and information awareness.

The Chair invited Mr. Martin van den Hemel, KABU-Ride Inc., to respond to questions from the Committee. Mr. van den Hemel provided a brief overview of KABU-Ride noting the excessive decline in ridership over the past two to three years as a result of illegal ridesharing, and have been working with the BC Passenger Transportation Board and Branch to look for ways to address.

7B. CRISIS HOTLINE STATUS

Discussion ensued with respect to the recent announcement by the Province to conduct an open bid Request for Proposals process to award a contract for crisis services to one service provider in each health region, as opposed to the current crisis services offered. It was noted that Richmond currently receives crisis services through three phone lines: a local CHIMO Crisis Line, the provincial suicide prevention line (1-800-SUICIDE) and the provincial mental health support line (310-6789). The Committee expressed concern for the proposed reduction of this invaluable service. Staff noted a letter had been requested from CHIMO to outline their views on the matter and, once received, will add to the agenda of an upcoming General Purposes meeting. The Committee will also be kept informed of any additional supportive action that may be required.

Community Safety Committee
Tuesday, November 9, 2021

It was moved and seconded

That staff write the appropriate correspondence to the Crisis Centre of BC expressing support for the maintenance of the suicide prevention line (1-800-SUICIDE).

CARRIED

8. MANAGER'S REPORT

(i) Illegal Ridesharing

Staff provided an update with respect to their discussions with the Passenger Transportation Board regarding enforcement action to address illegal ridesharing services in Richmond and a communication plan to reach potential riders. It was noted that the item will be discussed at the next Council/School Board Liaison Committee meeting.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn 4:52 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Community Safety Committee of the Council of the City of Richmond held on Tuesday, November 9, 2021.

Councillor Bill McNulty
Chair

Lorraine Anderson
Legislative Services Associate



General Purposes Committee

Date: Monday, November 15, 2021

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie, Chair
Councillor Chak Au
Councillor Carol Day (by teleconference)
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty (by teleconference)
Councillor Linda McPhail (by teleconference)
Councillor Harold Steves (by teleconference)
Councillor Michael Wolfe (by teleconference)

Call to Order: The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded

That the minutes of the meeting of the General Purposes Committee held on November 1, 2021, be adopted as circulated.

CARRIED

1. **PHOENIX NET LOFT - PHASE ONE PUBLIC CONSULTATION RESULTS, GUIDING PRINCIPLES AND NEXT STEPS**

(File Ref. No. 11-7141-01) (REDMS No. 6678295)

It was moved and seconded

That the report titled "Phoenix Net Loft - Phase One Public Consultation Results, Guiding Principles, and Next Steps," dated October 12, 2021, from the Director, Arts, Culture and Heritage Services, be endorsed to guide the next phase of planning for the Phoenix Net Loft.

General Purposes Committee

Monday, November 15, 2021

The question on the motion was not called as it was suggested that the Richmond Arts Coalition and the Advisory Committee on the Environment be included in the list of stakeholders for the proposed project. Staff noted that staff are reviewing use of the Phoenix Net Loft primarily as an interpretive centre.

Discussion ensued with regard to (i) identifying additional programs for the facility, including art studio spaces or multipurpose spaces, (ii) conducting additional consultation with other community stakeholders to identify community needs, (iii) examining opportunities to showcase First Nations art, and (iv) reviewing project costs.

In reply to queries from Committee, staff noted that the deconstruction of the subject site has completed, however it is not recommended that construction of the facility begin until programming has been finalized.

Discussion then ensued with regard to including additional stakeholders in the consultation process, and as a result, the following **referral motion** was introduced:

It was moved and seconded

That the report titled “Phoenix Net Loft - Phase One Public Consultation Results, Guiding Principles, and Next Steps,” dated October 12, 2021, from the Director, Arts, Culture and Heritage Services, be referred back to staff to propose recommendations for further directions and options for general and multi-use flexible programming such as for community needs, arts and artists, First Nation interpretation, farmers and artisans’ markets, performance space, and other possibilities.

CARRIED

2. **SOIL USE FOR THE PLACEMENT OF FILL APPLICATION FOR THE PROPERTY PID: 005-480-663 (17260 BLOCK OF RIVER ROAD - SAHOTA)**

(File Ref. No. 12-8080-12-01) (REDMS No. 6758919)

Harry Sahota, applicant, spoke on his application, noting that he has owned the property since the 1970s, and that farm operation is challenging because of the site’s elevation and difficulties with water drainage. He added that he has consulted with an agrologist on options to improve farming conditions. Furthermore, he noted that he is fully committed to farming and working with the City and that the best option for the site is to import soil to raise the land.

Discussion ensued with regard to (i) options to fill the site using Richmond soil, (ii) protection of the adjacent environmentally sensitive areas, and (iii) planting alternative crops suitable for wet soil.

General Purposes Committee

Monday, November 15, 2021

In reply to queries from Committee, staff noted that the application will follow the City's guidelines on soil fill and that a portion of the security deposit will be retained by City until the submitted farm plan is completed.

It was moved and seconded

That the 'Soil Use for the Placement of Fill' application, submitted by Harinder (Harry) Sahota (the "Applicant"), proposing to deposit soil for the purpose of developing a garlic farm on the property identified as PID: 005-480-663, located south of 17260 River Road, be authorized for referral to the Agricultural Land Commission (ALC) for the ALC to review and determine the merits of the proposal from an agricultural perspective as the Applicant has satisfied all of the City's current reporting requirements.

CARRIED

Opposed: Cllr. Wolfe

3. **REQUEST FROM CHIMO COMMUNITY SERVICES**

(File Ref. No.)

Discussion ensued with regard to supporting CHIMO Community Services, and as a result, the following **motion** was introduced:

It was moved and seconded

That a letter be written to the Minister of Mental Health and Addictions and the Minister of Health and Local Members of the Legislative Assembly to stop the ongoing process to put the crisis services, 1-800-SUICIDE, 310-6789 Mental Health line, out to tender, delaying the important work of CHIMO Community Services and risking the introduction of more for-profit operations in the system as well as the more significant concern of jeopardizing ongoing access to crisis services.

The question on the motion was not called as discussion ensued with regard to maintaining current levels of Provincial support for community crisis services. In reply to queries, staff noted that the Province may be seeking to focus on one crisis service provider per health region and as such, will be reviewing current service levels.

The question on the motion was then called and it was **CARRIED**.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (5:07 p.m.).

CARRIED

General Purposes Committee
Monday, November 15, 2021

Certified a true and correct copy of the Minutes of the meeting of the General Purposes Committee of the Council of the City of Richmond held on Monday, November 15, 2021.

Mayor Malcolm D. Brodie
Chair

Evangel Biason
Legislative Services Associate



November 9, 2021

The Honorable Mayor Malcolm Brodie
City of Richmond
6911 No. 3 Road
Richmond, British Columbia V6Y 2C1

Dear Mayor Brodie,

We are writing to inform you that our 1-800-SUICIDE, 310-6789 Mental Health line, and local distress lines are in jeopardy.

After almost a decade of working closely with the Province to ensure crisis lines can provide skilled and effective 24/7 crisis service for all British Columbians, the Province has decided to dramatically increase funding and centralize the technology to allow all crisis centres across the province to support one another's call. That's good news.

And there's bad news. Because funding will be increasing, the Province has informed the Crisis Line Network that they will put all crisis line services to competitive bid through a Request for Proposals (RFP). This means crisis centres across the province will be preparing proposals to bid on the contracts we have historically held at a time when demand on our services is at an all-time high.

The RFP process will delay our transition by many months and raises the possibility that crisis services could be taken over by a private corporation.

As Crisis Centres, we are keenly aware of the importance of responding to the record-breaking number of British Columbians, including your constituents, who need us to answer their call when they are in distress. We are ready to grow.

We request you formally engage the Minister of Mental Health and Addictions and the Minister of Health to stop the ongoing process to put these crisis services out to tender, delaying our important work and risking the introduction of more for-profit operators in the system as well as the more significant concern of jeopardizing ongoing access to crisis services.

Additional information has been included in this letter, and we invite you to reach out to us. We serve the same folks you represent. Their lives matter. Their wellbeing is our top priority.

In good health,

Kathy Nakhleh

Kathy Nakhleh (she, her, hers)
Manager of New Initiatives and Crisis Lines



120-7000 Minoru Blvd. Richmond, BC V6Y 3Z5

P 604.279.7072 | **F** 604.279.7075



Chimo is situated on the traditional and ancestral territory of the Sc̓əwəṣn Məsteyəx^w (Tsawwassen People), and the traditional, ancestral, and unceded territory of the Kwantlen, x^wməṭk^wəy̓əm (Musqueam), Stó:lō, and Stz'uminus Peoples.

Mayor and Councillors

From: Kathy Nakhleh <knakhleh@chimoservices.com>
Sent: November 9, 2021 6:20 PM
To: Mayor and Councillors; Baker, Gillian; Adamson, Claire; Somerville, Kim M
Cc: Tabitha Geraghty; Joyce Alisharan; Kathy Nakhleh
Subject: Chimo - Save BC's Crisis Lines
Attachments: Letter to City of Richmond Council Members.docx; Letter to mayor 1.docx; Brief from BC Crisis Line Network.docx; Councilman Fry motion to Vancouver City Council.docx

Follow Up Flag: Follow up
Flag Status: Flagged

City of Richmond Security Warning: This email was sent from an external source outside the City. Please do not click or open attachments unless you recognize the source of this email and the content is safe.

Dear Honorable Mayor Malcolm Brodie and City of Richmond Council Members,

We are writing to inform you that our 1-800-SUICIDE, 310-6789 Mental Health line, and local distress lines are in jeopardy.

After almost a decade of working closely with the Province to ensure crisis lines can provide skilled and effective 24/7 crisis service for all British Columbians, the Province has decided to dramatically increase funding and centralize the technology to allow all crisis centres across the province to support one another's call. That's good news.

And there's bad news. Because funding will be increasing, the Province has informed the Crisis Line Network that they will put all crisis line services to competitive bid through a Request for Proposals (RFP). This means crisis centres across the province will be preparing proposals to bid on the contracts we have historically held at a time when demand on our services is at an all-time high.

The RFP process will delay our transition by many months and raises the possibility that crisis services could be taken over by a private corporation.

As Crisis Centres, we are keenly aware of the importance of responding to the record-breaking number of British Columbians, including your constituents, who need us to answer their call when they are in distress. We are ready to grow.

We request you formally engage the Minister of Mental Health and Addictions and the Minister of Health to stop the ongoing process to put these crisis services out to tender, delaying our important work and risking the introduction of more for-profit operators in the system as well as the more significant concern of jeopardizing ongoing access to crisis services

Additional information has been included in this email, and we invite you to reach out to us. We serve the same folks you represent. Their lives matter. Their wellbeing is our top priority.

In good health,

Kathy Nakhleh (she, her, hers)

Manager of New Initiatives and Non Facing Client Services



120-7000 Minoru Blvd. Richmond, BC V6Y 3Z5

P 604.279.7072 | **F** 604.279.7075



Chimo is situated on the traditional and ancestral territory of the S̓c̓awaḡn M̓asteyəx̓w (Tsawwassen People), and the traditional, ancestral, and unceded territory of the Kwantlen, x̓wməθk̓wəyəm (Musqueam), Stó:lō, and Stz'uminus Peoples.



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: October 12, 2021

From: Lloyd Bie, P.Eng.
Director, Transportation

File: 10-6450-09-01/2021-
Vol 01

Re: Barnes Drive and Flury Drive - Traffic Calming Update

Staff Recommendation

1. That Option 3 to establish a 30 km/h speed limit on Barnes Drive and Flury Drive as described in the staff report titled "Barnes Drive and Flury Drive – Traffic Calming Update" dated October 12, 2021, from the Director, Transportation, be endorsed; and
2. That should Option 3 be endorsed, Traffic Bylaw No. 5870, Amendment Bylaw No. 10301, to revise the posted speed limit on Barnes Drive and Flury Drive to 30 km/h, be introduced and given first, second and third reading.

Lloyd Bie, P.Eng.
Director, Transportation
(604-276-4131)

| REPORT CONCURRENCE | | |
|-----------------------------------|-------------------------------------|---------------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Engineering | <input checked="" type="checkbox"/> | |
| Fire Rescue | <input checked="" type="checkbox"/> | |
| RCMP | <input checked="" type="checkbox"/> | |
| Finance | <input checked="" type="checkbox"/> | |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Staff Report

Origin

In April 2021, staff received a petition from eight residents of Barnes Drive and Flury Drive requesting traffic calming measures to address perceived concerns of speeding motorists. This report provides the outcome of staff's review of the request and engagement with the neighbourhood.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.4 Foster a safe, caring and resilient environment.

Analysis

Review of Traffic Calming Request

Barnes Drive and Flury Drive are local streets that form an internal subdivision ring road in the east Cambie area. The ring road is only accessible by vehicle from Bath Road, which connects westward to No. 5 Road south of Bridgeport Road (Figure 1). The default speed limit for both streets is 50 km/h; warning signs advising of a 30 km/h speed limit through the curved section of the roadway at the northeast corner are in place. A total of 52 addresses are located on the streets, which have a relatively narrow pavement width, no pedestrian facilities and on-street parking generally permitted on the shoulders.

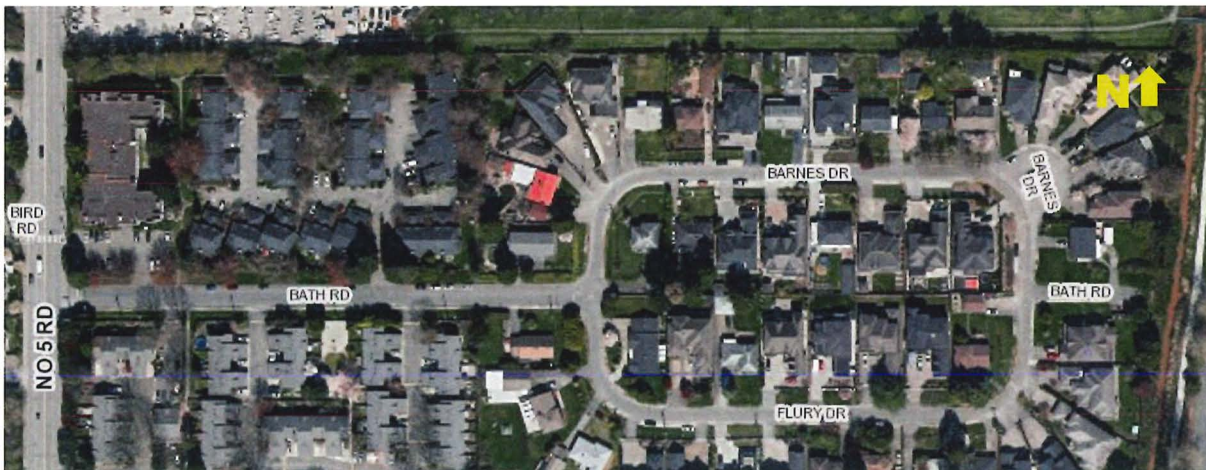


Figure 1: Barnes Drive and Flury Drive

The residents' petition requested an in-pavement speed limit marker specifying 30 km/h at the northeast corner. Staff responded to the request by reviewing traffic data and other related information to assess the actual site conditions and quantify any concerns including:

- Traffic Speed Study: Counts taken October 14-21, 2020 on Barnes Drive indicated an average speed of 26 km/h with the highest speed recorded being one motorist travelling 56 km/h.
- Sightlines: A site assessment confirmed that the sightlines at the four corners are adequate.

- Crash History: Within the last five years (2016-2020), the roadways recorded four vehicle incidents, none of which was speed-related.

Engagement with Neighbourhood

Online Stakeholder Meetings

Staff held two online meetings in June 2021 with the neighbourhood to present staff's technical assessment and then achieve consensus on options for a neighbourhood survey (Table 1).

Table 1: Summary of Online Stakeholder Meetings

| Date | Attendees | Purpose | Feedback/Outcome |
|---------------|-----------|---|---|
| June 9, 2021 | 13 | <ul style="list-style-type: none"> • Present staff's technical assessment • Discuss need for traffic calming measures | <ul style="list-style-type: none"> • Majority of attendees indicated: <ul style="list-style-type: none"> ○ no traffic calming measures needed ○ wish to retain on-street parking ○ did not support speed humps • Some interest expressed for: <ul style="list-style-type: none"> ○ 30 km/h speed limit and signage ○ measures that are non-intrusive, aesthetically pleasing, and do not impact parking or trees |
| June 23, 2021 | 9 | <ul style="list-style-type: none"> • Present revised traffic calming measures based on feedback from first meeting | <ul style="list-style-type: none"> • Consensus achieved on content of neighbourhood survey comprising the following options: <ol style="list-style-type: none"> (1) Do nothing option (2) Traffic calming option with one 30 km/h advisory sign at entrance to neighbourhood that is not an enforceable regulatory sign (3) "Other" option to be described by the respondent |

Neighbourhood Survey

From late June to late July, residents were surveyed to determine the level of support for and obtain comments on the proposed traffic calming measures determined through the engagement phase. A total of 52 surveys were mailed out to each discrete address; 43 responses were received including five responses with a duplicate address. The five responses are included in the analysis as they represent a separate tenant of the house. Thus, the percent support for each option is calculated based on the number of responses for that option divided by a total of 57 units.

The results indicate that there is no majority support for any single proposed option nor any other option suggested by residents (Figure 2). However, there is notable combined support (63% of respondents or 47% of total households) for either an advisory or enforceable 30 km/h speed limit.

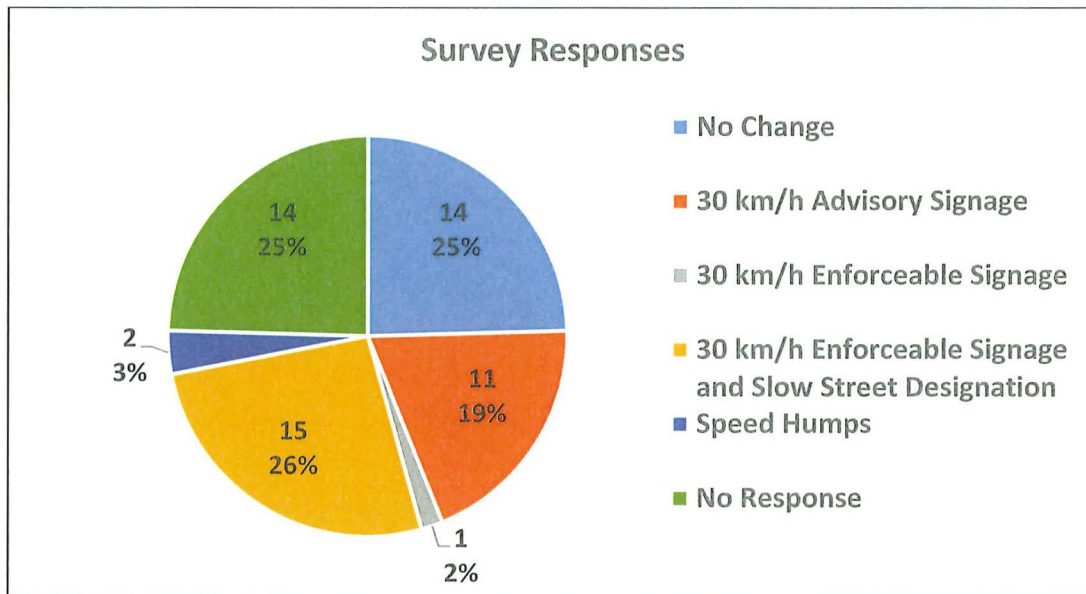


Figure 2: Survey Results for Traffic Calming Options

Traffic Calming Options

There is a demonstrated desire of a near majority of residents for a lower speed limit. Additionally, the two local streets are not through roads, have narrow lane widths, and lack pedestrian facilities, all of which support a lower speed limit. Research indicates that lower speeds reduce the frequency and severity of crashes, and also decrease the risk of a pedestrian or cyclist fatality if hit by a motorist. Based on these combined factors, staff have identified possible traffic calming options for consideration.

Option 1: Status Quo (Not Recommended)

The survey results indicate 25% support no change. As 47% of the total surveyed support either an advisory or enforceable 30 km/h speed limit, staff do not recommend a do nothing option.

Option 2: Advisory 30 km/h Speed Limit (Not Recommended)

This option would install advisory 30 km/h speed limit signage that is not enforceable by Richmond RCMP. As there is existing advisory 30 km/h signage at the northeast corner, installing additional similar non-enforceable signage along the roadways does not provide a tangible change to the current conditions nor respond to residents' desire for a change from the status quo. Therefore, staff do not recommend Option 2.

Option 3: Regulatory 30 km/h Speed Limit (Recommended)

This option would install regulatory 30 km/h speed limit signage that is enforceable by Richmond RCMP. This option is recommended by staff as it provides a material change that responds to residents' interest in a lower speed limit for the neighbourhood and better aligns with the actual operating speed on the ring road as determined by the speed survey. Establishing an enforceable 30 km/h speed limit requires Council approval to amend Traffic Bylaw No. 5870.

Option 4: Regulatory 30 km/h Speed Limit and "Slow Streets" Designation (Not Recommended)

This option is the installation of 30 km/h speed limit signage that is enforceable by Richmond RCMP plus the designation of the two streets as "slow streets." This measure was written in by 26% of survey respondents as an "other" option. While staff do support the installation of enforceable 30 km/h speed limit signage, staff do not recommend the implementation of additional measures to further define the roadways as "slow streets" as physical measures such as in-street pavement markers will further constrain the already relatively narrow roadway width and, in turn, impact the shoulder areas where residents walk and park their vehicles. A number of attendees at the online stakeholder meetings also voiced opposition to the installation of additional signage that would impact parking.

Financial Impact

The estimated cost to implement the signage associated with the recommended Option 3 is \$1,500, which can be funded by the approved 2021 Traffic Calming Program.

Conclusion

The City and residents of Barnes Drive and Flury Drive collaboratively developed traffic calming options for the neighbourhood with two online stakeholder meetings. While the survey results do not indicate a majority support for any single proposed option nor any other option suggested by residents, close to a majority of the total surveyed indicated support for either an advisory or enforceable 30 km/h speed limit.

Staff recommend an amendment to Traffic Bylaw No. 5870 to establish an enforceable 30 km/h speed limit for the streets as a tangible measure that responds to residents' desire for a change from the status quo and is anticipated to improve traffic safety and the walkability of the neighbourhood, thereby encouraging greater community wellness and social interaction.

Fred Lin, P.Eng., PTOE
Transportation Engineer
(604-247-4627)

Bill Dhaliwal
Supervisor, Traffic Operations
(604-276-4210)

JC:jc



City of
Richmond

Bylaw 10301

Traffic Bylaw No. 5870 Amendment Bylaw No. 10301

The Council of the City of Richmond enacts as follows:

1. **Traffic Bylaw No. 5870**, as amended, is further amended by adding a new Item 12 to Schedule B as follows:
 12. Barnes Drive and Flury Drive.
2. This Bylaw is cited as “**Traffic Bylaw No. 5870, Amendment Bylaw No. 10301**”.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

| |
|-------|
| _____ |
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| |
|--|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. |
| JC |
| APPROVED for legality by Solicitor |
| LB |

MAYOR

CORPORATE OFFICER



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** October 10, 2021
From: Lloyd Bie, P. Eng.
Director, Transportation **File:** 01-0154-04/2021-Vol 01
Re: **TransLink 2022 Cost-Share Funding Applications**

Staff Recommendation

That as described in the report titled "TransLink 2022 Cost-Share Funding Applications" dated October 10, 2021 from the Director, Transportation:

- (a) the submission of road, pedestrian, bicycle, and transit facility improvement projects as part of the TransLink 2022 cost-share programs be endorsed and the information be considered in the 2022 Capital Budget process; and
- (b) the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the successful funding agreements.

Lloyd Bie, P. Eng.
Director, Transportation
604-276-4131
Att. 2

| REPORT CONCURRENCE | | |
|-----------------------------------|-------------------------------------|---------------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Finance | <input checked="" type="checkbox"/> | |
| Parks | <input checked="" type="checkbox"/> | |
| Engineering | <input checked="" type="checkbox"/> | |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Staff Report

Origin

Each year, municipalities are invited to submit road, bicycle and transit-related improvement projects for funding consideration from TransLink's cost-share funding programs. This staff report presents the proposed applications from the City to TransLink's 2022 cost-share programs.

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

Accountable, transparent, and responsible financial management that supports the needs of the community into the future.

5.4 *Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.*

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

Leadership in effective and sustainable growth that supports Richmond's physical and social needs.

6.3 *Build on transportation and active mobility networks.*

Analysis

TransLink Cost-Share Programs

TransLink provides cost-share funding to municipalities via the following programs:

- Major Road Network and Bike (MRNB) Upgrade Program: allocated funding for capital improvements to roads that comprise the Major Road Network (MRN) and the construction of bicycle facilities both on and off the MRN.
- Bicycle Infrastructure Capital Cost-Sharing (BICCS) Program: allocated and competitive funding for the construction of bicycle facilities.
- Bicycle Infrastructure Capital Cost-Sharing (BICCS) Recovery Program: competitive funding for the construction of bicycle facilities that can be completed within one year.
- Walking Infrastructure to Transit (WITT) Program: allocated and competitive funding for pedestrian facility upgrades within walking distance of frequent transit stops, stations and exchanges to promote the seamless integration of walking and cycling with transit.
- Transit-Related Road Infrastructure Program (TRRIP): competitive funding for roadway infrastructure facilities required for the delivery of transit services in the region.
- Bus Speed and Reliability (BSR) Program: competitive funding for feasibility studies and capital projects that support improved bus speed and reliability.

- MRN Structures Program: competitive funding for studies and capital projects for the upgrade, rehabilitation and/or replacement of bridges, culverts and retaining walls.

Projects to Receive Funding from 2021 TransLink Cost-Share Programs

Fourteen pedestrian, cycling and road improvement projects in Richmond will collectively receive up to \$5.09 million from TransLink as part of its 2021 cost-share programs, which will support projects with a total estimated cost of \$14.4 million (Attachment 1).

The City also submitted a successful application to TransLink's 2021 MRN Structures Program for the installation of new drainage culverts and associated drainage infrastructure at the Steveston Highway-Gilbert Road intersection to replace the existing ageing road cross-culvert. The estimated project cost is \$762,000 with the City responsible for 50% of the funding. The project was approved by Council as part of the City's 2021 capital program. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the agreement.

TransLink Funding Levels for 2022 Cost-Share Programs

Confirmation of funding levels for TransLink's 2022 cost-share programs will not be known until finalization of its new 10-Year Investment Plan, which is anticipated by spring 2022. TransLink is proceeding with the 2022 application process at this time, on the assumption that funding levels in 2022 will be the same as in 2021, in order to maintain the overall timeline for TransLink's evaluation and approval process, and thus timely project delivery.

Should the new 10-Year Investment Plan include 2022 funding levels different than those of 2021, municipalities will have the opportunity to revise their applications to meet the new parameters as necessary. Staff will report back with an update if this scenario occurs.

Projects Proposed for Submission to 2022 TransLink Cost-Share Programs

The following projects are proposed for submission to the 2022 TransLink cost-share programs, which collectively will fully utilize TransLink's anticipated allocated funding for Richmond. TransLink has indicated that the amount of capital cost-share funding available to Richmond for 2022 as noted below.

Major Road Network and Bike (MRNB) Upgrade Program

TransLink's assumed 2022 allocation for Richmond is \$1,852,000 (same as 2021). The City proposes to submit the following projects for consideration (Attachment 2):

- Westminster Hwy-No. 2 Road Intersection Upgrade: The City's network screening study of collision-prone intersections presented to Council in June 2019 ranked this intersection as #3 of the top 20. The scope includes modification of the intersection geometry, modification of the channelized island at the northwest corner, increased size of the pedestrian refuge areas, improving cycling connectivity, access management, and traffic signal operation enhancements. Council approved the project as part of the 2021 Capital Plan. This application is Year 2 of a 2-year accrual (i.e., the City also successfully applied to TransLink

in 2021 for the same project in order to achieve a minimum of 50% external funding over the two-year period).

- *Cambie Road-No. 4 Road Intersection Upgrade*: Provision of left-turn lanes on all four legs, new boulevard and/or lighting strip, upgraded traffic signals, increased size of the pedestrian refuge areas, widened crosswalks, and overhead street name signs. Council approved the project as part of the 2021 Capital Plan. This application is Year 2 of a 2-year accrual (i.e., the City also successfully applied to TransLink in 2021 for the same project in order to achieve a minimum of 50% external funding over the two-year period).
- *No. 2 Road Multi-Use Pathway*: Construction of a two-way off-street paved 3.0 m wide pathway for pedestrians and cyclists on the east side of No. 2 Road. The alignment and form of cycling facility is a logical extension of the existing multi-use pathway on the east side south of Steveston Highway and incorporates an existing 170 m length multi-use pathway on the east side at Wallace Road. Council approved the project as part of the 2021 Capital Plan. This application is Year 2 of a 2-year accrual (i.e., the City also successfully applied to TransLink in 2021 for the same project in order to achieve a minimum of 50% external funding over the two-year period).
- *Garden City Road Multi-Use Pathway*: Reconstruction and enhancement of the existing pathway on the west side between Francis Road and Williams Road due to extensive asphalt failing (e.g., root damage). The rebuilt pathway will be wider and new pedestrian lighting will be added. The project will be included in the 2022 Capital Plan for Council's consideration.
- *Westminster Hwy-No. 5 Road Intersection Upgrade*: The City's network screening study of collision-prone intersections presented to Council in June 2019 ranked this intersection as #5 of the top 20. The scope includes modification/removal of the existing island at the northwest corner, reduced curb return radius, increased size of the pedestrian refuge areas, and improved pedestrian and cycling connectivity. The project will be included in the 2022 Capital Plan for Council's consideration. This application is Year 1 of a 2-year accrual (i.e., the City will apply to TransLink in 2023 for the same project in order to achieve a minimum of 50% external funding over the two-year period).

Bicycle Infrastructure Capital Cost-Sharing (BICCS) Program

TransLink's 2022 assumed allocation for Richmond is \$894,000 (same as 2021) and the City can apply for up to \$600,000 per project from the competitive-based component. The City proposes to submit the following project for consideration for the allocated component (Attachment 2):

- *River Road Multi-Use Pathway*: Council approved design funding for a cycling facility on River Road between McCallan Road (northern terminus of Railway Greenway) and No. 2 Road (western terminus of Middle Arm Greenway) as part of the 2020 Capital Plan. This application is for construction of a two-way off-street paved 4.0 m wide pathway including lighting for pedestrians and cyclists on the south side of River Road that will connect the two major greenways. The project will be included in the 2022 Capital Plan for Council's consideration.

- No. 2 Road Multi-Use Pathway: As described above for the MRNB Program.

The City also proposes to submit the following projects for consideration for the competitive component (Attachment 2). Should the applications not be successful, both projects will be deferred and the City will re-apply in 2023.

- Sexsmith Road-Brown Road Bike Route: Through the development application process and City capital projects, cycling facilities have been established on various sections of Sexsmith Road and Brown Road. In addition, the upgrade of the Sexsmith Road-Bridgeport Road intersection to include a pedestrian signal has been secured. This project will fill in the remaining gaps to provide a continuous protected cycling facility along Sexsmith Road and Brown Road between the Bridgeport Canada Line Station and Transit Exchange and the recently completed Odlin Road Neighbourhood Bike Route. The project includes the upgrade of the existing special crosswalk on Cambie Road at Brown Road to a pedestrian signal. The project will be included in the 2022 Capital Plan for Council's consideration.
- Westminster Hwy-No. 5 Road Intersection Upgrade: As described above for the MRNB Program.

Bicycle Infrastructure Capital Cost-Sharing (BICCS) Recovery Program

For 2022, \$2.0 million is assumed available with all funding available on a competitive basis. The City proposes to submit the following project for consideration (Attachment 2):

- Garden City Road (Granville Ave-Sea Island Way): Installation of delineators along both sides of Garden City Road where feasible between Granville Avenue and Sea Island Way (approximate length of 2.3 km in each direction). This project will complement the recent installation of delineators on Granville Avenue (Railway Avenue to Garden City Road) and continue the addition of protection to painted bike lines along a major north-south bike route in the City Centre. The project will be included in the 2022 Capital Plan for Council's consideration.

Walking Infrastructure to Transit (WITT) Program

TransLink's 2022 assumed allocation for Richmond is \$322,000 (same as 2021). The City proposes to submit the following projects for consideration for the allocated component (Attachment 2):

- Westminster Hwy-No. 2 Road Intersection Upgrade: As described above for the MRNB Program.
- Westminster Hwy-No. 5 Road Intersection Upgrade: As described above for the MRNB Program.

Transit-Related Road Infrastructure Program (TRRIP)

For 2022, TRRIP has a total of \$1.0 million available for the entire program (same as 2021); the City's submission is for \$100,000, which is the maximum amount permitted. Projects proposed to be submitted by the City are:

- Bus Stop Upgrades: Continued retrofits to various existing bus stops to provide for universal accessibility (i.e., installation of a landing pad and/or connecting sidewalk for wheelchair users) and construction of connecting pathways to provide access to/from the bus stop. The exact bus stop locations for these upgrades will be determined through feedback from transit users and consultation with Richmond Centre for Disability. The project will be included in the 2022 Capital Plan for Council's consideration.

As of September 2021, Richmond has 723 active bus stops, of which 621 (85.9%) are accessible as compared to the regional average of 81.2%. Based on the experience of past years, staff anticipate that approximately 10 locations will be upgraded with the proposed project in 2022. The project scope will be reduced should the application not be successful.

Bus Speed and Reliability (BSR) Program

For 2022, the BSR Program has \$5.2 million available (compared to \$4.15 million in 2021) with all funding available on a competitive basis. The City proposes to submit the following projects for consideration (Attachment 2):

- Great Canadian Way-Bridgeport Road Intersection Southbound Bus-Only Lane – Implementation: As part of the 2019 and 2020 BSR Programs, the City examined and developed conceptual designs for a potential long-term improvement of a new southbound bus-only lane on Great Canadian Way approaching Bridgeport Road to facilitate buses accessing Highway 99 southbound. As part of the 2021 BSR Program, the functional design for a bus only lane at the intersection was completed. This application will progress the project to implementation, which will support the bus only on-ramp from Bridgeport Road to southbound Highway 99 to be completed in 2022 by the Province as part of the George Massey Crossing Program.

Requested Funding and Estimated Project Costs

The total requested funding for the above 2022 submissions to TransLink's cost-sharing programs is \$4,760,500, which will support projects with a total estimated cost of \$11.2 million (Table 1). For all projects, the City will receive from 50% to 100% of the estimated project cost. The total combined amounts of TransLink funding for 2022 and City funding do not equal the total estimated project costs due to several projects accruing TransLink funding over a two-year period.

Table 1: Projects to be Submitted to 2022 TransLink Cost-Share Programs

| Project | TransLink Funding Source | | Total TransLink Funding for 2022 ⁽¹⁾ | Estimated City Funding & Source ⁽²⁾ | Estimated Project Cost |
|--|--------------------------|-----------|---|--|------------------------|
| | Program | Amount | | | |
| Westminster Hwy-No. 2 Road Intersection Upgrade (Year 2 Accrual) | MRNB Allocated | \$150,000 | \$300,000 (Year 1 Accrual in 2021 = \$350,000) | \$650,000 (2021 Capital Program) | \$1,300,000 |
| | WITT Allocated | \$150,000 | | | |
| Cambie Road-No. 4 Road Intersection Upgrade (Year 2 Accrual) | MRNB Allocated | \$425,000 | \$425,000 (Year 1 Accrual in 2021 = \$425,000) | \$850,000 (2021 Capital Program) | \$1,700,000 |

| Project | TransLink Funding Source | | Total TransLink Funding for 2022 ⁽¹⁾ | Estimated City Funding & Source ⁽²⁾ | Estimated Project Cost |
|---|--------------------------|-----------|---|--|------------------------|
| | Program | Amount | | | |
| No. 2 Road (Steveston Hwy-Williams Road): multi-use path (Year 2 Accrual) | MRNB Allocated | \$633,500 | \$727,500 (Year 1 Accrual in 2021 = \$772,500) | \$900,000 (2021 Capital Program) | \$2,400,000 |
| | BICCS Allocated | \$94,000 | | | |
| Westminster Hwy-No. 5 Road Intersection Upgrade (Year 1 Accrual) | MRNB Allocated | \$143,500 | \$315,500 (Year 2 Accrual in 2023: \$284,500) | \$600,000 (2022 Top 20 Collision Prone Intersections Program) | \$1,200,000 |
| | WITT Allocated | \$172,500 | | | |
| Garden City Road (Francis Road-Williams Road): reconstruct multi-use path | MRNB Allocated | \$500,000 | \$500,000 | \$500,000 (2022 Active Transportation Improvement Program) | \$1,000,000 |
| River Road (McCallan Road-No. 2 Road): multi-use path | BICCS Allocated | \$800,000 | \$800,000 | \$800,000 (2022 Capital Program) | \$1,600,000 |
| Sexsmith Road-Brown Road (Beckwith Road-Browngate Road): protected bike lanes | BICCS Competitive | \$562,500 | \$562,500 | \$187,500 (2022 Capital Program) | \$750,000 |
| Garden City Road (Granville Ave-Sea Island Way): Installation of Delineators | BICCS Recovery | \$280,000 | \$280,000 | \$25,000 (2022 Active Transportation Improvement Program) | \$305,000 |
| Accessibility upgrades to various existing bus stops | TRRIP | \$100,000 | \$100,000 | \$100,000 (2022 Transit-Related Road Infrastructure Program) | \$200,000 |
| Great Canadian Way (Beckwith Rd-Bridgeport Road): Southbound Bus Only Lane | Bus Speed & Reliability | \$750,000 | \$750,000 | \$0 | \$750,000 |
| Total⁽³⁾ | | | \$4,760,500 | \$4,612,500 | \$11,205,000 |

(1) The amounts shown represent the maximum funding contribution to be requested from TransLink based on the City's cost estimate for the project. The actual amount invoiced to TransLink follows project completion and is based on incurred costs.

(2) The City's portion of the costs for the projects with Year 2 accrual were approved as part of the 2021 Capital Budget. The City's portions of the costs of the remaining projects will be considered during the 2022 Capital Budget process.

(3) The total combined amounts of TransLink funding for 2022 and City funding do not equal the total estimated project costs due to several projects accruing TransLink funding over a two-year period.

Should the submissions be successful, the City would enter into funding agreements with TransLink. Staff will report back should any applications not be successful or cost-share funding levels for 2022 differ from those identified in this report. The agreements are standard form agreements provided by TransLink and include an indemnity and release in favour of TransLink. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the agreements and the information be considered in the 2022 Capital Budget process.

Financial Impact

The City's portion of the costs for the projects with Year 2 accrual of TransLink funding (i.e., Westminster Hwy-No. 2 Road intersection upgrade, Cambie Road-No. 4 Road intersection upgrade, and No. 2 Road multi-use path) were approved as part of the 2021 Capital Budget. The City's portions of the costs of the remaining proposed project applications will be considered during the 2022 Capital Budget process and the associated operating budget impacts will be incorporated as part of the upcoming annual budget process. The 2022 BSR Program project costs include direct staff time, which will offset City funding.

Conclusion

A number of road, pedestrian, bicycle route, and transit improvement projects are proposed for submission to TransLink's various cost-sharing programs for 2022 that will support Council's Strategic Plan for 2018-2022 with respect to "Strategic and Well-Planned Growth" as well as the goals of a number of City plans and strategies including the Official Community Plan, the Community Energy Emissions Plan and the Community Wellness Strategy.

In addition to maximizing external funding in implementing local transportation improvements, significant benefits for those using sustainable travel modes in terms of new infrastructure that provides safety and accessibility enhancements will also be achieved should these projects be approved by TransLink and Council.



Joan Caravan
Transportation Planner
(604-276-4035)
JC:jc



Fred Lin, P.Eng., PTOE
Senior Transportation Engineer
(604-247-4627)

Att. 1: Projects to Receive Funding from 2021 TransLink Cost-Share Programs

Att. 2: Locations of Proposed 2022 Cost-Share Projects

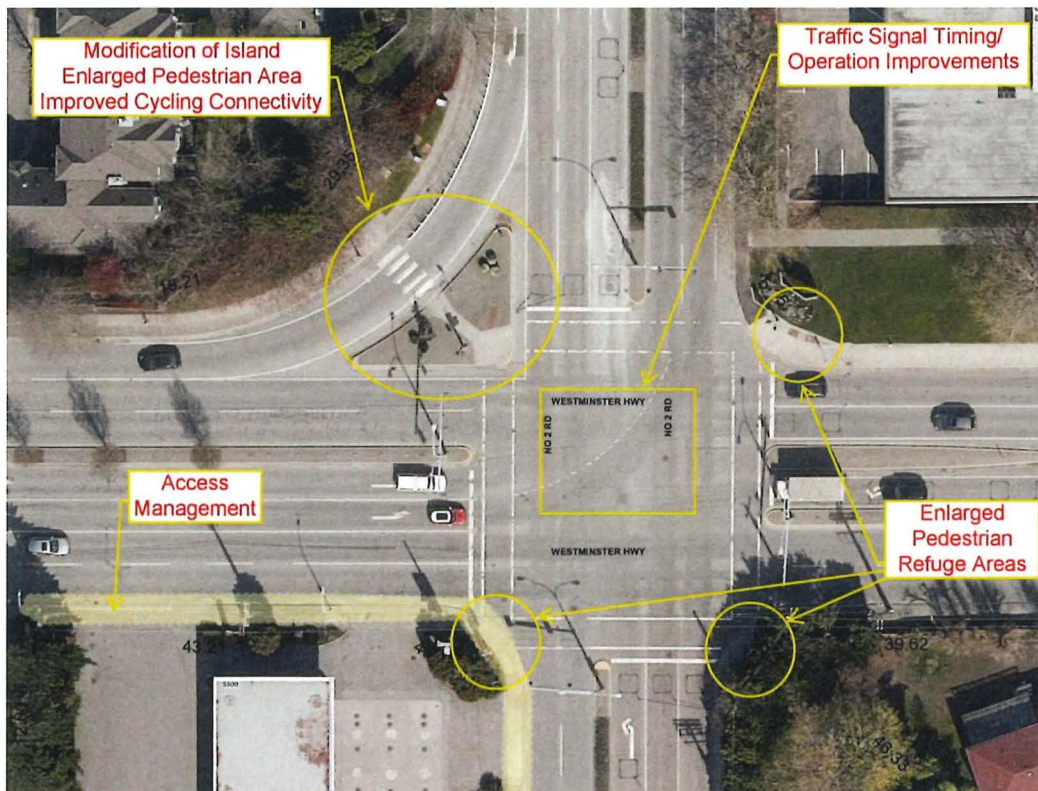
Projects to Receive Funding from 2021 TransLink Cost-Share Programs

| Project | TransLink Funding Source | | Total TransLink Funding ⁽¹⁾ | Estimated City Funding | Estimated Project Cost |
|--|--------------------------|-----------|--|------------------------|------------------------|
| | Program | Amount | | | |
| Westminster Hwy-No. 2 Road Intersection Upgrades (Year 1 Accrual) | MRNB Allocated | \$28,000 | \$350,000 (Proposed Year 2 accrual in 2022 = \$300,000) | \$650,000 | \$1,300,000 |
| | WITT Allocated | \$322,000 | | | |
| Cambie Road-No. 4 Road Intersection Upgrades (Year 1 Accrual) | MRNB Allocated | \$425,000 | \$425,000 (Proposed Year 2 accrual in 2022 = \$425,000) | \$850,000 | \$1,700,000 |
| Steveston Hwy (No. 2 Road-Mortfield Gate): Phase 2 of multi-use path (Year 2 Accrual) | MRNB Allocated | \$131,000 | \$1,625,000 (Year 1 accrual in 2020 = \$1,975,000) | \$2,400,000 | \$6,000,000 |
| | BICCS Allocated | \$894,000 | | | |
| | BICCS Competitive | \$600,000 | | | |
| No. 2 Road (Steveston Hwy-Williams Road): multi-use path (Year 1 Accrual) | MRN Allocated | \$772,500 | \$772,500 (Proposed Year 2 accrual in 2022 = \$727,500) | \$900,000 | \$2,400,000 |
| Browngate Road (Hazelbridge Way-No. 3 Road): cycle tracks | BICCS Competitive | \$300,000 | \$300,000 | \$100,000 | \$400,000 |
| Lansdowne Road (Gilbert Road-Pearson Way): multi-use path | MRN Allocated | \$150,000 | \$150,000 | \$150,000 | \$300,000 |
| Shell Road (Alderbridge Way-Hwy 99 Overpass): rebuild of multi-use path | MRN Allocated | \$345,500 | \$345,500 | \$244,500 | \$590,000 |
| Granville Avenue (Garden City Road-Railway Avenue): addition of delineators at bike lane | BICCS Recovery | \$300,000 | \$300,000 | \$100,000 | \$400,000 |
| Steveston Hwy-Gilbert Road: drainage upgrades | MRN Structures | \$381,000 | \$381,000 | \$381,000 | \$762,000 |
| Accessibility upgrades to various existing bus stops | TRRIP | \$88,750 | \$88,750 | \$88,750 | \$177,500 |
| No. 3 Road (Cook Road-River Road): study | Bus Speed & Reliability | \$125,000 | \$125,000 | \$0 | \$125,000 |
| Hot Spot Analysis: left-turns at two intersections | Bus Speed & Reliability | \$50,000 | \$50,000 | \$0 | \$50,000 |
| Bridgeport Road-Knight Street: northbound on-ramp access | Bus Speed & Reliability | \$125,000 | \$125,000 | \$0 | \$125,000 |
| Bridgeport Station Egress: functional design of bus lane | Bus Speed & Reliability | \$50,000 | \$50,000 | \$0 | \$50,000 |
| Total⁽²⁾ | | | \$5,087,750 | \$5,864,250 | \$14,379,500 |

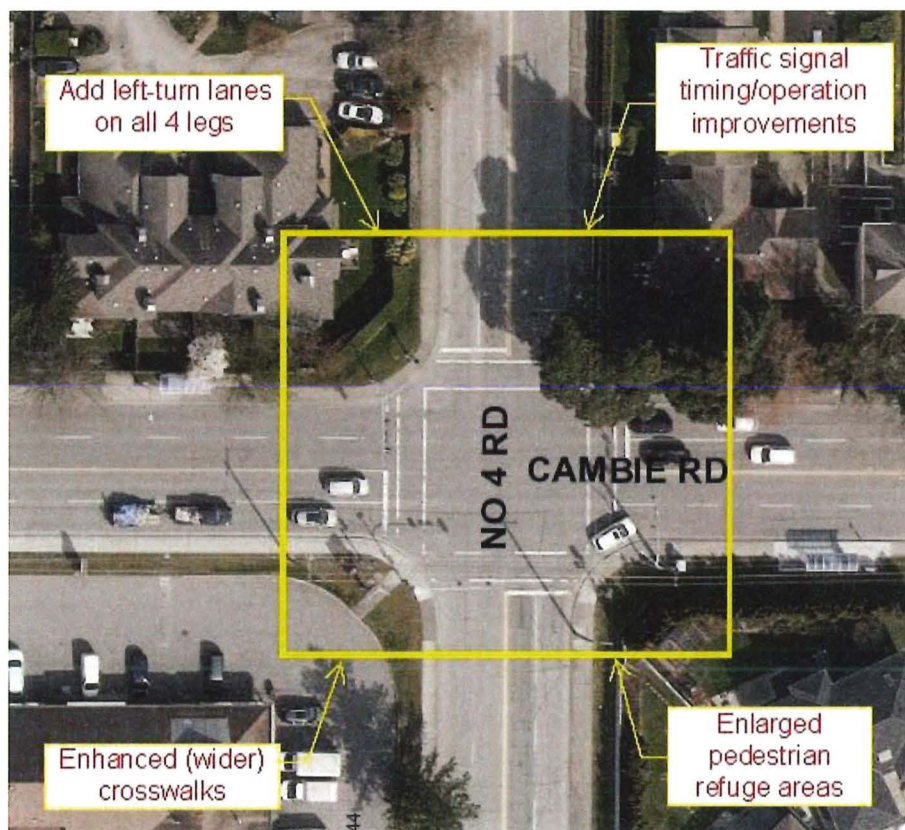
(1) The amounts shown represent the maximum funding contribution to be requested from TransLink based on the City's cost estimate for the project. The actual amount invoiced to TransLink follows project completion and is based on incurred costs.

(2) The total combined amounts of TransLink funding for 2021 and City funding do not equal the total estimated project costs due to projects accruing TransLink funding over a two-year period (either 2020-2021 or 2021-2022).

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects

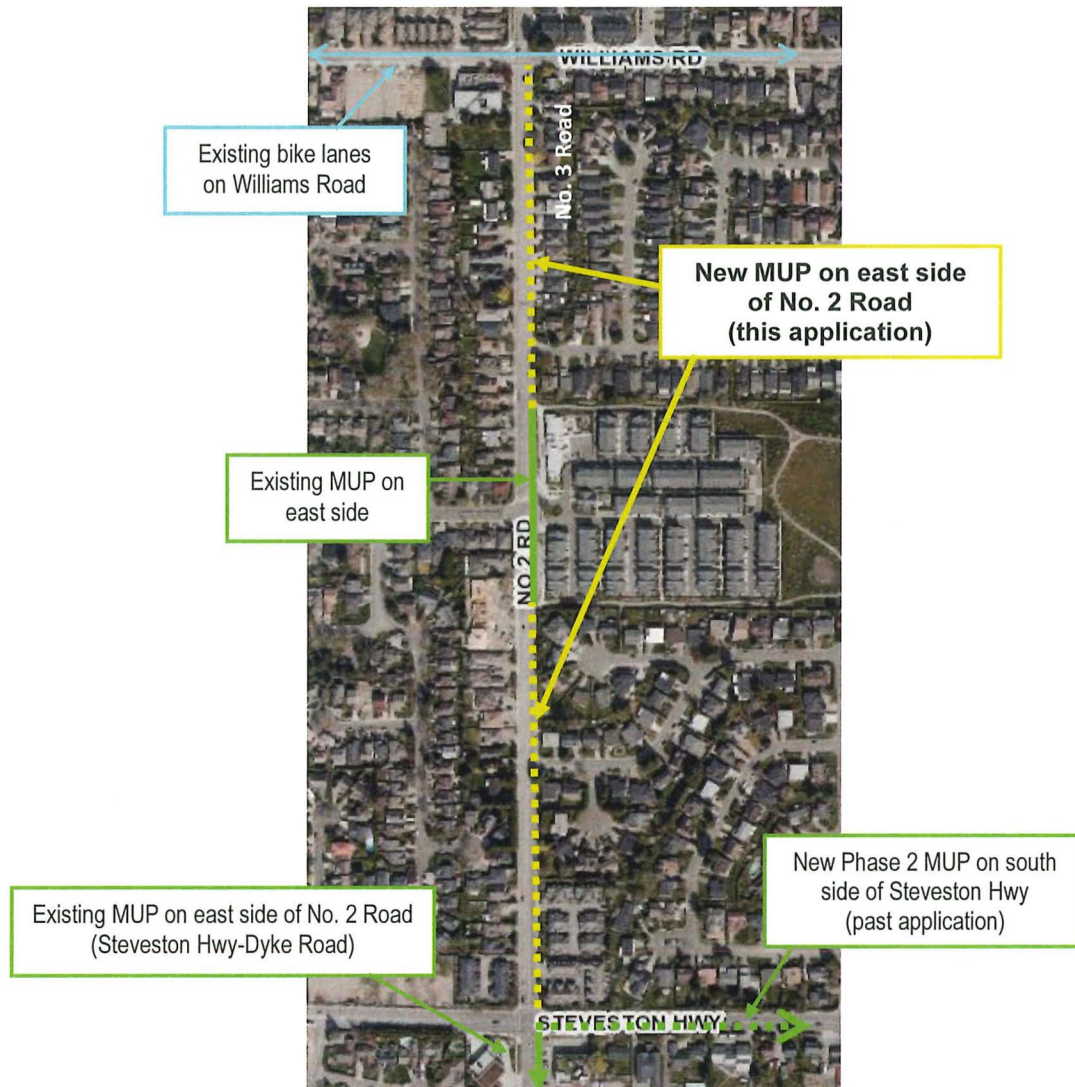


Westminster Hwy-No. 2 Road: Intersection Upgrade: Year 2 of 2-Year Accrual



Cambie Road-No. 4 Road: Intersection Upgrade: Year 2 of 2-Year Accrual

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects



No. 2 Road (Steveston Hwy-Williams Road): Multi-Use Pathway (MUP)
Year 2 of 2-Year Accrual



Westminister Hwy-No. 5 Road: Intersection Upgrade

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects

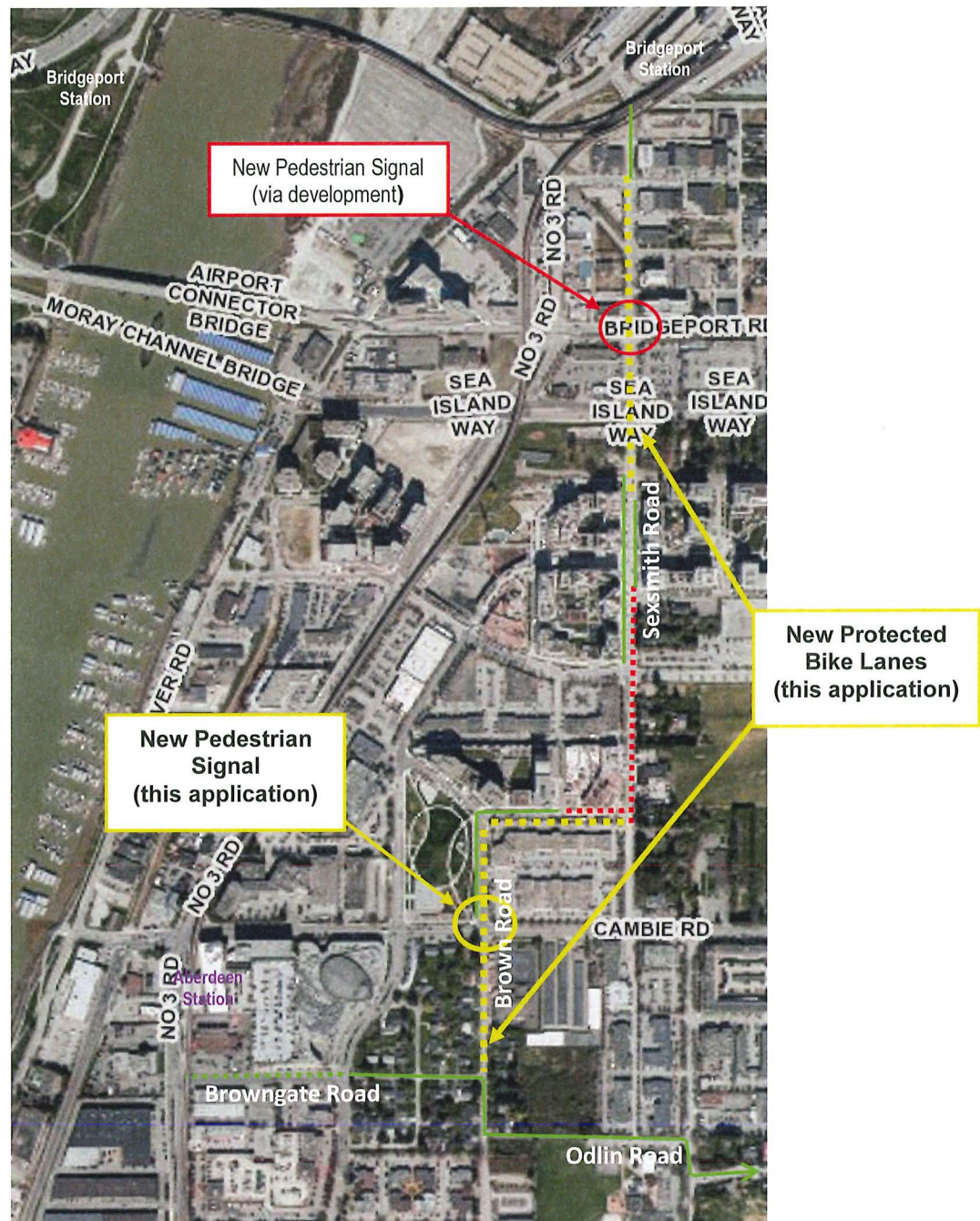


Garden City Road (Francis Road-Williams Road): Reconstruction of Multi-Use Pathway:




River Road (McCallan Road-No. 2 Road): New Multi-Use Pathway

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects



Sexsmith Road-Brown Road (Beckwith Road-Browngate Road): Protected Bike Lanes

-  **New Cycling Facilities (this application)**
-  Existing cycling facilities
-  Planned cycling facilities (City project)
-  Planned cycling facilities (secured via development application process)

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects



Garden City Road (Granville Ave-Sea Island Way):
Addition of Delineators between Bike Lane and Vehicle Lane

Proposed 2022 MRNB, BICCS, WITT, and BSR Program Projects



Great Canadian Way (Beckwith Road-Bridgeport Road): Southbound Bus-Only Lane



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Suzanne Bycraft
Interim Director, Public Works Operations
Date: October 15, 2021
File: 10-6370-01/2021-Vol 01
Re: **Award of Contract 6691Q - Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis**

Staff Recommendation

That the acquisition of a hydro excavator be approved in the total amount of \$760,000 as outlined in the staff report titled, "Award of Contract 6691Q - Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis", dated October 13, 2021, from the Interim Director, Public Works Operations as follows:

1. That Contract 6691Q Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis be awarded to Vimar Equipment Ltd. in the total tendered amount of \$473,852.00 excluding outfitting, contingency and taxes; and
2. That the supply of one (1) cab and chassis be awarded to Peterbilt Pacific Ltd. in the amount of \$210,462.00 excluding outfitting, contingency and taxes in accordance with the standardization method approved by Council and as outlined in the staff report titled, "Standardization of City's Single and Tandem Axle Vehicle Fleet", dated April 3, 2017.

Suzanne Bycraft
Interim Director, Public Works Operations
(604-233-3338)

| REPORT CONCURRENCE | | |
|---|--|---|
| ROUTED TO: Finance Department Purchasing | CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | CONCURRENCE OF GENERAL MANAGER |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Staff Report

Origin

Contract 6691Q (Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis) was initiated to acquire a hydro excavator to replace an existing unit that has reached the end of its useful life. This is a like-for-like replacement of existing unit 1429, which is being replaced as part of standard replacement cycles due to age and condition.

The purpose of this report is to present the results of the Request for Quotations process and to seek Council approval to award contracts to both Vimar Equipment Ltd. and Peterbilt Pacific Ltd.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.2 Future-proof and maintain city infrastructure to keep the community safe.

Analysis

Background

Hydro excavation equipment is used to remove fill and other materials as part of maintenance and construction work. A combination flush and vacuum-style process is used. This process reduces the need to excavate with heavy equipment, such as backhoes, thereby minimizing potential for damage to underground utilities and as part of ensuring compliance with regulatory requirements. The process is also safer and quicker. Hydro excavators are used to flush, clean and remove blockages from mainlines, inspection chambers, culverts, manholes, ditches and catch basins. They are used in construction projects to excavate for new installations, repairs and replacements (service connections, fire hydrants, valves, meter boxes, lamp standards, etc.).

Public Tendering

A competitive bid process was undertaken for the supply and delivery of the sewer vacuum combo unit (body component). A procurement document for the above noted work was prepared by staff and posted to BC Bid and bids&tenders on June 11, 2021. One quotation was received from Vimar Equipment Ltd.

| Vendor | Tendered Cost (plus Contingency, Outfitting and Taxes) |
|----------------------|---|
| Vimar Equipment Ltd. | \$473,852.00 |

Review Process

The only quotation received was from Vimar Equipment Ltd. which met all the City's specifications and is therefore recommended for award. Staff's review of previous purchases of similar units indicates that the bid received under this tender process is in line with that which

would otherwise be expected. It is staff's view that if a new bid process was sought at this time, costs would be considerably higher than the bid received under Contract 6691Q due to supply chain shortages in the current market. Therefore, staff's view is that the pricing received represents best value for the City. Vimar has also provided high quality products and reliable services to the City in prior dealings.

Cab and Chassis

The sewer vacuum combo unit will be mounted on Peterbilt cab and chassis as part of the previously approved Council standardization for fleet vehicles. This method, approved at the April 24, 2017 Council meeting, establishes the Peterbilt model for all single and tandem axle vehicle replacements. This provides for economies of scale in parts, tooling, maintenance and vehicle operations and has been an effective method to date. Costs for the cab and chassis portion are \$210,462.00 excluding taxes as follows:

- Truck purchase price: \$210,372.00
- Tire levy: \$ 90.00
- Total \$210,462.00

Peterbilt provides a local maintenance facility for parts, repairs, product and technical support, and a warranty center.

Disposal Plan – Existing Unit:

Existing unit 1429 will be disposed of in accordance with Disposal of City Assets Policy No. 2003. Typically, this will be through consignment or auction based on estimates for best value of market conditions once the new unit is ready for commissioning.

Financial Impact

The sewer vacuum combo project requires a total project expenditure of \$760,000.00, inclusive of contingency, outfitting by City forces, taxes and levies as shown in Table 1. This total expenditure is included as part of the 2020 capital project submission "Vehicle and Equipment Reserve Purchases (Public Works and Corporate Fleet)". Total funding of \$3.32 million was approved by Council and is included in the Consolidated 5 Year Financial Plan (2020-2024).

Table 1: Total Project Expenditure

| Item | Cost |
|---|---------------------|
| Vimar Equipment – Sewer Vacuum Combo Unit | \$473,852.00 |
| Peterbilt – Cab and Chassis | \$210,462.00 |
| Outfitting (City Forces) | \$11,784.00 |
| Contingency Costs | \$16,000.00 |
| Taxes | \$47,902.00 |
| Total | \$760,000.00 |

Conclusion

Staff recommend that Contract 6691Q Supply and Delivery of One (1) Sewer Vacuum Combo Unit on a City Provided Cab and Chassis be awarded to Vimar Equipment Ltd. in the total tendered amount of \$473,852.00, excluding outfitting, contingency and taxes. Staff also recommend that a contract for the supply of one (1) cab and chassis be awarded to Peterbilt Pacific Ltd. in the amount of \$210,462.00, excluding outfitting, contingency and taxes. The total projected expenditure is \$760,000 inclusive of ancillary costs.



Kristina Nishi
Acting Manager, Fleet and Environmental Programs
(604-233-3301)

KN:kn



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Suzanne Bycraft
Interim Director, Public Works Operations
Date: October 7, 2021
File: 10-6050-01/2021-Vol 01
Re: **Award of Contract 6437F - Supply of Drainage Pumps, Parts and Services**

Staff Recommendation

1. That Contract 6437F – Supply of Drainage Pumps, Parts and Services be awarded to KSB Pumps Inc. on an “as and when required” basis for a term of five years with a maximum contract value not to exceed \$2.51 million, plus applicable taxes.
2. That the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to negotiate and execute on behalf of the City, the contract identified above and as outlined in the staff report titled, “Award of Contract 6437F – Supply of Drainage Pumps, Parts, and Services” dated October 7, 2021, from the Interim Director, Public Works Operations.

Suzanne Bycraft
Interim Director, Public Works Operations
(604-233-3338)

| REPORT CONCURRENCE | | |
|---|--|---|
| ROUTED TO: Finance Department Purchasing | CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | CONCURRENCE OF GENERAL MANAGER |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Staff Report

Origin

The City regularly monitors and upgrades drainage pump stations throughout Richmond to maintain a robust drainage system. Staff assessed the needs of the City's drainage pump stations including the existing infrastructure and the future supply requirements. It was determined the best course of action is to standardize the pumps and parts to ensure compatibility with existing infrastructure, achieve economies of scale and reduce costs as a result of retrofitting, modifications, staff training and repair times.

KSB Pumps Inc. is the only supplier of Amacan brand pumps and parts which are critical components to the drainage network and have proven to be of excellent quality and dependability over the past 20 years in the City's drainage pump stations. The current and ongoing standardization of drainage pumps and hardware will continue to minimize costs and downtime by allowing for greater interchangeability and technical expertise when repairs are needed, and will minimize service disruptions. The Amacan brand pumps interface with existing electronic monitoring equipment, control programs, hardware and have demonstrated good value to the City in terms of increased pumping capabilities and reduced energy consumption and failures.

This report presents the results of the procurement process and recommends award of Contract 6437F – Supply of Drainage Pumps, Parts, and Services to KSB Pumps Inc.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.1 Enhance safety services and strategies to meet community needs.

1.2 Future-proof and maintain city infrastructure to keep the community safe.

1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.

1.4 Foster a safe, caring and resilient environment.

Analysis

Procurement Process

Staff approached the market with a Notice of Intent to Contract (NOITC) with KSB Pumps Inc. in April 2019. The NOITC posting on BC Bid received no challenges from other suppliers in the industry.

Project Description

The scope for this contract is as follows:

- Pumps and parts supply for the City's drainage pump stations.
- Maintenance and repair services to pumps and parts supplied by the vendor, for which the City does not have the capacity to perform in-house.

Supply Agreement

In return for a long-term commitment, KSB Pumps Inc. is offering the following:

- A fixed 15% discount against list prices for the supply of pumps and parts for the full term of the contract.
- Pricing will be fixed for the first 24 months of this supply agreement. For the third, fourth and fifth year of the agreement, the price will be adjusted by no more than 2% per annum to reflect cost increases that the supplier may incur during the term of the agreement.
- Critical parts will be stored at KSB Pumps Inc. service centre. The City may order the parts in emergency cases which are to be delivered to site by KSB Pumps Inc.
- The City will have firsthand access to the newest generation of the drainage pumps which offers improved efficiency, smaller foot print and better performance.
- KSB Pumps Inc. agrees to provide access to their web-portal for ordering spare parts directly used by City employees or agents.

KSB Pumps Inc. will donate any used parts of pumps to local educational facilities that maintain Millwright programs such as BCIT (Burnaby, BC) and Kwantlen Polytechnic University (Surrey, BC) or other educational facilities requested by the City.

Financial Impact

Funding for the work under this contract is identified and included in various operating and capital budgets within Council-approved funding levels. The estimated value of the contract is shown in Table 1.

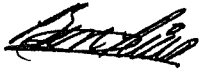
Table 1 - Estimated Costs

| Estimated Costs | |
|------------------------------|---------------------|
| First year (2021 to 2022) | \$ 444,000 |
| Second year (2022 to 2023) | \$ 444,000 |
| Third year (2023 to 2024) | \$ 452,880 |
| Fourth year (2024 to 2025) | \$ 461,937 |
| Fifth year (2025 to 2026) | \$ 471,176 |
| Subtotal | \$ 2,273,993 |
| 10% Contingency | \$ 227,399 |
| Total Estimated Costs | \$ 2,501,392 |

Conclusion

This report presents the procurement process and agreement details for Contract 6437F – Supply of Drainage Pumps, Parts and Services.

It is recommended that the contract be awarded to KSB Pumps Inc. for a five-year term and that the Chief Administrative Officer and the General Manager, Engineering and Public Works be authorized to negotiate and execute the contract.



Ben Dias
Manager, Sewerage and Drainage
(604-244-1207)

BD:bd



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** October 18, 2021
From: Suzanne Bycraft **File:** 10-6000-01/2021-Vol
Interim Director, Public Works Operations 01
Re: **Change Order Approval – Contract 6715P – Traffic Control Services**

Staff Recommendation

1. That staff be authorized to issue a change order to increase the value of the current contract between the City of Richmond and Ansan Traffic Group, Lanesafe Traffic Control, and Traffic Pro Services as detailed in the staff report titled “Change Order Approval – Contract 6715P – Traffic Control Services”, dated October 13, 2021 from the Interim Director, Public Works Operations, by \$906,110, bringing the new contract value to \$2.4 million over the maximum available term of three years; and
2. That the Chief Administration Officer and the General Manager, Engineering and Public Works be authorized to execute a contract amendment with Ansan Traffic Group, Lanesafe Traffic Control and Traffic Pro Services, to reflect the increase in predicted usage of services over the three year term.

Suzanne Bycraft
Interim Director, Public Works Operations
(604-233-3338)

| REPORT CONCURRENCE | | |
|-----------------------------------|-------------------------------------|---------------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Finance Department | <input checked="" type="checkbox"/> | |
| Purchasing | <input checked="" type="checkbox"/> | |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |
| | | |

Staff Report

Origin

At the March 9, 2020 Council meeting, the award of contract 6715P – Traffic Control Services was approved as follows:

That Contract 6715P – Traffic Control Services be awarded for a three year term commencing April 1, 2020, to three bidders, with the intent of assigning the majority of the work to Ansan Traffic Group as the primary service provider, and with Lanesafe Traffic Control and Traffic Pro Services serving as secondary and tertiary backup service providers.

The general scope of this contract includes:

- Providing traffic control services on an "as and when required" basis for various job sites, including for work and projects in connection with all aspects of roads, utilities, boulevards and medians, as well as special events; and
- Providing all the personnel, labour, supervision, management, facilities, vehicles, tools, equipment, signs, devices, accessories, supplies, fuel, and other materials which are necessary or incidental to the appropriate and complete design and provision of the traffic control services.

The initial value of this contract over the full three year term was estimated at \$1,491,780 based on best available information on estimated service requirements at that time. The impacts of the pandemic were not contemplated when the value of Contract 6715P was estimated. Physical distancing requirements have, therefore, created a higher demand for services than that initially estimated.

This report provides further details and seeks to increase the contract value by \$906,110 for a total of \$2.4 million over the maximum three year term, or to March 31, 2023.

This report supports Council's Strategic Plan 2018-2022 Strategy # 1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.1 Enhance safety services and strategies to meet community needs.

1.2 Future-proof and maintain city infrastructure to keep the community safe.

1.4 Foster a safe, caring and resilient environment.

Analysis

Background

Contract 6715P – Traffic Control Services was awarded through a competitive bid process issued to the marketplace on August 29, 2019. Proponents were requested to provide pricing based on

an estimate of annual traffic control hours required (10,000 regular service hours, 500 weekday evening service hours and 500 weekend service hours). In addition, proponents were required to provide fixed pricing for the three year term. The work was awarded to all three bidders, with Ansan Traffic Group as the primary service provider and Lanesafe Traffic Control and Traffic Pro Services serving as secondary and tertiary backup service providers.

The estimated total value of work over the three year term was based on historic usages from 2017 to 2019 and predicted estimates of annual traffic management plan requirements and traffic control personnel hours. The total value of the contract over the three year term was estimated at \$1,491,780, which included a 15% general contingency. Required funding amounts are included in the annual operating and capital budgets.

Volumes

Usage for these services have exceeded original estimates primarily due to the COVID-19 pandemic. The greatest increase in services occurred at the City's Recycling Depot, which initiated traffic control from April 2020 through May 2021 to ensure physical distancing within the facility. Recycling Depot traffic control has been fully transitioned to being provided by certified City staff, which has eliminated the requirement for contracted traffic control at that facility. Other pandemic impacts include the increased use of electronic message boards (EMB) (also a component of the work under this contract) for public health messaging that traditionally would not have been a requirement. Significant infrastructure projects have also required additional traffic control and EMB's beyond that originally included when estimating the total contract value.

The revised forecast is shown in Table 1 below to reflect the increases in major arterial construction, traffic control usage and COVID-19 related expenditures. The forecast values in the "Year 1 Actuals and Revised Forecast" column include a 15% contingency.

Table 1: Revised Projected Contract Value and Spend to Date

| Contract Year (Apr -Mar) | Original Forecast | Year 1 Actuals and Revised Forecast | Difference |
|-----------------------------------|--------------------------|--|-------------------|
| Year 1 (Apr '20 – Mar '21) | \$491,780 | \$1,027,940 | \$536,160 |
| Year 2 | \$500,000 | \$690,113 | \$190,113 |
| Year 3 | \$500,000 | \$679,837 | \$179,837 |
| Total | \$1,491,780 | \$2,397,890 | \$906,110 |

Costs were trending upwards of \$2.8 million, but by managing the traffic control using City staff at the Recycling Depot, Contract 6715P costs have been able to be better contained.

Financial Impact

Funding for traffic control services is included as part of annual operating budgets and capital projects. A 15% contingency has been included in the revised forecast.

Conclusion

Increased traffic control services have been necessary as the City navigated the COVID-19 pandemic and larger infrastructure projects. Costs estimates under contract 6715P – Traffic Control Services are projected to exceed original approvals. This report seeks approval for a change order to increase the value of the contract by \$960,110 to \$2.4 million excluding taxes, over the three year contract term (through March 31, 2023) to more closely reflect actual spends and updated forecasted costs.

The current tri-party vendor award arrangement continues to represent best value for these services, therefore staff recommend the change order approval as outlined in this report.



Ben Dias
Manager, Sewerage & Drainage
(604-244-1207)

BD:bd



To: Planning Committee
From: Wayne Craig
Director, Development

Date: November 2, 2021
File: RZ 20-905210

Re: Application by Enrich Custom Homes Ltd. for Rezoning at 8231 No. 3 Road from the "Single Detached (RS1/E)" Zone to the "Compact Single Detached (RC2)" Zone

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10309, for the rezoning of 8231 No. 3 Road from the "Single Detached (RS1/E)" zone to the "Compact Single Detached (RC2)" zone, be introduced and given First Reading.

Wayne Craig
Director, Development
(604-247-4625)

WC/na
Att. 6

| REPORT CONCURRENCE | | |
|--------------------|-------------------------------------|--------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Affordable Housing | <input checked="" type="checkbox"/> | |

Staff Report

Origin

Enrich Custom Homes Ltd. (Gloria Kwok) has applied to the City of Richmond, on behalf of the owner, Su Chen, for permission to rezone 8231 No. 3 Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, to permit the property to be subdivided to create two single-family lots, each with a secondary suite and vehicle access from the rear lane (Attachment 1). The proposed subdivision is shown in Attachment 2. The proposed site plan is shown in Attachment 3.

Findings of Fact

A Development Application Data Sheet providing details about the development proposal is attached (Attachment 4).

Subject Site Existing Housing Profile

There is an existing owner-occupied single-family dwelling on the subject property, which is proposed to be demolished. The applicant has confirmed that there are no existing secondary suites in the dwelling.

Surrounding Development

Development immediately surrounding the subject site is as follows:

To the North: A single-family dwelling on property zoned “Single Detached (RS1/E)” with a rezoning application currently under staff review for two compact single-family lots with vehicle access from the rear lane (RZ 20-908348). The proposed rezoning for this site will be presented to Council for consideration via a separate staff report at the conclusion of the staff review.

To the South: A single-family dwelling on property zoned “Compact Single Detached (RC1)”.

To the East: Across No. 3 Road, properties zoned “Single Detached (RS1/E)” and “Two-Unit Dwellings (RD1)”.

To the West: Across the lane, multiple properties zone “Single Detached (RS1/E)” fronting Sunnyholme Crescent.

Related Policies & Studies

Official Community Plan

The subject property is located in the Broadmoor planning area, and is designated “Neighbourhood Residential” in the Official Community Plan (OCP). The proposed rezoning and subdivision is consistent with this designation.

Arterial Road Policy

The subject property is designated “Arterial Road Compact Lot Single Detached” on the Arterial Road Housing Development Map. The Arterial Road Land Use Policy requires all compact lot developments to be accessed from the rear lane only. The proposed rezoning and ensuing development are consistent with this Policy.

Prior to final adoption of the rezoning bylaw, the applicant must submit a Landscape Plan, prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development, and deposit a Landscape Security based on 100% of the cost estimate provided by the Landscape Architect, including installation costs. The Landscape Plan should comply with the guidelines of the OCP’s Arterial Road Policy and include any required replacement trees identified as a condition of rezoning.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant First Reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment. Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Analysis

This redevelopment proposes to rezone and subdivide one existing single-family property into two new compact single-family lots, each with a secondary suite, and vehicular access from the rear lane. This rezoning and subdivision is consistent with the lot fabric and vehicular access of the adjacent lots on No. 3 Road. Similar applications to rezone and subdivide properties have been approved in years past to the south of the subject property.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist’s Report; which identifies on-site and off-site trees, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses one bylaw-sized tree on the subject property, one street tree on City property, and a Cedar hedgerow composed of 13 trees on neighbouring property (8211 No. 3 Road). Additionally, there is an undersized Japanese Maple tree, two hedges in the existing rear yard and a hedge on the neighbouring property (8233 No. 3 Road).

The City's Tree Preservation Coordinator and City Parks staff have reviewed the Arborist's Report and provided the following comments:

- One bylaw-sized tree on-site, tag# 828 (Apple tree 28 cm caliper), is in declining health due to being uprooted in the past and should be removed and replaced.
- Replacement trees should be specified at 2:1 ratio as per the OCP.
- One untagged non-bylaw sized Japanese Maple tree located on site is in good condition and should be relocated. The Landscape Plan required prior to rezoning final adoption will identify where the Japanese Maple tree will be relocated to.
- The hedgerow in the rear yard along the proposed shared property line in the rear yard is in fair condition. Further review of how the hedgerow may be retained will be done as part of the Landscape Plan.
- The hedgerow in the southwest corner is over-grown and in fair condition but needs to be removed to facilitate rear lane access to the site.
- 13 Cedar hedgerow trees (tag# 830, 830, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841) located on an adjacent neighbouring property at 8211 No. 3 Road are identified to be retained and protected. Further assessment of the hedgerow will be done as part of the rezoning application for the property at 8211 No. 3 Road to determine if the hedgerow will be retained. Tree protection is to be provided as per City of Richmond Tree Protection Information Bulletin Tree-03 including tree protection fencing.
- The off-site hedgerow on the neighbouring property to the south at 8233 No. 3 Road is to be retained.
- One City tree tag# 829 (Cherry tree multi-stem 22 cm caliper) is in fair condition and should be retained and protected. Off-site improvements are to be worked around the retained tree. A Tree Survival Security of \$10,000.00 will be required.

Tree Replacement

The applicant wishes to remove one on-site tree (tag# 828). The 2:1 replacement ratio would require a total of two replacement trees. The applicant has agreed to plant a minimum of two trees on each lot proposed. Two trees are required to meet City requirements for new subdivisions for a total minimum of four trees to be provided. The required replacement trees are to be of the following minimum sizes, based on the size of the trees being removed as per Tree Protection Bylaw No. 8057.

| No. of Replacement Trees | Minimum Caliper of Deciduous Replacement Tree | Minimum Height of Coniferous Replacement Tree |
|--------------------------|---|---|
| 4 | 8 cm | 4 m |

Tree Protection

One City tree (tag# 829), a non-bylaw sized Japanese Maple, a hedgerow composed 13 Cedar trees on neighbouring property at 8211 No. 3 Road and a hedgerow on the neighbouring property to the south at 8233 No. 3 Road are to be retained and protected. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 5). To ensure that the trees identified for retention are protected at development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission of a Tree Survival Security of \$10,000.00 for the retention and protection of the trees noted.
- Prior to final adoption of the rezoning bylaw, submission to the City of a contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the Arborist to submit a post-construction impact assessment to the City for review.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

Affordable Housing Strategy

Consistent with the Affordable Housing Strategy, the applicant has proposed a secondary suite in both new dwellings; each being a minimum of 34.8 m² (375 ft²) and having minimum one bedroom each. Parking for each secondary suite will be accessed by the lane, adjacent to each garage. Prior to final adoption of the rezoning bylaw, the applicant must register a legal agreement on title to ensure that no final Building Permit inspection is granted until the secondary suite on Lot A and Lot B is constructed to the satisfaction of the City in accordance with the BC Building Code and the City's Zoning Bylaw.

Transportation and Site Access

Vehicular access to No. 3 Road is not permitted. Registration of a restrictive covenant on title will be required to ensure vehicle access to the site at future development stage is from the rear lane only, with no access permitted to or from No. 3 Road (servicing road). Secondary suite parking will also be provided as required by Zoning Bylaw 8500.

Site Servicing and Frontage Improvements

At Subdivision stage, the applicant must enter into a Servicing Agreement for the design and construction of the required site servicing and off-site improvements, including lane upgrades, as described in Attachment 6. Provision of a 0.6 m wide road dedication is required to facilitate sidewalk improvements and boulevard realignment. Additionally, a 3.0 m wide right-of-way (ROW) along the entire east property line will be required prior to adoption of the rezoning bylaw for containing inspection chambers and water meters. All frontage works will be required to work around trees identified for retention.

At Subdivision stage, the applicant is also required to pay the current year's taxes, Development Cost Charges (City, Metro Vancouver and TransLink), School Site Acquisition Charges, Address Assignment Fees, and enter into a Servicing Agreement for site servicing and frontage improvements, including the rear lane, as described in Attachment 6.

Financial Impact

None.

Conclusion

The purpose of this application is to rezone 8231 No. 3 Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, to permit the property to be subdivided to create two single-family lots with secondary suites with vehicle access from the rear lane.

The proposed rezoning and subdivision are consistent with the applicable plans and policies affecting the subject.

The list of rezoning considerations is included in Attachment 6, which has been agreed to by the applicant (signed concurrence on file).

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10309 be introduced and given First Reading.



Nathan Andrews
Planning Technician
(604-247-4911)

NA:blg

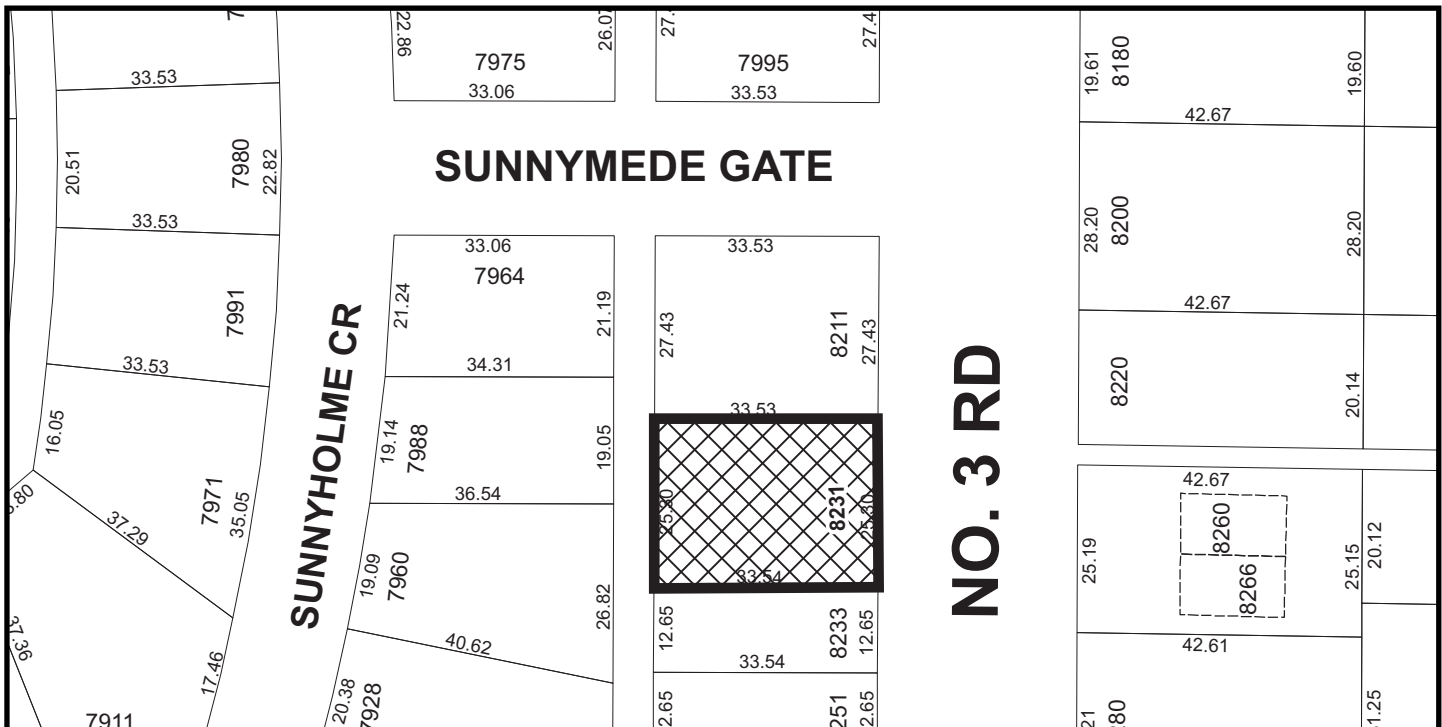
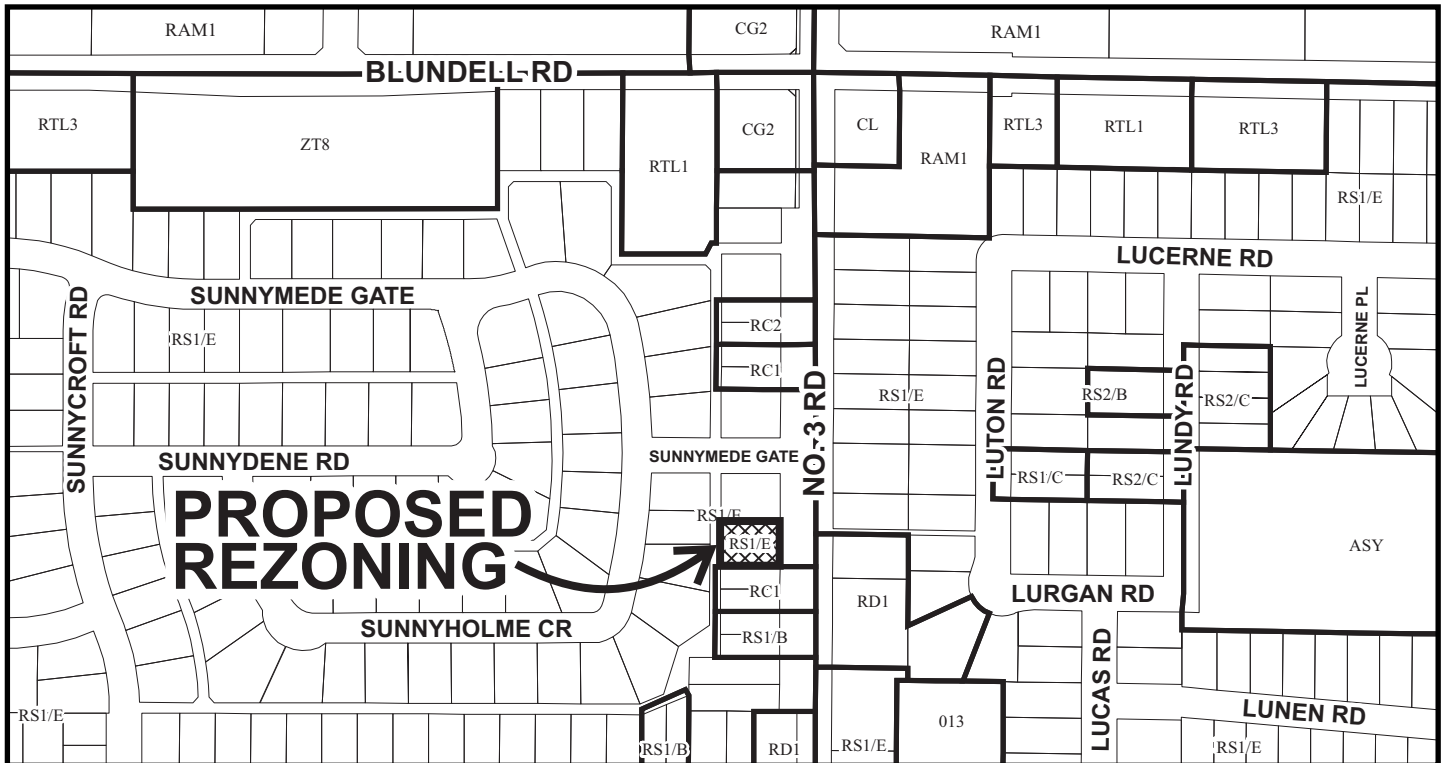
Attachments:

- Attachment 1: Location and Aerial Map
- Attachment 2: Survey and Proposed Subdivision Plan
- Attachment 3: Conceptual Development Plans
- Attachment 4: Development Application Data Sheet
- Attachment 5: Tree Retention Plan
- Attachment 6: Rezoning Considerations



City of Richmond

ATTACHMENT 1



RZ 20-905210

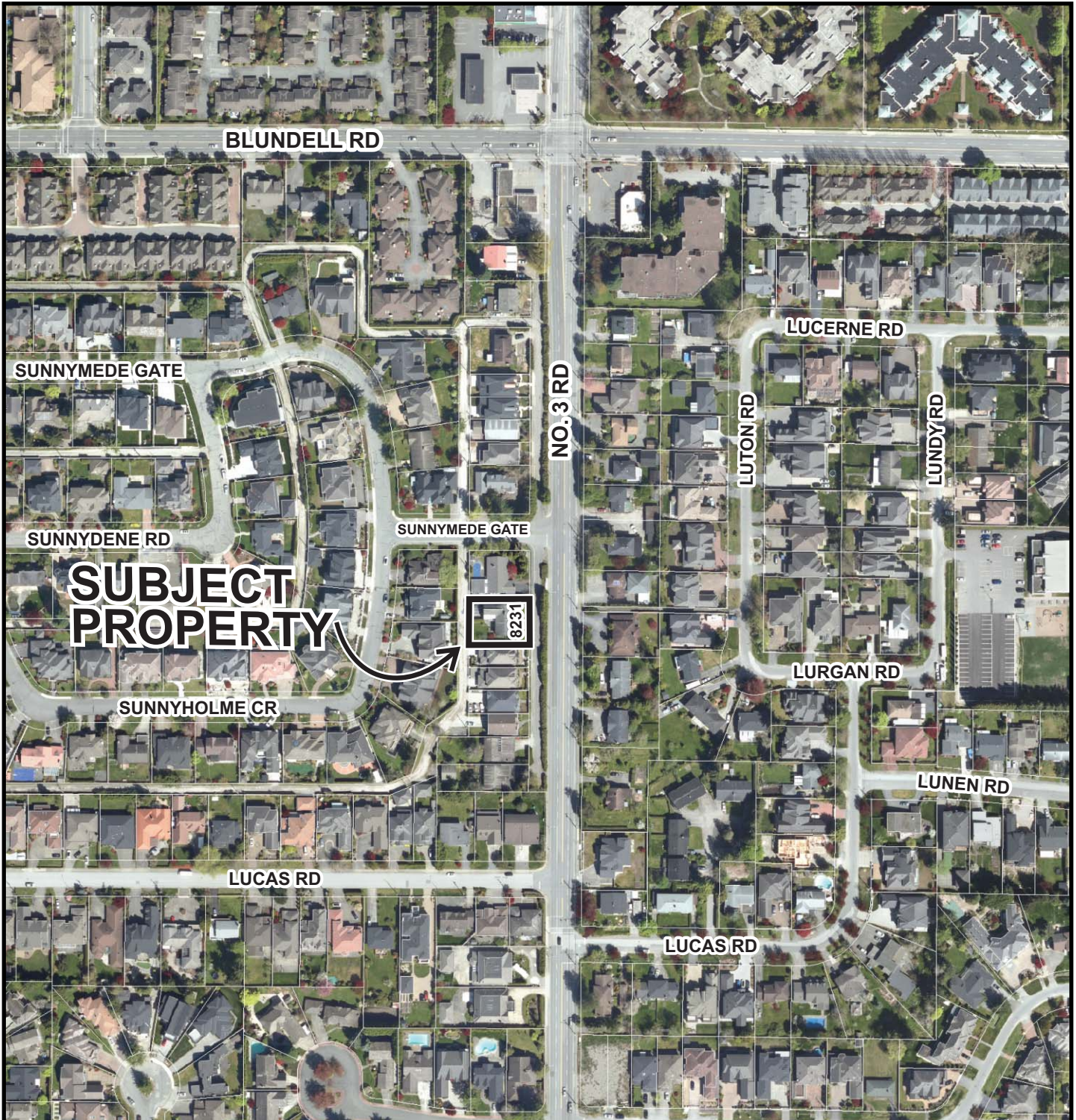
Original Date: 10/28/20

Revision Date:

Note: Dimensions are in METRES



City of Richmond



RZ 20-905210

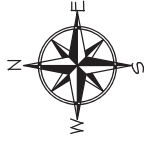
Original Date: 10/28/20

Revision Date:

Note: Dimensions are in METRES

**TOPOGRAPHIC SURVEY AND PROPOSED SUBDIVISION OF
LOT 27 SECTION 20 BLOCK 4 NORTH RANGE 6 WEST
NEW WESTMINSTER DISTRICT PLAN 21352**

#8231 NO. 3 ROAD,
RICHMOND, B.C.
P.I.D. 004-881-702



SCALE: 1:200



ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED

LEGEND:

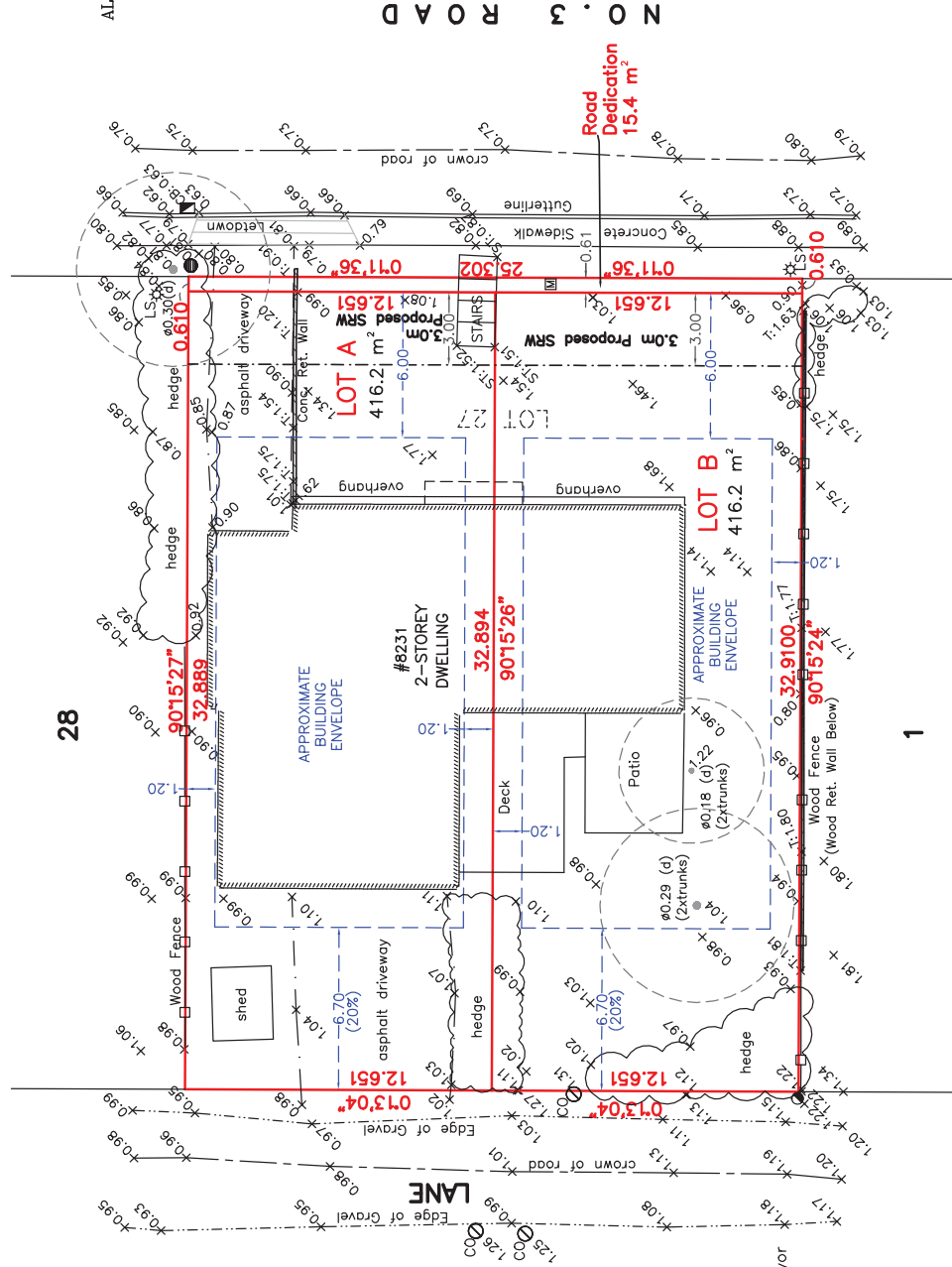
- (d) denotes deciduous
- CB denotes catch basin
- LS# denotes lamp standard
- WM# denotes round catch basin
- WM# denotes water valve
- denotes power pole
- denotes water meter
- CO denotes cleanout
- T denotes top of wall
- ST denotes stair elevation

NOTE:

Elevations shown are based on
City of Richmond HPN
Benchmark network.
Benchmark: HPN #191
Control Monument 02H2453
Elevation: 1.664m
Benchmark: HPN #204
Control Monument 02H2452
Elevation: 1.559m

CERTIFIED CORRECT:
LOT DIMENSION ACCORDING TO
FIELD SURVEY.

JOHNSON C. TAM, B.C.L.S.
MAY 6th, 2020



CNCL - 86

© copyright
J. C. Tam and Associates
Canada and B.C. Land Surveyor
115 - 8833 Odlin Crescent
Richmond, B.C. V6X 3Z7
Telephone: 214-8928
Fax: 214-8929
E-mail: office@jctam.com
Website: www.jctam.com
Job No. 7489
FB-386 P59-61
Drawn By: MY/TH

DWG No. 7489-TOPO-02

ATTACHMENT 2

CONTACTS

DEVELOPER
GLORIA KWOK & KEN TSANG
ENRICH CUSTOM HOME LTD.
N 210 - 5811 COONEY ROAD
RICHMOND, B.C. V6X 1B5
TEL: 604-214-8928
FAX: 604-214-892
Email: office@clam.com

Arbiter
FROGGERS CREEK
7763 MCGREGOR AVE.
BURNABY, B.C. V5J4H4
Tel: 604-721-6002
Email: glenn@froggerscreek.ca

DRAWING LIST

Architectural
A1/2 PROJECT DATA & SITE PLAN
A 2/2 FLOOR PLAN/FRONT ELEVATION

PROJECT DESCRIPTION

To Rezone a Single RS1/E Zone Lot into 2 Single RC1

PROJECT DESCRIPTION:

| | |
|--|---|
| CIVIC ADDRESS: | 8231 No. 3 Road RICHMOND, B.C. |
| LEGAL ADDRESS: | TOPOGRAPHIC SURVEY OF LOT 27 SEC. 20, BLK 4 N. REG. 6 V. N.W.D., PLAN 2152 RD 604-687-702 |
| ZONE | REZONE FROM RS1/E TO RC2 |
| GROSS AREA include Road Dedication | 846.00 SQ.M (6,127.60 SQ.FT.) |
| GROSS AREA - 0.6m Road Dedication | 832.82 SQ.M (6,964.38 SQ.FT.) |
| SITE SIZE PER LOT - 0.6m Road Dedication | 416.41 SQ.M (4,462.19 SQ.FT.) |
| FAR | PERMITTED 0.00 x 4.462 (0 x 2,889.31 SQFT) PROPOSED 2,889.31 SQFT |
| MAIN FLOOR | PROPOSED 1,588.97 SQFT |
| UPPER FLOOR | PROPOSED 1,100.34 SQFT |
| GARAGE | PERMITTED 538.21 SQFT |
| LOT COVERAGE | PROPOSED 4,462.19 X 4.462 = 2,016.96 SQFT |
| IMP. AREA | PROPOSED 2,016.96 SQFT |
| | PROPOSED 4,462.19 X 1.70 = 3,137.59 SQFT |
| OUTDOOR AREA | PERMITTED 268.93 SQFT |
| | PROPOSED 268.93 SQFT |
| ACC. BLDG. | PROPOSED 107.00 SQFT |
| | PROPOSED NA |
| LANDSCAPING REQUIREMENT | 4,462.19 SF X 20% = 894.44 SF |
| PROPOSE | 900 SF |

NOTES:

1. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS.
2. CONTRACTOR SHALL VERIFY ALL ON SITE CONDITIONS PRIOR TO COMMENCEMENT OF THE WORK.
3. ALL WORK SHALL CONFORM TO THE REQUIREMENT OF BRITISH COLUMBIA BUILDING CODE.
4. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENT OF C.S.A. 3A231 LATEST EDITION.
5. CONCRETE STRENGTH AT 28 DAYS, MINIMUM 3,000 PSI.
6. ALL FRAMING AND NAILING SHALL CONFORM TO B.C. BUILDING CODE PART 9 AND DESIGN TO C.S.A. LATEST EDITION.
7. ALL FRAMING LUMBER SHALL BE DOUGLAS FIR @2 OR BETTER.
8. WOOD TRUSSES SHALL BE DESIGNED AND SEALED BY P.E.N.G.
9. ROOFING SHALL BE DOUGLAS FIR CONFORM TO C.S.A. 0121 LATEST EDITION.
10. OWNER IS TO BE ENTIRELY RESPONSIBLE FOR ALL STRUCTURAL ENGINEERING REQUIREMENT.
11. ALL DIMENSIONS ARE TO BE CHECKED ON SITE BEFORE WORK COMMENCES. THERE IS NO RESPONSIBILITY OF THE DESIGNER, THE OWNER/ CONTRACTOR/BUILDER SHOULD INFORM THE DESIGNER BEFORE COMMENCEMENT OF CONSTRUCTION FOR ANY DISCREPANCY.

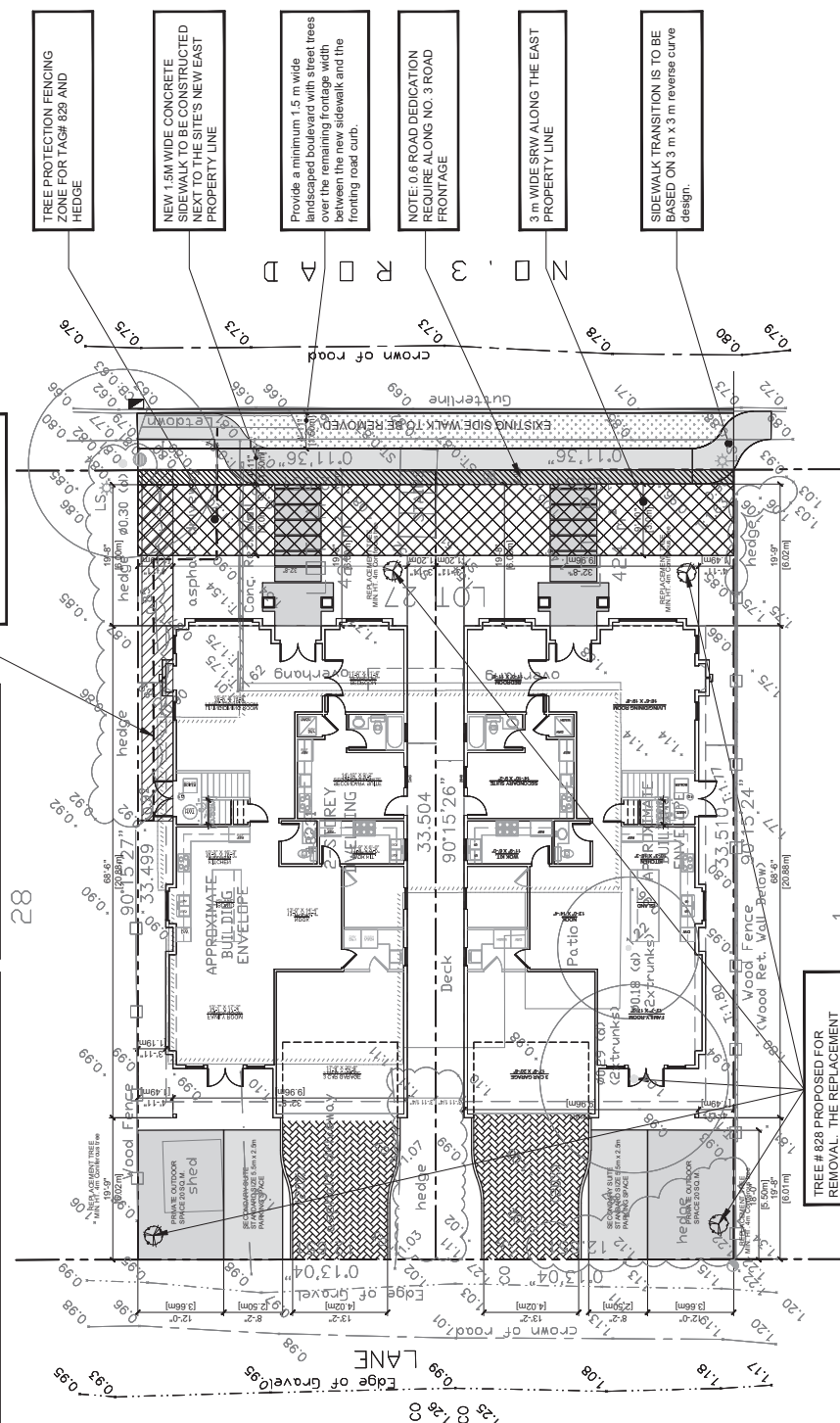
THESE PLANS CONFORM TO BCBC 2018

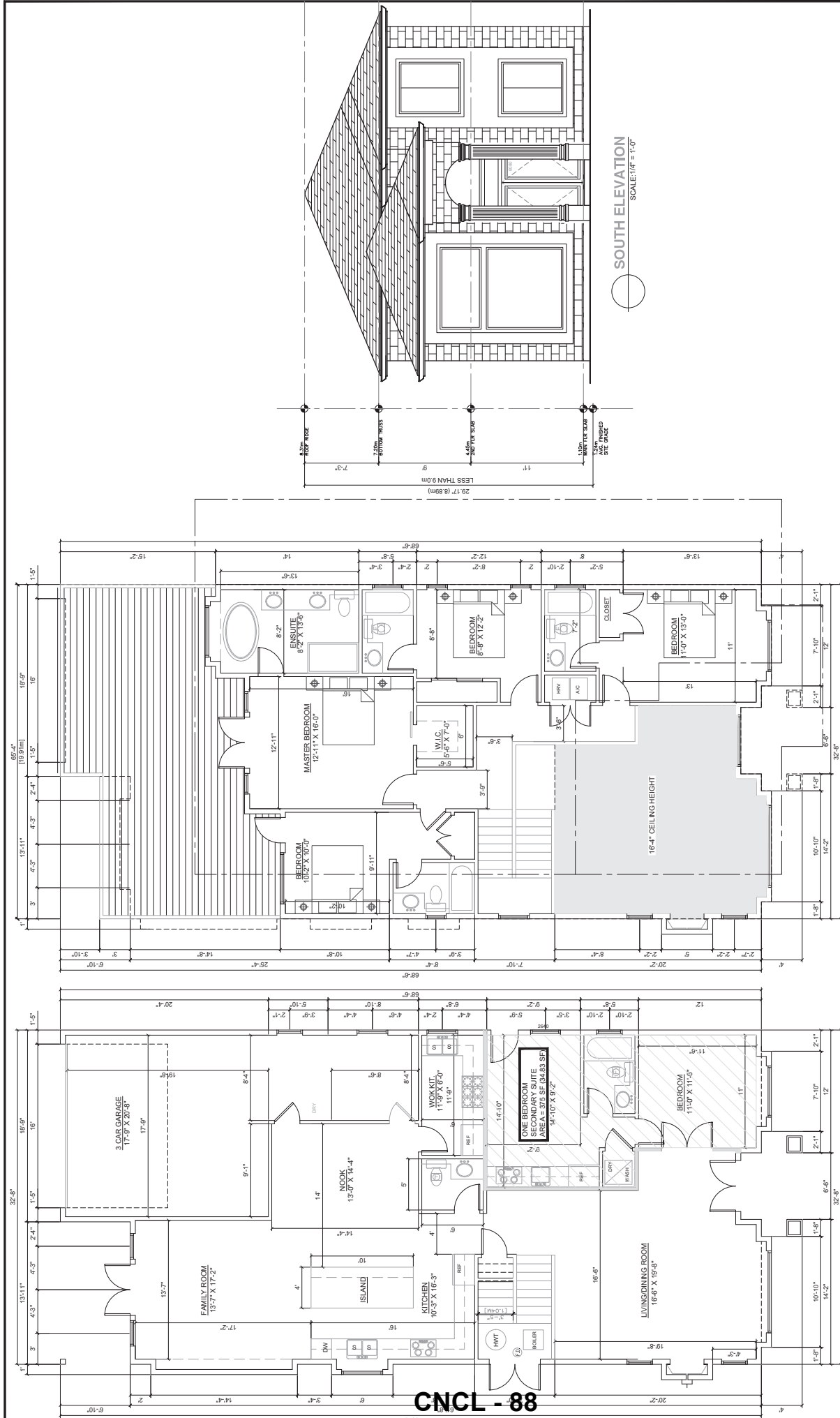
ADDRESS:
8231 NO. 3 ROAD
RICHMOND, B.C.

ENRICH DEVELOPMENT GROUP
N 210 - 5811 COONEY ROAD,
RICHMOND, BC V6X 1B5
T 604-279-8808 EMAIL: design@enrichdevelopments.com



OCTOBER 24, 2021
DESIGN PROPOSAL 2 LOT SUBDIVISION







RZ 20-905210

Attachment 4

Address: 8231 No. 3 Road

Applicant: Enrich Custom Homes Ltd.

Planning Area(s): Broadmoor

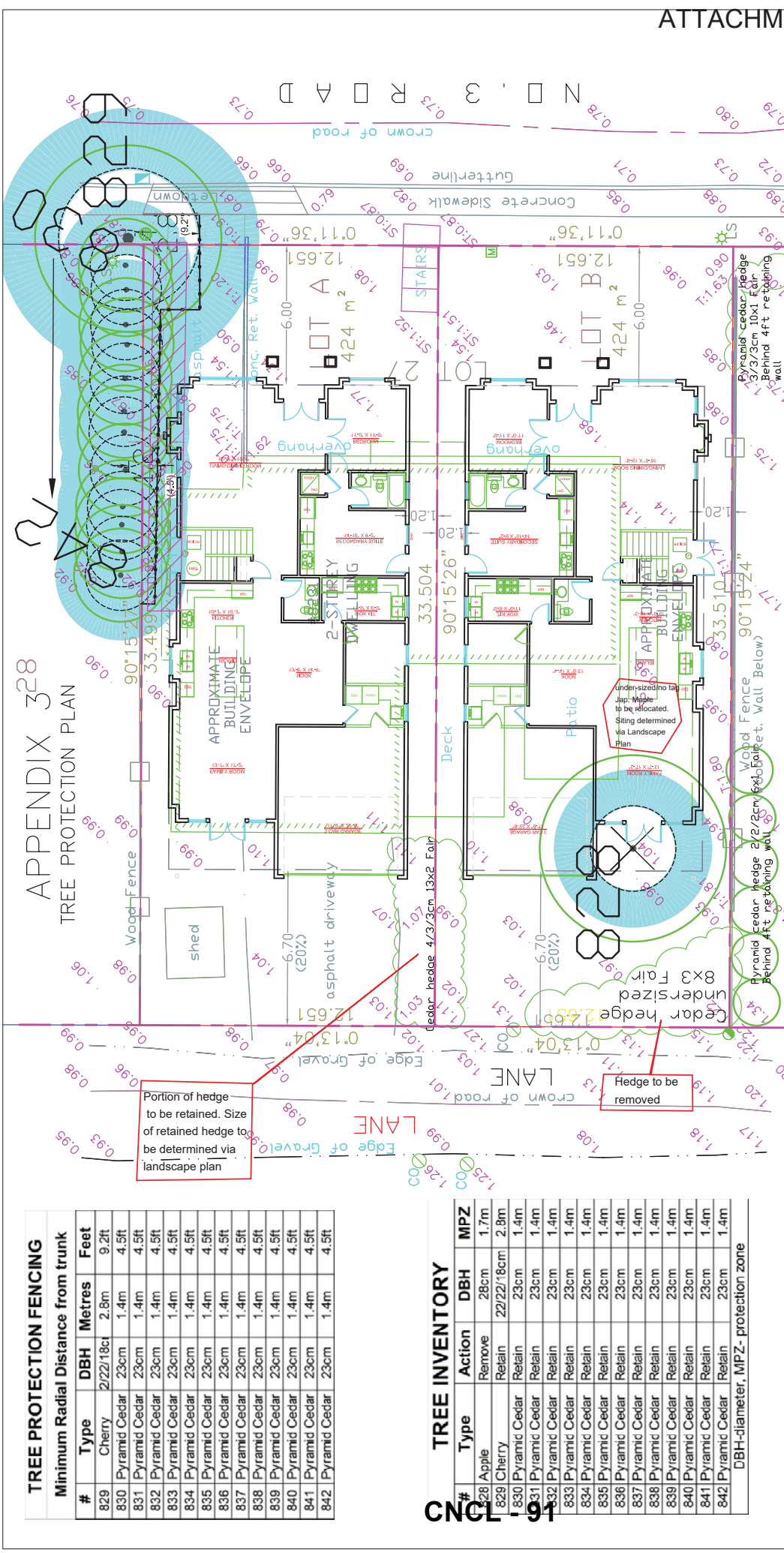
| | Existing | Proposed |
|-----------------------------------|---|--|
| Owner: | Su Chen | To be determined |
| Site Size (m²): | 848 m ² | Lot A: 416 m ² Lot B: 416 m ² |
| Land Uses: | One Single Detached Dwelling | Two Single Detached Dwellings |
| OCP Designation: | Neighbourhood Residential | No change |
| Area Plan Designation: | N/A | No change |
| Zoning: | Single Detached (RS1/E) | Compact Single Detached (RC2) |
| Number of Units: | 1 | 2 |
| Other Designations: | Arterial Road Compact Lot Single Detached | No change |

| On Future Subdivided Lots | Bylaw Requirement | Proposed | Variance |
|--|---|---|----------------|
| Floor Area Ratio: | Max. 0.60 for lot area up to 464.5 m ² plus 0.3 for area in excess of 464.5 m ² | 0.60 | none permitted |
| Buildable Floor Area (m ²):* | Lot A: Max. 249.8m ² (2,689.31ft ²) Lot B: Max. 249.8 m ² (2,689.31ft ²) | Lot A: Max. 249.8m ² (2,689.31 ft ²) Lot B: Max. 249.8 m ² (2,689.31 ft ²) | none permitted |
| Lot Coverage (% of lot area): | Building: Max. 50% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20% | Building: Max. 50% Non-porous Surfaces: Max. 54% Live Landscaping: Min. 20% | none |
| Lot Size: | Min. 270 m ² | 416 m ² | none |
| Lot Dimensions (m): | Width: 9.0 m Depth: 24.0 m | Width: 12.65 m Depth: 33.5 m | none |
| Setbacks (m): | Front: Min. 6.0 m Rear: Min. 6.0 m Side: Min. 1.2 m | Front: Min. 6.0 m Rear: Min. 6.0 m Side: Min. 1.2 m | none |
| Height (m): | 9.0 m or 2.5 storeys | 8.9 m | none |

| On Future Subdivided Lots | Bylaw Requirement | Proposed | Variance |
|--|--|--------------------------|----------|
| Off-street Parking Spaces – Regular (R) / Secondary Suite (S): | 2 (R) and 1 (S) per unit | 2 (R) and 1 (S) per unit | none |
| Private Outdoor Space (m ²): | Min. 20 m ² (min. 3.0 m width and depth) provided on the lot outside front yard | Min. 20 m ² | none |

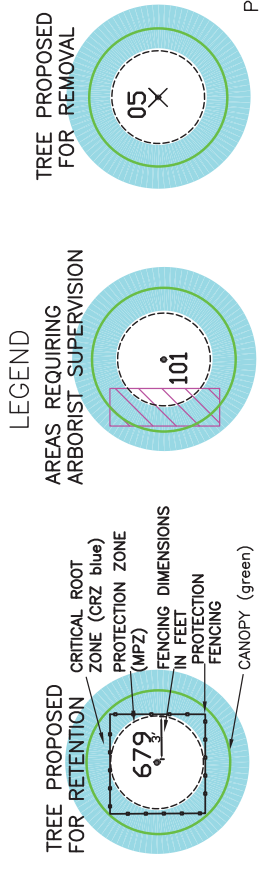
Other: Tree replacement compensation required for loss of significant trees.

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.



| TREE PROTECTION FENCING | | | |
|------------------------------------|---------------|-----------|--------|
| Minimum Radial Distance from trunk | | | |
| # | Type | DBH | Metres |
| 829 | Cherry | 2/22/18cm | 2.8m |
| 830 | Pyramid Cedar | 23cm | 1.4m |
| 831 | Pyramid Cedar | 23cm | 1.4m |
| 832 | Pyramid Cedar | 23cm | 1.4m |
| 833 | Pyramid Cedar | 23cm | 1.4m |
| 834 | Pyramid Cedar | 23cm | 1.4m |
| 835 | Pyramid Cedar | 23cm | 1.4m |
| 836 | Pyramid Cedar | 23cm | 1.4m |
| 837 | Pyramid Cedar | 23cm | 1.4m |
| 838 | Pyramid Cedar | 23cm | 1.4m |
| 839 | Pyramid Cedar | 23cm | 1.4m |
| 840 | Pyramid Cedar | 23cm | 1.4m |
| 841 | Pyramid Cedar | 23cm | 1.4m |
| 842 | Pyramid Cedar | 23cm | 1.4m |

| TREE INVENTORY | | | |
|----------------|---------------|--------|------------|
| # | Type | Action | MPZ |
| 828 | Apple | Remove | 1.7m |
| 829 | Cherry | Retain | 22/22/18cm |
| 830 | Pyramid Cedar | Retain | 2.8m |
| 831 | Pyramid Cedar | Retain | 2.8m |
| 832 | Pyramid Cedar | Retain | 2.8m |
| 833 | Pyramid Cedar | Retain | 2.8m |
| 834 | Pyramid Cedar | Retain | 2.8m |
| 835 | Pyramid Cedar | Retain | 2.8m |
| 836 | Pyramid Cedar | Retain | 2.8m |
| 837 | Pyramid Cedar | Retain | 2.8m |
| 838 | Pyramid Cedar | Retain | 2.8m |
| 839 | Pyramid Cedar | Retain | 2.8m |
| 840 | Pyramid Cedar | Retain | 2.8m |
| 841 | Pyramid Cedar | Retain | 2.8m |
| 842 | Pyramid Cedar | Retain | 2.8m |



NOTES:
1. SITE LAYOUT INFORMATION AND TREE SURVEY DATA PER SUPPLIED DRAWING
2. REFER TO ATTACHED TREE PROTECTION REPORT FOR INFORMATION CONCERNING TREE SPECIES, STEM DIAMETER, HEIGHT, CANOPY SPREAD AND CONDITION.
3. ALL MEASUREMENTS ARE METRIC

Frogers Creek Tree Consultants Ltd
7763 McGregor Avenue Burnaby BC V5J 4H4
Telephone: 604-721-6002 Fax: 604-437-0970
8231 No 3 Rd, Richmond, BC
TREE PROTECTION DRAWING
THE DRAWING PLOTS ALL TREES PROPOSED FOR PROTECTION, ZONES AND PROTECTION FENCING IN RELATION TO PROPOSED LAYOUT
June 12, 2020



Address: 8231 No. 3 Road

File No.: RZ 20-905210

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10309, the developer is required to complete the following:

1. 0.6 m wide road dedication along the entire east frontage.
2. Submission of a Landscape Plan, prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development, and deposit of a Landscaping Security based on 100% of the cost estimate provided by the Landscape Architect, including installation costs. The Landscape Plan should:
 - comply with the guidelines of the OCP's Arterial Road Policy and should not include hedges along the front property line;
 - include a mix of coniferous and deciduous trees;
 - include the dimensions of tree protection fencing as illustrated on the Tree Retention Plan attached to this report;
 - One untagged and non-bylaw sized Japanese maple tree located on site is in good condition and is to be relocated. The Landscape Plan required prior to rezoning final adoption should incorporate the undersized Japanese maple tree and the tree is to be hand-dug when relocated.
 - The hedgerow along the proposed shared property line in the rear yard is in fair condition and should be considered for partial retention. Further review of the hedgerow integration should be done as part of the Landscape Plan.
 - include the 4 required replacement trees with the following minimum sizes:

| No. of Replacement Trees | Minimum Caliper of Deciduous Tree | or | Minimum Height of Coniferous Tree |
|--------------------------|-----------------------------------|----|-----------------------------------|
| 4 | 8 cm | | 4 m |

3. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any on-site works conducted within the tree protection zone of the trees to be retained. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the Arborist to submit a post-construction assessment report to the City for review.
4. Submission of a Tree Survival Security to the City in the amount of \$10,000.00 for the 1 City tree and neighbouring hedgerow to be retained.
5. Registration of a flood indemnity covenant on title.
6. Registration of a Statutory Right-of-Way to provide a 3.0 m right-of-way along the development's entire east property line, for the purpose of containing inspection chambers and water meters.
7. Registration of a legal agreement on Title to ensure that no final Building Permit inspection is granted until a 1-bedroom secondary suite of minimum 34.8 m² (375 ft²) is constructed on both of the future lots (Lot A and Lot B), to the satisfaction of the City in accordance with the BC Building Code and the City's Zoning Bylaw.
8. Registration of a restrictive covenant on title to ensure vehicular access to the site at future development stage is from the rear lane only, with no access permitted to or from No. 3 Road.

Prior to Demolition Permit Issuance, the developer must complete the following requirements:

1. Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.

At Subdivision* stage, the developer must complete the following requirements:

1. At Subdivision stage, the applicant is required to pay the current year's taxes, Development Cost Charges (City, Metro Vancouver and TransLink), School Site Acquisition Charges, Address Assignment Fees, and the costs associated with the completion of the site servicing and other improvements.

2. Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to:

Water Works:

- a) Using the OCP Model, there is 881 L/s of water available at a 20 psi residual at the No 3 Road frontage. Based on your proposed development, your site requires a minimum fire flow of 95 L/s.
- b) At Developer's cost, the Developer is required to:
 - i) Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage building designs.
 - ii) Provide a 3.0 m-wide utility right-of-way along the entire east property line of the site (requirement to be completed prior to rezoning final adoption).
- c) At Developer's cost, the City will:
 - i) Cap and remove the existing water service connection and meter.
 - ii) Install a new service connection for each of the newly subdivided lots, complete with meter located onsite in proposed right-of-way.

Storm Sewer Works:

- d) At Developer's cost, the City will:
 - i) Cap and remove the existing storm connection and inspection chamber.
 - ii) Install a new storm connection complete with inspection chamber located onsite in the proposed right-of-way and dual service leads.

Sanitary Sewer Works:

- e) At Developer's cost, the City will:
 - i) Cap and remove the existing sanitary connection and inspection chamber.
 - ii) Install a new sanitary connection complete with inspection chamber and dual service leads.

Frontage Improvements:

- f) At Developer's cost, the Developer is required to:
 - i) Coordinate with BC Hydro, Telus and other private communication service providers:
 - (1) Before relocating/modifying any of the existing power poles and/or guy wires within the property frontages.
 - (2) To locate all above ground utility cabinets and kiosks required to service the proposed development within the development site.
 - ii) Upgrade the rear lane along the development frontage to the City's standards per R-5-DS in the Engineering Design Specifications, complete with rollover curbs, asphalt, drainage, and lighting. The drainage shall be extended to the north to connect to the existing storm sewer in Sunnymede Crescent, complete with a new manhole at the tie-in.
 - iii) Complete other frontage improvements as per Transportation requirements.

Road frontage:

Across the No. 3 Road (service road) development frontage, the following improvements are required:

- Remove the existing sidewalk and construction a new 1.5 m wide concrete sidewalk along the site's east property line. The alignment of the sidewalk may have to be adjusted to go around trees identified for retention.

- Provide a minimum 1.5 m wide landscaped boulevard with street trees over the remaining frontage width between the new sidewalk and the fronting road curb.
- If the width of the exiting frontage is not sufficient for supporting these standards, road dedications would be required.
- Transition of frontage improvements:
- The new sidewalk and boulevard are also to be transitioned to meet the existing frontage treatments to the south of the subject site.
- The existing driveway along the development road frontage is to be closed permanently. The Developer is responsible for the removal of the existing driveway let-down and the replacement with barrier curb/gutter, boulevard and concrete sidewalk per standards described above.
- Reinstate/back-fill street signage and pavement marking affected by the frontage works.

Lane upgrade:

The existing lane along the subject site's west property line is to be upgraded to the following standards:

- 6.0 m right-of-way.
- 5.1 m wide pavement.
- Continuous rollover curb and gutter along both sides of the lane.
- Lighting.

The lane is to be upgraded as per City Engineering Design Specifications for Roadworks (Drawing R-6-DS) constructed as part of a Servicing Agreement.

Engineering will determine:

- The exact finished cross-section of the lane taking into account lighting and other utility requirements; and
- The requirement for repaving the existing driving surface in this section of the lane.

Access to lane:

The driveway let-down at the north end of the lane (Sunnymede Gate) is to be reconstructed to meet the upgraded lane cross-section noted above. The design standards for the driveway let-down are to meet those listed in the City Engineering Design Specifications for Roadworks (Drawing RD-9-DS).

A road functional plan is required to show the above noted frontage improvements. The plan must also show clear dimensions and any right-of-way and/or dedication requirements.

- Consult Parks on the requirements for tree protection/placement including tree species and spacing as part of the frontage works.
- Consult Engineering on lighting and other utility requirements as part of the frontage works.
- Per Zoning Bylaw requirements, the Developer is required to provide, for all residential parking spaces (excluding visitor parking), Level 2 EV charging outlets (208V to 240V AC and current of 16A to 80A).

General Items:

- g) At Developer's cost, the Developer is required to:
- i) Not encroach into City rights-of-ways with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into rights-of-ways must be reviewed by the City's Engineering Department.
 - ii) Enter into, if required, additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

Prior to Building Permit Issuance, the developer must complete the following requirements:

1. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
2. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10309 (RZ 20-905210)
8231 No. 3 Road**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **“COMPACT SINGLE DETACHED (RC2)”**.

P.I.D. 004-881-702

Lot 27 Section 20 Block 4 North Range 6 West New Westminster District Plan 21352

2. This Bylaw may be cited as **“Richmond Zoning Bylaw 8500, Amendment Bylaw 10309”**.

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

| |
|-------|
| _____ |
| _____ |
| _____ |
| _____ |
| _____ |
| _____ |

| |
|---|
| CITY OF RICHMOND |
| APPROVED by <i>A</i> |
| APPROVED by Director or Solicitor <i>J. S.</i> |

MAYOR

CORPORATE OFFICER



City of Richmond

Report to Committee

To: Planning Committee
From: James Cooper, Architect AIBC
Director, Building Approvals
Date: October 14, 2021
File: 12-8360-01/2021-Vol
01
Re: Increase of maximum fines for Tree Protection Bylaw 8057

Staff Recommendation

That Tree Protection Bylaw No.8057, Amendment Bylaw 10307 increasing the maximum fine to \$50,000 for an offence be introduced and given first, second, and third reading.

James Cooper, Architect AIBC
Director, Building Approvals
(604-247-4606)

| REPORT CONCURRENCE | | |
|-----------------------------------|-------------------------------------|---------------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Law | <input checked="" type="checkbox"/> | |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Origin

The Provincial Government has amended the Community Charter, permitting local Governments to seek maximum Bylaw fines of up to \$50,000.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.

2.2 Policies and practices support Richmond's sustainability goals.

Background

The purpose of this report is to seek Council approval to amend Tree Protection Bylaw 8057 by raising the maximum allowable fine under the Bylaw from the current \$10,000 per offence to a maximum of \$50,000 to reflect the recent updates to the Community Charter. The maximum fine is the upper limit a City can seek in Provincial Court commensurate with the severity of the offence. The final fine amount is ultimately determined in Provincial Court determining the penalty for an offence.

Analysis

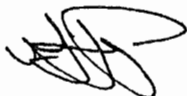
Raising the maximum fines permitted under Tree Protection Bylaw 8057 would act as a deterrent for illegal tree removal or other offences under the Bylaw and send a signal to the community that City Council takes these issues very seriously.

Financial Impact

None.

Conclusion

This report recommends that Council endorse the proposed change to raise the maximum fine permitted under Tree Protection Bylaw 8057, ensuring important City objectives related to tree preservation and policy supporting the protection of a sustainable, resilient urban forest are being advanced.



Gordon Jaggs
Program Lead, Tree Preservation
(604-247-4910)

GJ:gj



**Tree Protection Bylaw No. 8057,
Amendment Bylaw No. 10307**

The Council of the City of Richmond enacts as follows:

1. Tree Protection Bylaw No. 8057, as amended, is further amended at Part 7: Offence and Penalties by:

- a) deleting section 7.1 and replacing it with the following:

“7.1 Any person who:

- a) contravenes or violates any provision of this bylaw or of any **permit** issued under this bylaw; or
- b) suffers or allows any act or thing to be done in contravention or violation of this bylaw or any **permit** issued under this bylaw; or
- c) fails or neglects to do anything required to be done under this bylaw or any **permit** issued under this bylaw,

commits an offence under this bylaw and upon conviction is liable to a fine of not less than One Thousand Dollars (\$1,000) and not more than Fifty Thousand Dollars (\$50,000), and each day that such violation is caused, or allowed to continue, constitutes a separate offence.”

- b) deleting section 7.3 and marking it “Repealed”; and
- c) deleting the words “section 7.3” in section 7.4 and replacing them with the words “section 7.1”.

2. This Bylaw is cited as **“Tree Protection Bylaw No. 8057, Amendment Bylaw No. 10307”**.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

| |
|---|
| CITY OF RICHMOND |
| APPROVED for content by originating Division |
|  |
| APPROVED for legality by Solicitor |
| BRB |



City of Richmond

Report to Committee

To: Planning Committee
From: John Hopkins
Director, Policy Planning
Date: October 20, 2021
File: 01-0157-30-
RGST1/2021-Vol 01
Re: **Richmond Comments on Metro Vancouver's Draft Updated Regional Growth Strategy, Metro 2050**

Staff Recommendation

That staff forward the report titled "Richmond Comments on Metro Vancouver's Draft Updated Regional Growth Strategy, *Metro 2050*" dated October 20, 2021 from the Director, Policy Planning, to Metro Vancouver, providing comments as outlined in Attachment 1.

John Hopkins
Director, Policy Planning
(604-276-4279)

Att. 3

| REPORT CONCURRENCE | | |
|------------------------------------|-------------------------------------|---------------------------------------|
| ROUTED TO: | CONCURRENCE | CONCURRENCE OF GENERAL MANAGER |
| Economic Development | <input checked="" type="checkbox"/> | |
| Community Social Development | <input checked="" type="checkbox"/> | |
| Sustainability and District Energy | <input checked="" type="checkbox"/> | |
| Transportation | <input checked="" type="checkbox"/> | |
| Parks Services | <input checked="" type="checkbox"/> | |
| SENIOR STAFF REPORT REVIEW | INITIALS: | APPROVED BY CAO |

Staff Report

Origin

The Metro Vancouver Regional District (Metro Vancouver) is in the process of updating the Regional Growth Strategy, currently titled *Metro 2040*. A draft of the updated strategy, titled *Metro 2050*, was publicly released in July 2021 by Metro Vancouver and is being circulated to member jurisdictions for comment. The requested deadline for submitting written comments on *Metro 2050* is November 25, 2021. Following the comment period, comments received will be conveyed to the Metro Vancouver Board and considered in a revised draft of *Metro 2050*.

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

Leadership in effective and sustainable growth that supports Richmond's physical and social needs.

Purpose

The purpose of this report is to describe the development of *Metro 2050*, highlight key observations about the changes from the current Metro 2040 strategy, and summarize comments on the draft of *Metro 2050* that staff recommend be submitted to Metro Vancouver (Attachment 1).

Findings of Fact

Metro 2050 Development Process

In April 2019, Metro Vancouver began a comprehensive update to *Metro 2040*, the current Regional Growth Strategy. To date, Metro Vancouver has completed these steps:

1. Review policies on 11 themes.
2. Engage member jurisdictions, regional stakeholders, the public and First Nations.
3. Develop policy review recommendations, endorsed or received by the Metro Vancouver Board.
4. Draft updated policy content on a goal-by-goal basis.
5. Provide draft content to the Regional Planning Advisory Committee, Metro Vancouver Board, and member jurisdictions and other agencies for comment.
6. Prepare a complete draft of the updated Regional Growth Strategy, Metro 2050, informed by comments received.
7. Present to Richmond General Purposes Committee (September 20, 2021)

Between June and November 2021, Metro Vancouver requested member jurisdictions, regional stakeholders, the general public and local First Nations to comment on the complete draft *Metro 2050* strategy. The letter requesting comments (Attachment 2) and draft *Metro 2050* strategy (Attachment 3) are attached. Based on comments from Richmond and other member jurisdictions, Metro Vancouver staff will consider opportunities to improve the draft.

July 2022 is the target date for adoption of the final *Metro 2050* Regional Growth Strategy. Member jurisdictions will be asked to review and endorse the final version before it is submitted to the regional Board.

Requirements Following Adoption of *Metro 2050*

Following adoption of the Regional Growth Strategy by Metro Vancouver, each member jurisdiction must update their Regional Context Statement contained in their Official Community Plan (OCP) within 24 months, as per the BC *Local Government Act*. The Regional Context Statement describes how the OCP is consistent with or will work towards consistency with *Metro 2050* over time.

Staff Review of *Metro 2050* (June 2021 Draft)

Staff's review of the June 2021 draft of *Metro 2050* was guided by Richmond's regional planning interests, which are to:

1. Protect the City's autonomy in decision making;
2. Pursue City goals;
3. Deliver services efficiently, through City efforts and regional cooperation; and
4. Pursue shared regional goals.

Considering those interests, a cross-departmental review of the draft *Metro 2050* Regional Growth Strategy was conducted, with contributions from Community Social Development, Economic Development, Policy Planning, Parks Services, Sustainability and Transportation. Between January and April 2021, staff provided comments to Metro Vancouver staff on updated individual Goals and associated Policies. That review did not identify any significant concerns.

In summer 2021, staff conducted a detailed review of the full *Metro 2050* draft, which resulted in comments about ways to strengthen the document, and improve clarity and consistency. Staff now recommend that these comments be submitted to Metro Vancouver. They are contained in Attachment 1.

Key Observations about the Draft *Metro 2050* Regional Growth Strategy

Metro 2050 is a Refinement of Metro 2040, Not a Comprehensive Re-Write

The *Metro 2050* update is not a comprehensive re-write of *Metro 2040*. Instead, changes build on the current strategy's framework and focus on:

- Extending the timeline to 2050;
- Refining existing policy direction;
- Filling identified gaps; and
- Responding to new and emerging priorities.

Key changes include:

- Stronger, stand-alone strategies to promote and support affordable housing;
- Integration of climate action across the five existing goal areas;

- Greater emphasis on resiliency to natural hazards, including those exacerbated by climate change;
- New elements that aim to advance reconciliation with First Nations;
- Greater clarity about the role of Metro Vancouver in advocating to senior government;
- Adding new targets for region-wide performance on housing and natural environment;
- Improved integration of *Metro 2050* and *Transport 2050*, the region's long-range transportation plan;
- Adjusted designations for transit-related growth to support regional coordination of growth and services while enabling more local flexibility to define the specifics of growth; and
- Integration of social equity as a core objective and throughout policy.

There are no changes to implementation procedures nor to maps of land use designations, and few changes to the performance monitoring framework.

The draft *Metro 2050* strategy is focused on 5 main goals which are:

- **Goal 1: Create a Compact Urban Area.** This goal continues to combine an urban containment boundary with promotion of growth in urban centres.
- **Goal 2: Support a Sustainable Economy.** This goal supports development of an equitable economy, with a focus on employment growth in urban centres, protection of agricultural lands, and industrial intensification.
- **Goal 3: Protect the Environment and Respond to Climate Change and Natural Hazards.** Metro Vancouver has enhanced provisions for climate mitigation and adaptation, including resilience to natural hazards.
- **Goal 4: Provide Diverse and Affordable Housing Choices.** Three key strategies support this goal: promotion of adequate supply; expansion of rental housing; and advocacy for greater funding support.
- **Goal 5: Support Sustainable Transportation Choices.** This goal continues to link land use patterns and transportation, using an updated framework to align anticipated growth and transit connections and improving management of the regional road network for goods movement.

The changes captured in the draft *Metro 2050* strategy are aligned with the Council's Strategic Plan, the Official Community Plan, and other City plans and strategies (e.g. the Affordable Housing Strategy (2017-2027), Cultural Harmony Plan (2019-2029) and Community Energy and Emissions Plan (2014 and update, 2021, in draft)).

Population, Dwelling and Employment Projections Are Now Sub-Regional and Are Consistent with Richmond's OCP

To establish a long-term regional growth management framework, the draft Regional Growth Strategy provides updated population, dwelling unit, and employment projections at a sub-regional level. Sub-regional projections are being used instead of projections for each member jurisdiction because they are less sensitive to short-term or local variations and so will not need

to be as frequently amended. Individual projections will still be prepared for member jurisdictions as a service.

Metro 2050 contains projections for the “South of Fraser – West” sub-region, which includes Richmond, Delta and the Tsawwassen First Nation. The sub-regional projections are shown in the table below.

| | 2016 | 2020 | 2030 | 2040 | 2050 |
|-----------------------|---------|---------|---------|---------|---------|
| Population | 314,500 | 337,900 | 381,100 | 414,100 | 441,300 |
| Dwelling Units | 113,500 | 123,100 | 146,700 | 163,400 | 175,400 |
| Employment | 194,100 | 207,500 | 236,000 | 257,700 | 271,900 |

The most recent individual projections for Richmond are:

| | 2016 | 2020 | 2030 | 2040 | 2050 |
|-----------------------|---------|---------|---------|---------|---------|
| Population | 207,313 | 224,384 | 255,517 | 278,872 | 297,949 |
| Dwelling Units | 76,060 | 83,120 | 99,800 | 111,727 | 120,578 |
| Employment | 137,472 | 146,137 | 165,367 | 179,573 | 187,880 |

These projections are consistent with OCP projections for 2041, below:

- Population: 280,000
- Dwelling Units: 115,000
- Employment: 180,000

The Regional Growth Strategy also sets regional targets for growth in Urban Centres. At 55% of growth from 2006 to 2016 (the most recent Census year), recent growth in the City Centre exceeds the regional target of 40%. OCP projections anticipate growth to continue to be concentrated in the City Centre, providing easy and equitable access to parks, shops, services and other local amenities, as well as access to jobs and destinations around the region.

Land Use Designations Are Unchanged Except for a New Trade-Oriented Overlay

Land use designations in Richmond are unchanged; however, a new Trade-Oriented Overlay has been introduced. Its focus is on sites with good transportation access, where it aims to limit subdivision and stratification to secure land for trade-oriented functions (e.g. logistics and distribution facilities). It is aligned with the City’s work on the Industrial Land Intensification Initiative. The draft policy for the overlay provides flexibility and local autonomy:

- Municipalities’ role is to define the specifics of the overlay including location, boundaries, permitted uses, and strata and subdivision restrictions; and
- Metro Vancouver’s role is to support member jurisdictions and encourage regional consistency through implementation guidelines, which will not be binding and are to be developed in consultation with member jurisdictions.

New Regional Targets Provide Flexibility and Are Consistent With Richmond Policies and Strategies

The Regional Growth Strategy contains “regional” targets that form a flexible performance framework. Metro Vancouver and member jurisdictions all contribute to achieving targets to the extent possible given their unique circumstances. In *Metro 2050*, Metro Vancouver is proposing to add three new regional targets, for affordable housing, natural lands and tree canopy cover.

Affordable Housing: The proposed regional target is 15% affordable rental housing (“affordable rental housing” has not yet been defined in *Metro 2050*, but “affordable housing” is defined by Metro Vancouver as housing affordable to households making less than 120% of the regional median income, which is \$87,100) in new and redeveloped housing development within Urban Centres and Frequent Transit Development Areas. In Richmond, this applies to the City Centre. At 15%, the Low-End Market Rental requirement for the City Centre is enough to achieve the regional target alone, and the City can expect to exceed the target through any new non-market housing secured in the City Centre.

Natural Lands: Based on the aspirational concept of “Nature Needs Half”, the proposed regional target is to protect 50% of the region’s land base for nature and was first adopted by the Metro Vancouver Board as part of the Regional Parks Land Acquisition 2050 strategy (2018). Across the region, about 40% is already identified by Metro Vancouver as protected (this includes dedicated provincial, regional, municipal parks, ecological conservation areas, and wildlife management areas, and much of this is in the watersheds and forests along the mountains). Metro Vancouver has indicated that the additional 10% needed to achieve the 50% target is feasible if lands they have identified for potential protection (remaining sensitive and modified ecosystems and additional 1-5 ha young forested areas) are protected. Metro Vancouver Parks’ Land Acquisition Strategy targets about 2.5% for protection, leaving 7.5% to be protected by member municipalities, according to each one’s unique circumstances.

Richmond is already contributing substantially to the 40% protected area and already protects other lands that contribute to the additional 7.5% required to achieve the target regionally. In Richmond, natural areas owned by the City and areas already protected through Zoning Bylaw updates implementing the Riparian Response Strategy overlap with and are larger than the areas identified by Metro Vancouver for potential protection for nature. In addition, Environmentally Sensitive Area development permit areas on privately held lands outside the Agricultural Land Reserve represent more land for “protection for nature”. Leveraging these and other natural areas, Richmond’s Official Community Plan (Section 9) and Ecological Network Management Strategy (2015) identify opportunities and strategies to strengthen and enhance Richmond’s natural spaces, contributing to this target over time.

Tree Canopy Cover: Metro Vancouver’s proposal is to target expansion of the region’s tree canopy cover within the Urban Containment Boundary from the current 32% to a target of 40%. With respect to tree cover, Richmond is unique in the region because its pre-colonial ecology was dominated by grassland, shrub land and bog, with tree canopy cover estimated at 12%¹. Richmond’s overall canopy cover is now above that historical level as a result of tree planting

¹ Richmond Public Tree Management Strategy 2045, Chapter 2: Urban Forest History and Benefits.

and urban forest management since the early 1950's. For the private realm, the City's Development Permit Guidelines require planting of new trees and Tree Protection bylaw requirements were updated in April 2021.² For the public realm, Parks Services developed the Public Tree Management Strategy 2045 (PTMS), which was adopted in December, 2019. These work together to increase the tree canopy within the Urban Containment Boundary. In particular, the PTMS targets a significant increase from 20% to 30% canopy cover in the City-managed public realm.

Comments on the Draft *Metro 2050* Regional Growth Strategy

The cross-departmental review identified ways to strengthen the document, and refinements to improve clarity and consistency. Highlights include:

- Make "no net loss" a minimum requirement for Conservation and Recreation lands and strive for net environmental gain;
- Capture Metro Vancouver's climate action support role
- Strengthen discussion of natural assets; and
- Strengthen discussion of social equity.

Detailed comments, including a rationale for each, are included in Attachment 1.

Next Steps

As noted in the Findings of Fact, once Metro Vancouver has received comments from member jurisdictions, they will refine the draft *Metro 2050* strategy. They intend to finalize *Metro 2050* for Metro Vancouver Board approval by July 2022. Following Board adoption, each member municipality must update their Regional Context Statement and provide it to the regional Board within 24 months.

Richmond Official Community Plan Review

For efficiency, staff plan to revise the City's Regional Context Statement as part of the next review and update of the City's Official Community Plan (OCP), expected to begin in 2022. Leading up to the review, a Terms of Reference for the OCP review will be brought to Council, outlining the anticipated scope and timeline. Staff anticipate that a draft OCP, along with an updated Regional Context Statement, could be brought forward for Council's consideration before the regional deadline; alternatively, an updated Regional Context Statement could be prepared on a standalone basis.

Financial Impact

None.

Conclusion

In June 2021, Metro Vancouver prepared the first complete draft of *Metro 2050*, the updated Regional Growth Strategy (RGS), and circulated it to member jurisdictions for review and

² Other than Federally owned land, where the City does not have jurisdiction.

comment by November 26, 2021. Staff completed an extensive cross-departmental review of *Metro 2050* in late summer/early fall. The review found that the updated RGS is consistent with Richmond's OCP and is aligned with leadership positions taken by the city on critical topics like affordable housing, industrial development, environmental sustainability and climate change. The update maintains a separation of roles that provides municipalities with autonomy and flexibility while supporting regional coordination in support of shared goals. Staff recommend a few important refinements to the current draft to strengthen it and make it more clear and consistent. It is recommended that these be conveyed to Metro Vancouver by November 26, 2021, as per their request.



Peter Whitelaw
Planner 3
(604-204-8639)

PW:cas

- Att. 1: City of Richmond comments on the June 2021 draft of the *Metro 2050 Regional Growth Strategy*
- Att. 2: Metro Vancouver letter referring the draft *Metro 2050 Regional Growth Strategy* to Richmond for comment
- Att. 3: *Metro 2050 Regional Growth Strategy*, draft dated June 2021

City of Richmond comments on the June 2021 draft of the *Metro 2050* Regional Growth Strategy

The following is a summary of the City of Richmond's comments on the June 2021 draft of *Metro 2050*. Comments consist of (1) ways to strengthen the document, and (2) refinements to improve clarity and consistency.

Ways to Strengthen *Metro 2050*

1. Make "no net loss" a minimum requirement for Conservation and Recreation lands and strive for net environmental gain

Metro 2040 encourages "the province, utility companies and TransLink to avoid fragmentation of Conservation and Recreation areas when developing and operating utility and transportation infrastructure, but where unavoidable, consider mitigating the impacts, including possible enhancement to the areas." The June 2021 draft of *Metro 2050* strengthens this policy through two provisions:

- Policy 3.1.3: In its role in constructing and operating regional infrastructure, Metro Vancouver will "avoid ecosystem loss and fragmentation... but where unavoidable, mitigate the impacts, including ecosystem restoration and striving for no net ecosystem loss."
- Policy 3.1.6: Metro Vancouver will "advocate to the Federal Government, the Province, utility companies, and TransLink" to do the same.

The above policies should be further strengthened so that "no net loss" is a minimum requirement rather than something to be "strived for". Additionally, enhancements and/or areas that are conserved should seek to contribute to network connectivity of natural hubs and corridors (current or potential future). The region should commit to this standard for its own projects and clearly advocate that others adhere to it. Metro Vancouver should define an approach that is consistent with provincial/federal frameworks for project-related ecosystem loss.

2. Capture Metro Vancouver's climate action support role

In Metro Vancouver's Climate 2050 Strategic Framework (p. 14), first approved by the Metro Vancouver Board in September 2018 and revised in July 2019, three roles are identified for Metro Vancouver:

- 1) **Planning:** consider climate change in regional planning, including:
 - a) the management and regulation of greenhouse gas emissions
 - b) working with members to help plan for compact complete communities
 - c) evaluating how climate change will affect future development and growth in the region
- 2) **Approving funding:** Metro Vancouver has approval authority over key funding sources in the Federal Gas Tax and the Sustainability Innovation Funds, which can enable greenhouse gas and climate adaptation projects in corporate operations and the region

- 3) **A regional forum:** builds and facilitates collaborative processes which engage the public and build partnerships; engage its members and other partners to develop the Climate 2050 Roadmaps and implement joint climate action projects.

Engaging member jurisdictions and other partners to coordinate program delivery and jointly take climate action is a function that forms part of the regional forum role. Richmond recommends strengthening *Metro 2050* by adding two policies that reflect this function. The proposed wording ensures that participation by member jurisdictions in joint action would be contingent on agreement with Metro Vancouver:

- Policy 3.3.2 (d) [Metro Vancouver will] work in partnership with member jurisdictions to facilitate, support and/or jointly implement agreed-upon cross-jurisdictional policies and programs that that reduce energy consumption and greenhouse gas emissions, improve air quality, create carbon storage opportunities, and that meet or work towards Policy 3.3.7.
- Policy 3.3.8 [Member jurisdictions will] work in partnership with Metro Vancouver to jointly implement agreed-upon cross-jurisdictional policies and programs that reduce energy consumption and greenhouse gas emissions, improve air quality, create carbon storage opportunities, and that meet or work towards Policy 3.3.7.

Richmond notes that this function has been a core service of the Capital Regional District for close to ten years. Experience there suggests that such a service would assist member jurisdiction efforts to reduce greenhouse gases, and that coordinated program delivery should reduce total administrative costs to member jurisdictions.

3. Strengthen discussion of natural assets

Draft *Metro 2050* Policy 3.2.7(b)(ii) refers to “ecosystem services”, which is a broad topic. The City recommends expanding this policy to include regionally-focused studies. Policy relating to ecosystem services can be further strengthened with regional assessments. Local Governments can apply the results of regionally-focused studies, such as natural asset valuation, locally to support existing ecosystem service initiatives alongside with infrastructure management and planning. Natural assets are the stock of natural resources or ecosystems that are relied upon, managed, or could be managed by a government for the provision of services³. Examples include removing pollutants from the air and water, protecting shorelines from damage and maintaining soil productivity. Natural assets can generally provide these services at a lower cost than an equivalent engineered solution while providing a host of other environmental and socio-economic benefits.

4. Strengthen discussion of social equity

Richmond supports the integration of social equity considerations into the *Metro 2050* draft and believes it can be further strengthened. As drafted, *Metro 2050* provides a definition of social equity as “the promotion of fairness and the removal of systematic barriers that may cause or

³ See Asset Management BC. 2019. Integrating Natural Assets into Asset Management. www.assetmanagementbc.ca.

aggravate disparities experienced by different groups of people” and goes on to provide examples, including socioeconomic status, ethnicity, race, sex, age, disability, gender, sexuality, religion, indigeneity, class, and other equity-related issues. While the draft mentions social equity in some of the strategies, it does not identify the barriers to be removed, and does not offer concrete policies to address these barriers. In addition, some of the goals and strategies contained in the document address age, income and ability, but they do not address other key equity-related issues, such as ethnicity, race, gender and indigeneity, which affect an individual’s experience of life in a community and their economic potential. The document also talks about a strong sense of neighbourhood identity, social connection and community resilience, and inclusion, but does not offer tangible solutions beyond accessing housing. Finally, universal accessibility is an important element of equity in relation to the physical design of our homes, workplaces and public spaces, and should be addressed more fully.

There are likely many opportunities to strengthen the social equity lens with this review in mind. Given that the scope of the regional growth strategy is primarily physical development, the most obvious opportunity to address barriers and identify solutions would be to incorporate policies for both Metro Vancouver and member jurisdictions to apply a broadly inclusive equity lens to physical planning and design. This would consider ethnicity, race, gender, age, indigeneity, disability, class and other issues and would apply to private and public spaces of all kinds. Perhaps most importantly, it would apply to the planning and design process. Rather than suggest specific changes, Richmond suggests that Metro Vancouver review the *Metro 2050* draft holistically and consider how to further strengthen the social equity lens throughout.

5. Make other small changes to strengthen the June 2021 *Metro 2050* draft

Richmond recommends the changes shown in the following list to further strengthen *Metro 2050*. Each item in the list includes the specific section of *Metro 2050* to which it applies, the suggested change and a rationale. As needed, please refer to the *Metro 2050* draft (Attachment 3) for the related text.

- Introductory Material

| Section | Suggested Change | Reason |
|---------------------|---|--|
| Context for the RGS | The Geographic Context section highlights the socio-economic significance of our geography. Add a reference to the ecological significance of our geography including biodiversity. | The lower mainland is an important global hub for wildlife and biodiversity. For example, it is an essential stop for migratory birds on the Pacific Flyway. And the Fraser River is one of the world’s most significant salmon rivers. Regional growth can have important impacts on these globally significant ecosystems. |

- Goal 1: Create a Compact Urban Area.

| Section | Suggested Change | Reason |
|---------------------------|--|--------------------------------------|
| Introduction, paragraph 3 | Change “Complete communities are walkable....live, work and play and stages of their lives.” to “Complete communities are walkable....live, work and play <i>at all ages</i> and stages of their lives.” | Better reflect the aging population. |

| Section | Suggested Change | Reason |
|---------------|--|---|
| 1.2.24(b)(iv) | In policies for Urban Centres and Frequent Transit Development Areas, include transportation demand management (TDM) and promotion of other mobility options. | Support decreased demand for parking and support active transportation modes. |
| 1.2.28 | Change “Continue to develop walking and biking infrastructure programs that prioritize improvements in Urban Centres and Frequent Transit Development Areas.” to “Continue to develop walking and biking infrastructure programs that prioritize improvements in <i>and between</i> Urban Centres and Frequent Transit Development Areas.” | Support regional connections via cycling networks. |

- Goal 2: Support a Sustainable Economy.

| Section | Suggested Change | Reason |
|---------|---|--|
| 2.2.3 | In preparation of Implementation Guidelines, reference collaboration with municipalities, as done in Policies 1.1.3 and 1.2.12. | Collaboration is important to leverage municipal expertise and to ensure guidelines respond to the unique perspectives and conditions in each member jurisdiction. |

- Goal 3: Protect the Environment and Respond to Climate Change and Natural Hazards.

| Section | Suggested Change | Reason |
|--|---|---|
| Strategy 3.4 | Change “Climate change is expected to impact Metro Vancouver through warmer temperatures, decreased snowpack, sea level rise, longer summer drought periods, and increased precipitation in the fall, winter, and spring...” by adding “ <i>as well as extreme heat and severe air quality events resulting from increased levels of wildfires in BC and elsewhere in the Pacific Northwest.</i> ” Add a sentence referencing highly vulnerable populations or situations, such as seniors in older rental housing who are vulnerable to extreme heat. | Extreme heat and severe air quality events are critical and demonstrated results of climate change in the region and neither they nor their socio-economic impacts are adequately captured in the current text. |
| Table 5: Major Natural Hazards... (p.64) | For the listed Natural hazard “Tsunamis”, add “Storm surges and King tides”, and add “Sea level rise” in the Related climate change impact column. | Storm surges and king tides, which occur far more frequently than tsunamis, are exacerbated by sea level rise. |
| 3.4.1 | For this policy on planning and location of infrastructure, make it explicit that it includes proactive retrofits of <i>existing</i> Metro Vancouver infrastructure to provide resiliency to climate change impacts. | As currently stated, the policy could be interpreted to apply only to new infrastructure projects. |

- Goal 4: Provide Diverse and Affordable Housing Choices.

| Section | Suggested Change | Reason |
|---------------------|--|---|
| Preamble | Reference climate-related impacts in planning for and developing housing. | Climate change mitigation and adaptation / resilience are already important for housing, including Step Code requirements and extreme heat impacts on vulnerable populations. |
| 4.1.1, 4.1.2, 4.1.9 | Add references to climate adaptation / resilience to policies about housing assessments, strategies or action plans. | Integrate climate adaptation / resilience. |
| 4.2.7 | In the list of policies and actions to identify in the Regional Context Statement, adjust (v) to include climate adaptation / resilience, or add (vi) "increased climate resilience" | Integrate climate adaptation / resilience. |

- Goal 5: Support Sustainable Transportation Choices.

| Section | Suggested Change | Reason |
|----------|--|--|
| Preamble | Consider additional reference to micro mobility and Autonomous Vehicles. | Current wording does not capture emerging trends in personal mobility devices and autonomous vehicles, which are reflected in the "big moves" in draft <i>Transport 2050</i> material. |

- Performance Monitoring

| Section | Suggested Change | Reason |
|---------|-------------------------------|---|
| Goal 5 | Add a metric for road safety. | The heading is titled "Road and Vehicle Use and Safety" but neither of the listed metrics are safety-related. |

Ways to Improve Clarity and Consistency

Richmond identified wording changes and additional content that could improve clarity and consistency. These would not materially affect the goals nor policies in *Metro 2050*.

A. Scope and Linkages to Other Plans

| Section | Change | Reason |
|---------|---|--|
| | Consider an up-front section like Section A Sustainability Framework and Section B Scope and Linkages to Other Plans in Metro 2040 to better situate the RGS within the scope of Metro Vancouver's roles. In particular, a diagram and/or table mapping the links between the RGS and other key Metro Vancouver strategies and plans would be helpful for users whose focus is not land use and transportation. | Improve communication about how Metro 2050 fits with Metro's regional role as a whole. |

B. Introduction to the Region

| Section | Change | Reason |
|------------------------------|---|---|
| Challenges and Opportunities | Improving Accessibility and Mobility and Reducing Congestion: suggest change to “Strategies include investing in transit and active transportation, supporting the creation of complete and walkable communities, directing growth towards transit-oriented areas, and managing transportation demand through parking requirements, transportation user pricing, and other means.” | “...and other means” seems weak/vague and the wording is not consistent with the typical declaratory sentences in the document. |
| | Strengthen “Accommodating Growth...” by simplifying technical phrases and instead framing as “shaping” or “guiding” growth and density so that it creates benefits. Also consider broadening this statement so that it’s not just about regional planning. “Ensuring housing for all” – consider starting the paragraph with the statement about extreme pressure, instead of placing it in the middle of the paragraph. | Acknowledge local planning’s influence better; make framing more impactful, and positive where appropriate; connect major points to strengthen the overall framing. |

C. Introduction to the Regional Growth Strategy

| Section | Change | Reason |
|--|--|-------------------------|
| Responding to the Challenges: Metro 2050 Goals | The second sentence under Goal 3 could be written in a similar way to the first sentence, as a vision of the future. | Stronger and more clear |
| Growth Projections | Change “Once defined by member jurisdictions...” to “Once they have been defined by member jurisdictions...” | More clear |

Goal 1: Create a Compact Urban Area

| Section | Change | Reason |
|------------------------------------|---|---|
| 1.1.10 | Consider reference to Transport 2050 and existing/future transport area plans like SWATP. Can also include transit service expanded to other land uses such as industrial employment centres and other high generator areas. | Clarify TransLink’s role in planning for compact urban form |
| 1.2.2 | Consider addition of other land uses (industrial, business parks, regional attractions, etc.) | More complete |
| 1.2.16 | This includes “government owned or affordable supportive housing developments”. Consider a specific reference to housing developments for seniors including all ages multi-unit housing with a high concentration of seniors. | More clear: as there is no definition of supportive housing, a reader could think it is narrowly defined and does not include seniors’ housing. |
| 1.2.26 | Consider mention of consistency with member jurisdictional OCPs | More clear |
| 1.2.24 (b) and similar, e.g. 1.3.7 | Change language requiring municipalities to “include policies that...” to a consistent format for Regional Context Statement requirements, e.g. “identify policies and actions that...” as used elsewhere in the draft. | More consistent with the purpose of a Regional Context Statement |
| 1.2.24 (b) (iii) | Change to “encourage office development to locate in Urban Centres” | More clear |

| Section | Change | Reason |
|------------------|--|--|
| 1.2.24 (d) | Change to “demonstrate consistency with the definition of non-residential “Major Trip Generating Uses” used by Metro Vancouver” | More consistent with purpose of a Regional Context Statement |
| 1.3 Introduction | Change “Creating complete communities... allows residents to meet most of their daily needs by walking, rolling, or transit without leaving their neighbourhood.” to “Creating complete communities... allows residents <i>of all ages and abilities</i> to meet most of their daily needs by walking, rolling, or transit without leaving their neighbourhood.” | Inclusive of the needs of people with all kinds of physical and cognitive disabilities |
| 1.3.6 | Include affordable housing in this list of facilities built or funded by the Federal Government or the Province. | More complete |

Goal 2: Support a Sustainable Economy

| Section | Change | Reason |
|------------------------------|--|---|
| 2.1.3 b) | Consider providing examples of what may be included in “[exploring] fiscal reform to ensure that the property tax system supports sound land use decisions.” | More clear, while maintaining flexibility for the intended exploration of the topic. |
| 2.1.10, 2.2.9(c) and similar | Change language requiring municipalities to “include policies that...” to a consistent format for Regional Context Statement requirements, e.g. “identify policies and actions that ...” as used elsewhere in the draft. | More consistent with the purpose of a Regional Context Statement. |
| 2.2.9(c) (iv) | Clarify “...including the removing of any outdated municipal policies or regulatory barriers related to development form and density” including replacing “outdated” with a more meaningful term. | Clarify intent and meaning of this requirement. Removing some barriers is appropriate; removing all is not. The aim should be to facilitate more intense industrial development while managing urban form and relationships with adjacent (particularly non-industrial) uses. |
| 2.2.9(c)(viii) | Remove this policy to “introduce land use policies through area plans...” or make it less prescriptive. | There are various ways of supporting viable unique industrial areas through objectives, policies and/or plans or strategies both within and outside an area plan. |
| 2.2.9(d)(v) and (vi) | Consider consolidating policies on residential uses into one point. | More clear / simpler |

Goal 5: Support Sustainable Transportation Choices

| Section | Change | Reason |
|---------|--|---|
| 5.1 | Consider use of “active transportation and micro mobility” instead of only “cycling and walking” | To capture rolling modes as well as low-powered personal mobility devices such as electric kick scooters. |

| Section | Change | Reason |
|-----------|---|---|
| 5.1.15(e) | Rephrase “support the development of safe and comfortable regional cycling networks” | 5.1.10(b) references the “Regional Cycling Network” (RCN=RGN+MBN) while the reference in 5.1.15(e) is not capitalized and is plural. Need consistency and clarity: does this mean support “local” cycling networks being developed by member jurisdictions that connect to the RCN? |
| 5.2.5(d) | Include rationale for collecting the data | As has been done for other points within 5.2.5, clarify what is the purpose of the action (i.e., reason for collecting the data, how will it be used to support the strategy) |
| 5.2.6(d) | Adjust wording to accommodate municipalities that do not have designated truck routes | More flexible for municipalities that do not have designated truck routes. |

H. Glossary of Terms

| Term | Change | Reason |
|--------------------|--------|--|
| Federal Government | Add | Consistent with existing listings for Province, Member Jurisdictions |
| Ecosystem Health | Add | Referenced frequently and also linked to Metro Vancouver Ecological Health Framework |

I. Maps

| Map | Change | Reason |
|-------|--|--|
| Map 4 | Update Frequent Transit Network (FTN) layer (current map is 2016) | Reflect FTN as of 2021 |
| Map 5 | Replace with final <i>Transport 2050</i> map | Current map is a placeholder and is expected to change. Need to use final map when <i>Transport 2050</i> is finalized. |
| Map 5 | Consider layering the Major Transit Network on top of the Urban Centres instead of underneath. | Canada Line through Richmond appears to be missing from the draft major transit network concept and draft major transit growth corridors |



Office of the Chair
Tel. 604 432-6215 or via Email
CAOAdministration@metrovanancouver.org

July 14, 2021

File: CR-12-01
Ref: RD 2021 Jun 25

Mayor Malcolm Brodie and Council
City of Richmond
6911 No. 3 Road
Richmond, BC V6Y 2C1

Dear Mayor Brodie and Council:

Draft Metro 2050: Referral for Comment

In April 2019, the Metro Vancouver Board initiated a comprehensive update to *Metro Vancouver 2040: Shaping our Future (Metro 2040)*, the regional growth strategy. Since its adoption in 2011, this visionary strategy has been a strong and effective tool for the regional federation to collectively manage regional growth, while subsequently reflecting the federation's objectives to prevent urban sprawl; protect important lands; support the development of complete and resilient communities; and support the efficient provision of urban infrastructure such as utilities and transit.

In the Fall of 2019, we provided you with formal notification that the update to *Metro 2040* was commencing. Since then, Metro Vancouver and member jurisdictions have worked in close partnership through a series of policy reviews, meetings, and the *Metro 2050* Intergovernmental Advisory Committee to identify strengths and gaps in the regional growth strategy. Additionally, Metro Vancouver and member jurisdictions have been collectively seeking to improve and update the strategy to better meet the needs of members, while further addressing growing regional challenges. After two years of research, workshops, dialogue, and input from member jurisdiction staff, elected officials, First Nations, the Province, other regional stakeholders, organizations and agencies, and the public, the updated regional growth strategy, draft *Metro 2050*, is ready for review and comment.

At its June 25, 2021 regular meeting, the Board of Directors of the Metro Vancouver Regional District adopted the following resolution:

That the MVRD Board refer the draft of Metro 2050 attached to the report titled "Draft Metro 2050: Referral for Comment", dated May 25, 2021 for comment including to the following:

- i. signatories to the regional growth strategy including: Mayors and Councils of Metro Vancouver member jurisdictions; the TransLink Board; the Squamish-Lillooet Regional District Board; the Fraser Valley Regional District Board; and*
- ii. other members of the Metro 2050 Intergovernmental Advisory Committee including: in region First Nations; the Province of BC; the Agricultural Land Commission; Vancouver Coastal Health; Fraser Health; BC Housing; BC Hydro; University Endowment Lands;*

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Bowen Island; City of Abbotsford; City of Chilliwack; District of Mission; Integrated Partnership for Regional Emergency Management; Simon Fraser University; Kwantlen Polytechnic University; University of British Columbia; Vancouver Fraser Port Authority; Transport Canada; Canada Mortgage and Housing Corporation; and Vancouver International Airport Authority.

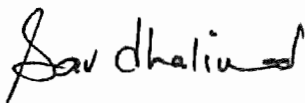
I am pleased to provide you with a copy of the draft *Metro 2050*. Metro Vancouver is requesting to meet with your council or board at a meeting in September, October, or November 2021 to provide a presentation on the draft of *Metro 2050*, and will work with your staff to find an appropriate date. This presentation will provide an opportunity to discuss ideas or any areas of concern, provide feedback on the draft, and answer any questions. Concurrent with this meeting, staff are offering to co-host a public information session with your staff.

Your organization is invited to provide written comments on the draft *Metro 2050* by Council or Board resolution. Please submit any written comments to Metro Vancouver's Corporate Officer by email at Chris.Plagnol@metrovancover.org. The deadline for submitting written comments on *Metro 2050* is November 26, 2021. Following the comment period, comments received will be conveyed to the Metro Vancouver Board and considered in a revised draft of *Metro 2050*.

While it can be accessed online at www.metrovancover.org/metro2050, we have enclosed a hard copy of the draft *Metro 2050*. In addition, an executive summary and a copy of a staff report summarizing *Metro 2050* and the engagement process are also enclosed. If you wish to receive additional copies, or if you have any questions with respect to *Metro 2050*, please contact Sean Galloway, Director of Regional Planning and Electoral Area Services by phone at 604-451-6616 or by email at Sean.Galloway@metrovancover.org

I would like to acknowledge your organization's work to date on this important strategy. Thank you for your time and contributions. Through our continued collaboration we will ensure that the regional growth strategy continues to expand on our history of excellent regional building, and supports a resilient, prosperous and exciting place to be.

Yours sincerely,



Sav Dhalwal
Chair, Metro Vancouver Board

SD/HM/js

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cc: George Duncan, Chief Administrative Officer, City of Richmond
John Hopkins, Director of Policy Planning, City of Richmond
Jerry W. Dobrovolny, Commissioner/Chief Administrative Officer, Metro Vancouver
Heather McNell, General Manager, Regional Planning and Housing Services, Metro Vancouver

Encl: 1. DRAFT *Metro 2050* (Doc #46401631)
2. DRAFT *Metro 2050* Executive Summary (Doc #46577592)
3. Report dated May 25, 2021, titled, "Draft *Metro 2050* for Comment Referral and Next Steps"
(Doc #45545229)

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Metro 2050

Regional Growth Strategy



DRAFT

Metro 2050

4730 Kingsway, Burnaby, BC, V5H 0C6
metrovanancouver.org

June, 2021

45986709

Acknowledgement of Indigenous Territory

Metro Vancouver acknowledges that the region's residents live, work, and learn on the shared territories of many Indigenous peoples, including ten local First Nations: Katzie, Kwantlen, Kwikwetlem, Matsqui, Musqueam, Qayqayt, Semiahmoo, Squamish, Tsawwassen, and Tsleil-Waututh.

Metro Vancouver respects the diverse and distinct histories, languages, and cultures of First Nations, Métis, and Inuit, which collectively enrich our lives and the region.

Metro Vancouver

Metro Vancouver is a federation of 21 municipalities, one Electoral Area and one Treaty First Nation, working collaboratively in planning and providing vital utility and local government services to about 2.75 million residents. Essential services include the provision of drinking water, sewage treatment, and solid waste disposal, along with regional services like parks, affordable housing, land use planning, and air quality management that help keep the region one of the most livable in the world.

FIGURE 1. METRO VANCOUVER ENTITIES AND SERVICES



Mission

Metro Vancouver's mission is framed around three broad roles:

1. Serve as a Regional Federation

Serve as the main political forum for discussion of significant community issues at the regional level, and facilitate the collaboration of members in delivering the services best provided at the regional level.

2. Deliver Core Services

Provide regional utility services related to drinking water, liquid waste, and solid waste to members. Provide regional services, including parks and affordable housing, directly to residents and act as the local government for Electoral Area A.

3. Plan for the Region

Carry out planning and regulatory responsibilities related to the three utility services as well as air quality, regional planning, regional parks, Electoral Area A, affordable housing, regional economic prosperity, and regional emergency management.

Building a Resilient Region

Building the resilience of the region is at the heart of Metro Vancouver's work. Each of Metro Vancouver's regional plans and strategies adopts a vision, guiding principles, goals, strategies, actions, and key performance measures that will support a more resilient, low carbon and equitable future. Metro Vancouver's interconnected plans and strategies are guided by the Board Strategic Plan, which provides strategic direction for each of Metro Vancouver's legislated areas of responsibility and the Long-Term Financial Plan which projects total expenditures for capital projects and operations that sustain important regional services and infrastructure. Together these documents outline Metro Vancouver's policy commitments and specific contributions to achieving a resilient region.

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A. Metro 2050 Scope and Linkages to Other Plans

Regional Growth Strategies: Legislative Authority

The *Local Government Act* establishes authority for regional districts to prepare a regional growth strategy, which is intended to “promote human settlement that is socially, economically and environmentally healthy and that makes efficient use of public facilities and services, land and other resources.”

Metro Vancouver’s Management Plans

Metro Vancouver’s regional growth strategy, *Metro 2050*, is one plan among a suite of interconnected management plans developed around Metro Vancouver’s Board Strategic Plan. The regional growth strategy uses land use policies to guide the future development of the region and support the efficient provision of transportation, regional infrastructure, and community services; it helps support the region’s priorities, mandates, and long-term commitments to sustainability and resiliency, in combination with other management plans.

The regional growth strategy provides the land use framework for planning related to regional utilities (water, liquid waste, and solid waste), transportation, housing, and air quality. Reciprocally, the *Drinking Water Management Plan*, *Integrated Liquid Waste and Resource Management Plan*, and *Integrated Solid Waste and Resource Management Plan* set the utility frameworks within which the regional growth strategy must be developed. Housing policies in the regional growth strategy are implemented in part through

the *Metro Vancouver Housing 10-Year Plan*, while the environmental and active transportation policies have important linkages with the *Regional Parks Plan*, *Ecological Health Framework*, and *Regional Greenways 2050*. The regional growth strategy helps improve air quality and reduce greenhouse gas emissions, as called for in the *Clean Air Plan* and *Climate 2050*, by encouraging growth patterns that facilitate energy efficient built form and travel patterns. Finally, the economic actions in the regional growth strategy support a prosperous economy through the implementation of the *Regional Industrial Lands Strategy* and *Regional Economic Prosperity Service*.

Metro Vancouver and TransLink: Working Together for a Livable Region

Metro Vancouver has a unique relationship with its sister agency, TransLink, the regional transportation authority responsible for planning, managing, and operating the regional transportation system. TransLink is required by the *South Coast British Columbia Transportation Authority Act* to support Metro Vancouver’s regional growth strategy, air quality and greenhouse gas reduction objectives, and the economic development of the region. TransLink’s long-range plan, *Transport 2050*, sets out transportation strategies for the road and transit networks as well as other matters affecting the regional transportation system. The regional growth strategy and regional transportation plan must support each plan’s policy frameworks to be successful.

Metro Vancouver acknowledges TransLink's mandate is to prepare and implement regional transportation system plans and demand management strategies. The mandate of the Mayors' Council on Regional Transportation includes approving long-term, 30 year transportation strategies and 10 year investment plans.

Metro Vancouver's role in regional transportation planning is to:

- communicate its objectives for the regional transportation system to TransLink;
- provide transportation planning input through the provision of land use, growth management and air quality information and forecasts and, as appropriate, the evaluation of land use and vehicle emissions impacts; and
- provide advice and input to TransLink and the Mayors' Council in the fulfillment of their roles in light of regional objectives and the circumstances of the day.

Metro Vancouver and TransLink share a commitment to coordination, information-sharing, and pursuing joint policy research on topics of mutual interest such as walkability, parking, new mobility, social equity, and resiliency.

Working Together with First Nations

Metro Vancouver engages and collaborates with local First Nations on matters of shared regional planning interest. With regards to the regional growth strategy, this includes engaging with First Nations on regional growth strategy updates, amendments, and projections, as well as on key planning initiatives. It may also include opportunities to partner or collaborate on regional planning projects such as corridor studies or inventories. Metro Vancouver shares regional planning reports and data and is available to serve as a planning resource. Metro Vancouver strives to work towards better relationships with Indigenous groups and encourages member jurisdictions to also foster improved relationships.

Metro Vancouver acknowledges that regional growth has impacts on Indigenous territories. Metro Vancouver also respects that, as federal lands, First Nations reserve lands are not subject to the land use policies in the regional growth strategy. However, if and when First Nations develop land management plans, Metro Vancouver, the respective First Nations, and adjacent member jurisdictions will endeavour to engage, collaborate, and coordinate with one another at an early stage to ensure, to the extent possible, that the regional growth strategy, municipal Official Community Plans, regional transportation plans, and First Nations' land management plans are all mutually respectful and supportive.



Working Together with Federal and Provincial Governments and Other Regional Stakeholders

An important part of successful regional planning is collaboration and building inter-jurisdictional partnerships. Metro Vancouver works with other important partners including the Federal Government and the Province, other authorities and agencies, residents, non-profit organizations and business associations on all aspects of the regional growth strategy where there are shared or overlapping interests. Metro Vancouver strives to foster strong relationships with other government agencies and regional stakeholders, seeks to find opportunities for collaboration, and shares information for the benefit of all, while respecting unique jurisdictional responsibilities.

Due to Canada's federal system, there are federal, provincial, and local jurisdictions and responsibilities that interplay and have significant impacts on how people live and use the region. While some jurisdiction is clearly separate, others can be shared or overlapping. The Federal Government has jurisdiction and funding responsibilities for federal trade and transportation facilities, such as ports and airports, while the Province is responsible for transportation planning, education, agriculture, child care, and health care, all of which have significant impacts on how people live and use the region. Both the Federal Government and the Province are responsible for funding programs that enable the creation of affordable and supportive housing and for taking action on climate change. Metro Vancouver's collaboration with regional stakeholders includes the role of convening and fostering dialogue with and among health authorities, port and airport authorities, post-secondary educational institutions, the Agricultural Land Commission, housing providers, industry groups, and the non-profit sector.

B. Introduction to the Region

Context for the Regional Growth Strategy

Geographic Context: Surrounded by Natural Beauty, but Constrained

Located in the southwestern corner of the British Columbia mainland, the Metro Vancouver region is a diverse urban place rich in natural beauty. Situated on the Salish Sea, bisected by the Fraser River, and flanked by the Cascade Mountains to the north, the region's natural features have contributed to its position as a major international port, an important location for agricultural production, and one of the most desirable places to live in Canada. These features, as well as the international border to the south, lead to a constrained land base that strengthens the imperative for regional planning and growth management. Consequently, the regional federation has a long history of thoughtfully considering how to accommodate population and economic growth with limited land for expansion.

Indigenous Context: A Rich Indigenous History and Vibrant Modern Presence

For thousands of years, Indigenous peoples have lived on, and stewarded, their respective and shared territories that collectively have also become known as the Metro Vancouver region. Today there are ten First Nations with communities located within the Metro Vancouver region: Katzie First Nation, Kwantlen First Nation, Kwikwetlem First Nation, Matsqui First Nation, Musqueam Indian Band, Qayqayt First Nation, Semiahmoo First Nation, Squamish Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation. In addition, there are many other Indigenous Nations and organizations located outside the boundaries of

Metro Vancouver, having land and territorial interests that include the Metro Vancouver region. Further, many First Nation peoples from other areas of Canada, as well as Inuit and Métis peoples, live within this region.

Social Context: A Culturally Diverse Region

Metro Vancouver is the largest region in British Columbia with over 53% of the province's population. Metro Vancouver is an ethnically diverse region with approximately 49% of the population of European heritage, 20% Chinese, 12% South Asian, 5% Filipino, 2.5% Indigenous, and a wide variety of other cultural backgrounds. This cultural diversity has, and continues to, enrich the region and helps make the region an attractive place to live and supports tourism, immigration, and investment.

Housing is one of the most important social and economic issues in Metro Vancouver. Land values and housing prices in the region are very high and have led to associated housing challenges, including barriers to accessing housing in both the rental and ownership markets, many households spending more than 30% of their gross income on housing, lack of supply across the housing continuum, low rental vacancy rates, and a high rate of homelessness.

Climate Change and Natural Hazards Context: Vulnerable to Impacts and Risks

Metro Vancouver is situated on the Fraser River delta, amongst many forested areas and steep slopes, and in one of the most seismically active zones in Canada. As a result, the region is susceptible to a variety of natural hazards, including earthquakes, wildfires, landslides, and floods. Climate change is already affecting Metro Vancouver, and the impacts

are projected to become more frequent and severe over time, increasingly affecting the communities, infrastructure, and natural environment within the region. Climate change can also amplify the impacts of natural hazards; for instance, sea level rise can increase the severity of coastal floods, heavier rainfall events can influence the likelihood of floods and landslides, and warmer temperatures combined with longer drought periods can increase the risk of wildfires.

Challenges and Opportunities

Metro Vancouver's population has grown substantially over the past decades, adding more than one million people in a generation. This strong population growth is projected to continue, therefore the key challenge will be to accommodate growth in ways that advance both livability and sustainability. To accomplish this, the regional growth strategy strives to address the following issues:

Accommodating Growth to Advance Livability and Sustainability

The region is expected to continue to grow by about 35,000 residents per year. Accommodating growth within a land-constrained region implies greater density of development. Carefully structured, with the right diversity and mix of land uses, regional planning can reduce congestion, improve the efficiency of transportation infrastructure, improve the economics of public services, increase the viability of local businesses and retail services, foster the creation of vibrant centres for culture and community activities, and maintain an attractive urban environment.

Building Resilient, Healthy, and Complete Communities

As the region's population both grows and ages, ensuring access to the key elements of healthy, social and complete communities becomes more challenging. Access to amenities like local shops, personal services, community activities, recreation, green spaces, employment, culture, entertainment, and a safe and attractive public realm can improve community health, social connectedness, and resiliency. This requires careful planning, primarily at the local scale, but also regionally. Complete communities can also help with other challenges, such as climate change, by encouraging active transportation and reducing the need to commute or travel long distances to access employment, amenities, or services.

Ensuring Housing for All

Ensuring affordable and appropriate housing that meets a variety of needs across the housing continuum is an ongoing challenge. While the region's housing market continues to evolve, stresses of high prices and low supply have evolved over the past decade to the point where there is extreme pressure on both ownership and rental tenure, and heightened public concern over the impacts of housing challenges on the region's social and economic well-being. Strong regional policy and performance measures pertaining to housing can help to increase the supply of all forms and tenures of housing, and reduce pressures on the housing market.

Supporting Economic Prosperity

Metro Vancouver's economy benefits from a highly varied and specialized base of employment activities, including international trade and logistics; manufacturing; professional and business services; film and television production; tourism and hospitality; education and knowledge creation; agriculture; and emerging technology-driven sectors, such as apparel technology, agri-tech, clean technology, digital media, medical technology, and new mobility. The region connects with, and serves, a resource-rich province and has strong gateway links to the North American and Asia-Pacific regions. An intent of the regional growth strategy is to provide an adequate supply of jobs-producing research, and industrial and commercial space throughout the region for new and expanding industrial and employment uses. This could include research and development, incubation and acceleration, production, and export, located according to their needs, and in a manner that supports an efficient transportation system on which the economy depends.

Advancing Social Equity

Social equity in Metro Vancouver is considered to be the promotion of justice and fairness and the removal of systemic barriers that may cause or aggravate disparities experienced by different groups of people. This can include consideration of the many dimensions of identity, such as socioeconomic status, race, ethnicity, sex, age, disability, gender, sexuality, religion, indigeneity, class, and other equity-related issues.

Economic and social inequity can contribute to broad health and social problems as well as a wide variety of other challenges. In Metro Vancouver, incorporating social equity into regional growth planning practice is crucial to ensuring that the region moves forward in an equitable and inclusive manner. Improving social equity will also support the region's other objectives including resiliency, sustainability, livability, and prosperity for all. Some of the key social equity concerns in the Metro Vancouver region that relate to the regional growth strategy include: access to green space, employment, and transit; housing adequacy, suitability, and affordability; vulnerability to climate change impacts and natural hazards; and the displacement impacts that are the result of redevelopment.

Ensuring Resilience

Metro Vancouver is vulnerable to a variety of shocks and stressors. Regional resilience is the capacity of communities and organizations to prepare, avoid, absorb, recover, and adapt to the effects of shocks and stresses in an efficient manner through the preservation, restoration, and adaptation of essential services and functions, while learning from shocks and stresses to build a more resilient place. Proactive growth management policies can promote land use and built form patterns that reduce exposure to risk, help communities prepare for future shocks, and ensure that residents have the necessary community and social assets located close to where they live and work.

Reconciliation with Indigenous Peoples

Working towards reconciliation introduces a cross-jurisdictional consideration for regional districts, since the primary intergovernmental relationship for First Nations is with the Federal Government. While the regional growth strategy does not apply to reserve lands, it potentially impacts them. In further fostering relationships with First Nations and understanding the various challenges, opportunities, and impacts on all partners, we can collectively move forward and be inclusive of all residents of the region.

Protecting the Environment

Many natural assets in Metro Vancouver are of national and international significance. Managed carefully, they also provide essential ecosystem services such as clean air, fresh water, and nutritious food. The challenge is to protect and restore the integrity of these assets for the benefit of current and future generations in the face of a growing population, associated development, and a changing climate. Regional policy that emphasizes protecting, connecting, and enhancing ecosystems and integrating best practices across disciplines can help address this challenge.

Preparing for Climate Change and Natural Hazards

The major natural hazards in Metro Vancouver include earthquakes, floods, and landslides. The risks associated with these hazards are often worsened by climate change. By 2050, the region is projected to experience sea level rise; warmer temperatures; longer summer drought periods; increased precipitation in the fall, winter, and spring; a reduced annual snowpack; and more frequent extreme weather events. The challenge will be to prepare for the anticipated impacts of climate change and regional natural hazards, while also reducing

regional greenhouse gas emissions and achieving a carbon neutral region by the year 2050. Emerging global issues such as climate change displacement may impact population and influence land use and growth management planning in the Metro Vancouver region. An example of a policy approach focused on preparing for the impacts of climate change and natural hazards includes avoiding locating new settlements and infrastructure in locations with known and unmitigated hazards and, where settlements already exist, mitigating those hazards to minimize risk to people and property.

Protecting Agricultural Land to Support Food Production

Local production of food is dependent on a protected land base for agriculture. Metro Vancouver has approximately 60,000 hectares in the provincial Agricultural Land Reserve, and that land is a vital asset for the economic viability of the region, the agricultural sector in particular, along with supporting local food production for future generations. The ongoing importance of producing fresh, local food contributes to a secure food supply, economic resilience, and supports other co-benefits such as ecosystem services. Yet land speculation and the conversion pressures from other land uses on agricultural lands continues to threaten the resilience of agriculture in the region. The impacts of climate change are also projected to have significant impacts on the agricultural industry. Effective growth management policy includes strategies to protect and enhance agricultural lands and support agricultural viability over the long-term.

Improving Accessibility and Mobility and Reducing Congestion

Metro Vancouver has some of the highest levels of transit ridership, walking, and cycling in Canada. However, sustainable mode share varies significantly across the region, the majority of trips are still taken by private motor vehicle, and transportation remains the region's largest source of greenhouse gas emissions. Shaping infrastructure, street design, and population growth in a way that supports sustainable transportation choices are keys to reaching the region's carbon neutrality target by 2050. Strategies include investing in transit and active transportation, supporting the creation of complete and walkable communities, directing growth towards transit-oriented areas, and managing transportation demand through parking requirements, transportation user pricing, and other means.

Changing Generational Preferences and Behaviours

Younger and older generations often have different perspectives and preferences regarding: housing type, tenure, and location; transportation choice; employment; proximity to amenities and services; and recreational opportunities. In addition, macroeconomic trends have delayed or limited many opportunities for employment and home ownership while technological innovation has impacted consumer behaviour. The result has been a general trend towards living in more urban environments, making more environmentally-sensitive choices, and prioritizing access over ownership. Other trends that are being seen include smaller family sizes, lower personal savings, higher educational attainment, older age of household formation, and lower rates of home and car ownership. An awareness and consideration of changing generational preferences and behaviours will support better long-range planning as well as regional prosperity through improved labour force recruitment and retention.



C. Introduction to the Regional Growth Strategy

Metro 2050 Vision

Metro Vancouver is a region of diverse and complete communities connected by sustainable transportation choices where residents take pride in vibrant neighbourhoods that offer a range of opportunities to live, work, play, and learn, and where natural, agricultural, and employment lands are protected and enhanced.

Shaping long-term growth and development in the region is essential to meeting this vision in a way that protects the natural environment, fosters community well-being, fuels economic prosperity, provides local food security, improves social equity, provides diverse and affordable housing choices, ensures the efficient provision of utilities and transit, reduces greenhouse gasses, and contributes to resiliency to climate change impacts and natural hazards.

Guiding Regional Planning Principles

Metro 2050 is guided by the following five principles:

1. Put growth in the right places;
2. Protect important lands;
3. Develop complete communities;
4. Provide mobility, housing, and employment choices; and
5. Support the efficient provision of infrastructure.





Responding to the Challenges: *Metro 2050* Goals

To respond to the challenges faced by the region, the regional growth strategy sets out a series of strategies and actions for Metro Vancouver and member jurisdictions arranged under five key overarching goals intended to achieve the desired outcomes.

Goal 1. Create a Compact Urban Area

Metro Vancouver's growth is focused inside an Urban Containment Boundary, within which are a variety of complete communities with access to a range of housing choices, and close to employment opportunities, amenities, and services. Concentrating growth in a network of transit-oriented centres and corridors helps reduce greenhouse gas emissions and pollution, and supports the efficient use of land and an efficient transportation network.

Goal 2. Support a Sustainable Economy

The objective is to protect and optimize the land base and transportation systems that are required to ensure the viability of business sectors. This means supporting regional employment and economic growth, including the established and new emerging sectors and businesses. This is best achieved through the long-term protection of Industrial, Employment, and Agricultural lands, and ensuring that supports are in place to allow commerce to flourish in Urban Centres throughout the region, and heavy and light industrial activities on Industrial lands, connected by a diverse and reliable transportation system.



Goal 3. Protect the Environment and Respond to Climate Change and Natural Hazards

The region's vital ecosystems provide essential services for all life. A connected network of protected Conservation and Recreation lands and other green spaces throughout the region provides opportunities to enhance physical and mental health, supports biodiversity, and increases community resilience. The strategies also help Metro Vancouver and its member jurisdictions contribute to meeting the regional greenhouse gas emission reduction targets, and prepare for the anticipated impacts of climate change and natural hazards.

Goal 4. Provide Diverse and Affordable Housing Choices

Metro Vancouver is a region of communities with a diverse and affordable range of housing choices suitable for residents at any stage of their lives, including a variety of unit types, sizes, tenures, prices, and locations. There is an increased supply of purpose-built rental housing, particularly in proximity to transit, and there are robust tenant protections in place to mitigate the impacts of renovation and redevelopment on renters. Residents experiencing or at risk of homelessness and those with lower incomes or special needs can access permanent, affordable, and supportive housing in neighbourhoods across the region.

Goal 5. Support Sustainable Transportation Choices

Metro Vancouver's compact, transit-oriented urban form supports a range of sustainable transportation choices. This pattern of development expands the opportunities for transit, walking, cycling, and multiple-occupancy vehicles, which reduces greenhouse gas emissions, household expenditure on transportation, and improves air quality. The region's road, transit, rail, and waterway networks play vital roles in serving and shaping regional development, providing linkages among the region's communities and providing vital goods movement networks.

D. Urban Containment Boundary, Regional Land Use Designations, Overlays, and Projections

The following tools, regional land use designations, and overlays are key to achieving the five goals of the regional growth strategy. They establish a long-term regional land use framework and provide the basis for defining land use matters of regional significance.

The intent statements for the regional land use designations and overlays are to be read in conjunction with applicable strategies and actions under each goal and are to be supported by member jurisdictions in their Regional Context Statements. The boundaries for the regional designations are established on a parcel-based map maintained by Metro Vancouver and are depicted on the Regional Land Use Designations map (Map 2).

Once defined by member jurisdictions, the locations of Urban Centre and Frequent Transit Development Area overlays are shown on Maps 4 and 5. The parcel-based boundaries of Urban Centre and Frequent Transit Development Area overlays, as determined by member jurisdictions, will be depicted on a reference map, which will be maintained by Metro Vancouver Regional District.

Urban Containment Boundary

The Urban Containment Boundary is a stable, long-term, regionally defined area for urban development that protects Agricultural, Conservation and Recreation, and Rural lands from developments requiring utility infrastructure and from auto-oriented, dispersed development patterns. Locating housing, regional transportation, and other infrastructure investments within the Urban Containment Boundary supports land development patterns that can protect food producing land, reduce energy demand and greenhouse gas emissions from commuter traffic, and secures land that stores carbon and helps communities adapt to climate change. Residential and employment infill development is encouraged within the Urban Containment Boundary.



Urban Land Use Designations

General Urban

General Urban lands are intended for residential neighbourhoods and centres, and are supported by shopping, services, institutions, recreational facilities and parks. Within General Urban lands, commercial, employment, and residential development should be focused in Urban Centres and Frequent Transit Development Areas. Higher density trip-generating development is to be directed to Urban Centres and Frequent Transit Development Areas. Neighbourhood-serving shops and services are encouraged in General Urban lands outside of Urban Centres and Frequent Transit Development Areas. General Urban lands are intended to emphasize place-making, an enriched public realm, and promote transit-oriented communities, where transit, multiple-occupancy vehicles, cycling, and walking are the preferred modes of transportation.

Industrial

Industrial lands are intended for heavy and light industrial activities, including: distribution, warehousing, repair, construction yards, infrastructure, outdoor storage, wholesale, manufacturing, trade, e-commerce, emerging technology-driven forms of industry, and appropriately-related and scaled accessory uses.

The intensification and densification of industrial activities and forms, as contextually appropriate to the surrounding area, are encouraged. Limited industrial-serving commercial uses that support the primary industrial functions are appropriate. Residential uses are not intended.

Employment

Employment lands are intended for light industrial, commercial, and other employment-related uses to help meet the needs of the local and regional economic activities, and complement the planned functions of Urban Centres and Frequent Transit Development Areas.

Employment lands that are located within Urban Centres and Frequent Transit Development Areas provide locations for a range and mix of employment activities and more intensive forms of commercial development.

Residential uses are not intended on Employment lands, with the exception of sites located within 200 metres of rapid transit stations within Urban Centres or Frequent Transit Development Areas where residential (with an emphasis on affordable, rental) is permitted on the upper floors of mid- to high-rise buildings, as appropriate, while commercial and light industrial uses are to be located on the ground or lower floors.

Employment lands located outside of Urban Centres and Frequent Transit Development Areas are primarily intended for: light industrial and commercial uses that require larger-format buildings, which may have particular goods movement needs and impacts; generally lower employment densities and lower transit-generating uses; and uses and forms that are not consistent with the character of a dense transit-oriented neighbourhood, Urban Centre, or Frequent Transit Development Area.

Non-Urban Land Use Designations

Rural

Rural lands are intended to protect the existing character, landscapes, and environmental qualities of rural communities outside the Urban Containment Boundary. Land uses in these areas include low density forms of residential, agricultural uses and small scale commercial, industrial, institutional uses that do not require the provision of urban services such as sewerage or transit. As such, Rural lands are not intended as future urban development areas and generally will not have access to regional sewerage services. Rural designated land generally comprise natural areas, agricultural lands, lands with low-intensity residential or built environments that are historical, remote, or not contiguous with the urban area, and may have topographic constraints.

Agricultural

Agricultural lands are intended for agriculture production and agricultural-related uses that are compatible with farming operations and directly support the local agricultural industry. Lands designated as Agricultural reinforce the provincial Agricultural Land Reserve and local land use plans that protect the region's agricultural land base. These lands are protected to encourage agricultural activities over the long-term.

Conservation and Recreation

Conservation and Recreation lands are intended to protect significant ecological and recreation assets, including: drinking water supply areas, environmental conservation areas, wildlife management areas and ecological reserves, forests, wetlands, riparian areas, major parks and outdoor recreation areas (e.g. ski hills and other tourist recreation areas), and other ecosystems that may be vulnerable to climate change and natural hazard impacts, or that provide buffers to climate change impacts or natural hazard impacts for communities. These lands are protected and managed to ensure they continue providing vital ecosystem services for the benefit of current and future generations.

Regional Overlays and the Major Transit Growth Corridors

Within the Urban Containment Boundary, Urban Centres and Frequent Transit Development Areas may be overlaid on any regional land use designation. Urban Centre and Frequent Transit Development Area overlays and policies enable higher density residential and commercial development for General Urban lands, and higher density commercial and industrial development for Employment lands. Where overlays cover lands other than those designated General Urban or Employment, the intent and policies of the underlying regional land use designations still apply.

Urban Centres

Urban Centres are intended to be the region's primary focal points for concentrated growth and transit service. They are intended as priority locations for employment and services, higher density forms, mixed residential tenures, affordable housing options, commercial, cultural, entertainment, institutional, and mixed uses. Urban Centres are intended to emphasize place-making, an enriched public realm, and promote transit-oriented communities, where transit, cycling, and walking are the preferred modes of transportation. Urban Centres are priority locations for services and amenities that support a growing population.

Maps 4 and 5 show the location of Urban Centres. Urban Centres boundaries are identified by member jurisdictions in their Regional Context Statements in a manner generally consistent with the guidelines in Table 3 (Guidelines for Urban Centres and Frequent Transit Development Areas). As per Table 3, there are different types of Urban Centres with different scales of expected activity and growth.

Major Transit Growth Corridors

Major Transit Growth Corridors are areas along TransLink's Major Transit Network where member jurisdictions, in consultation with Metro Vancouver and TransLink, may identify new Frequent Transit Development Areas (FTDAs). These corridors are intended to extend approximately 1 kilometre from the roadway centreline in both directions. The intent of these corridors is to provide an overall structure for the region in an effort to support the regional planning principle of directing portions of growth towards Urban Centres and areas around transit. Further local planning will be needed along these corridors to ensure that human settlement patterns support complete communities in an appropriate local context.

The Major Transit Growth Corridors have been identified as good potential locations for regionally-significant levels of transit-oriented growth based on a consideration of the following principles: anchored by Urban Centres or FTDAs, connected by the Major Transit Network, generally resilient to natural hazards, accessible to jobs and services, and walkable. Major Transit Growth Corridors are not an overlay; rather, they are an organizing principle to support the identification of FTDAs. The Major Transit Growth Corridors are also a growth monitoring tool to assess performance on transit-oriented development objectives.

Frequent Transit Development Areas

Frequent Transit Development Areas (FTDAs) are intended to be additional priority locations to accommodate concentrated growth in higher density forms of development. They are identified by member jurisdictions and located at appropriate locations within the Major Transit Growth Corridors. FTDAs complement the network of Urban Centres, and are characterized by higher density forms of residential, commercial, and mixed uses, and may contain community, cultural and institutional uses. Urban design for these areas promotes transit-oriented communities where transit, cycling, and walking are the preferred modes of transportation.

Identifying FTDAs within the Major Transit Growth Corridors 1) provides greater certainty and integration between local, regional, and transit plans, and 2) supports transit-oriented development planning across jurisdictional boundaries.

Maps 4 and 5 show the location of FTDAs. The FTDA boundaries are established by member jurisdictions in Regional Context Statements in a manner generally consistent with the guidelines in Table 3 (Guidelines for Urban Centres and Frequent Transit Development Areas). There are two types of FTDAs: Corridor FTDAs which are linear areas within a Major Transit Growth Corridor; and Station Area FTDAs which are nodal areas surrounding a rapid transit station. Corridor FTDAs are intended to accommodate medium development densities and forms that are consistent with bus-based rapid transit, while Station Area FTDAs are intended to accommodate higher development densities and forms that are consistent with rail-based rapid transit.

Trade-Oriented Lands Overlay

The Trade-Oriented Lands Overlay is intended for Industrial lands that are required to support goods movement in, out and through the Metro Vancouver region, and that keep British Columbia and Canada connected to the global supply chain.

These important areas are occupied by such uses as: terminal facilities, distribution centres, warehouses, container storage, and freight forwarding activities that serve a national trade function and contribute to the provincial and regional economies. These operations generally require large sites and are located near major transportation infrastructure corridors and terminals.

Industrial lands with a Trade-Oriented Lands Overlay are not intended for stratification tenure or small lot subdivision.

Natural Resource Areas Overlay

Natural Resource Areas are intended to illustrate existing provincially-approved natural resource uses within the Conservation and Recreation regional land use designation that may not be entirely consistent with the designation, but continue to reflect its long-term intent. These uses include a landfill; quarries; lands with active forest tenure managed licences; and wastewater and drinking water treatment facilities. Metro Vancouver creates and maintains this overlay.

Growth Projections

The population, housing, and employment growth projections are included in the regional growth strategy as a collaborative guide for land use and infrastructure planning for Metro Vancouver member jurisdictions, and other regional agencies. The growth projections are provided as a reference, and are not specific growth targets for the region, sub-regional areas, or member jurisdictions.

Regional Projections

Metro 2050 forecasts indicate that over the next thirty years, Metro Vancouver will need to accommodate approximately one million more residents. This means that the region will also require approximately 500,000 additional housing units and almost 500,000 additional jobs. The regional growth strategy focuses on encouraging this growth to Urban Centres and Frequent Transit Development Areas to support complete and walkable communities. It is projected that between 2021 and 2050, most housing and employment growth will occur in these key areas, aligning with the *Metro 2050* growth targets.

In 2016, Metro Vancouver's population was just under 2.6 million. Growth over the next thirty years is projected to add about one million people to reach 3.8 million by the year 2050 (Figure 2).

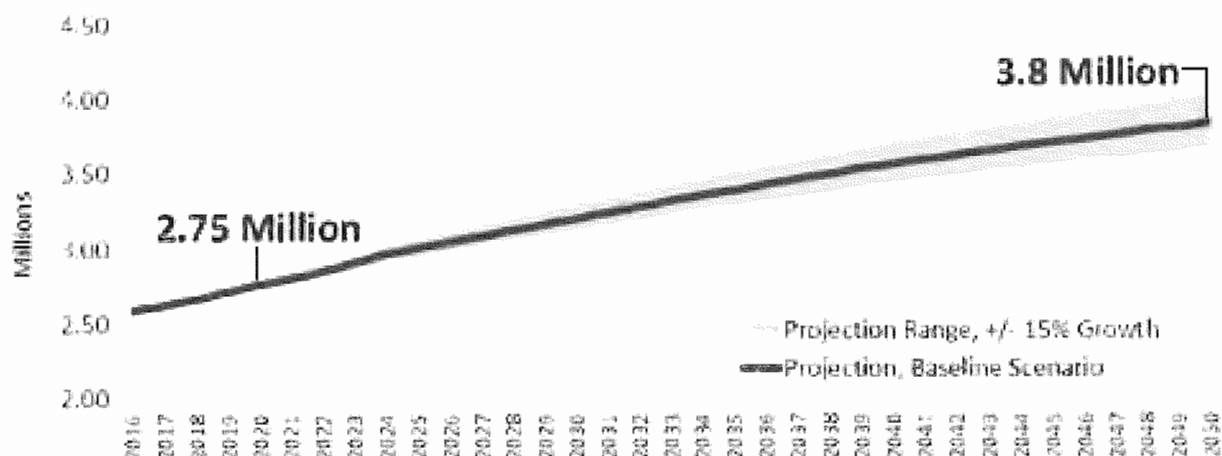
Similar to the majority of Canadian cities, Metro Vancouver's population is aging. While the percentage of seniors (aged 65 and over) comprised 14.7% of the total population in 2016, this is projected to increase to 22% by 2050. The aging population will have a significant impact on the demand for services in the region, from seniors' housing, health-care, accessible public transit, and many other aspects.

Strong population growth is an indicator of strong housing growth. To accommodate projected growth, the region will require an additional 500,000 dwelling units. Apartments are projected to make up over 50% of future growth, followed by multi-attached units. Single-detached housing will grow; however, minimally as locations for additional housing are exhausted.

In 2016, the average number of people living in a household in Metro Vancouver was 2.54 persons. Household size has been decreasing over the last two census periods. This trend is projected to continue and is expected to reach 2.38 by 2050 for all housing structure types. This shift will impact the number of new units required to accommodate the projected population.

Employment growth tends to follow strong population growth, and Metro Vancouver is expected to gain approximately 500,000 additional jobs by the year 2050, for a total of 1.9 million jobs (Table 1), with a population-to-employment ratio of 0.5. Commercial services will continue to grow and will make up about 50% of total future jobs. New jobs in public administration and other employment sectors will each make up approximately a quarter of job growth. The primary resource sector is projected to remain at a very low level for the region.

FIGURE 2. PROJECTED POPULATION TO 2050 FOR METRO VANCOUVER



Sub-Regional Projections

To establish a long-term regional growth management framework, the regional growth strategy provides population, dwelling unit, and employment projections at a sub-regional level (Figure 3) to help frame growth distribution across the region and support the following principles:

- support Metro Vancouver utility, TransLink and member jurisdiction long-term capital planning and infrastructure investment programs;
- establish a baseline in setting future growth targets for the Urban Centres and Frequent Transit Development Areas within sub-regions;
- provide flexibility for member jurisdictions in preparing and adjusting local projections over time, and to guide long-range policy planning; and
- achieve greater resiliency to changes in residential and employment market demands.

Metro 2050's sub-regions are:

1. **North Shore** (City of North Vancouver, Districts of North Vancouver and West Vancouver, Electoral Area A, and Lions Bay);
2. **Burrard Peninsula** (Cities of Burnaby, New Westminster and Vancouver, UEL and UBC);
3. **Tri-Cities** (Cities of Coquitlam, Port Coquitlam and Port Moody, Villages of Anmore and Belcarra);
4. **South of Fraser – West** (Cities of Delta and Richmond, Tsawwassen First Nation);
5. **South of Fraser – East** (Cities of Langley, Surrey and White Rock, Langley Township); and
6. **North East** (Cities of Maple Ridge and Pitt Meadows).

FIGURE 3. METRO VANCOUVER'S SUB-REGIONS FOR THE PURPOSES OF METRO 2050 PROJECTIONS



TABLE 1. REGIONAL AND SUB-REGIONAL PROJECTIONS BY DECADE TO 2050

| POPULATION | | | | | | |
|----------------|------------------------------|------------------|------------------|------------------|------------------|------------------|
| SUB-REGIONS | | 2016 | 2020 | 2030 | 2040 | 2050 |
| | Metro Vancouver Total | 2,593,200 | 2,767,000 | 3,206,100 | 3,564,100 | 3,836,800 |
| | Burrard Peninsula | 1,014,800 | 1,064,900 | 1,206,000 | 1,311,900 | 1,387,800 |
| | North Shore | 199,700 | 207,700 | 236,500 | 254,200 | 271,200 |
| | South of Fraser – East | 713,300 | 782,500 | 939,200 | 1,077,300 | 1,185,100 |
| | South of Fraser – West | 314,500 | 337,900 | 381,100 | 414,100 | 441,300 |
| | North East | 105,500 | 110,800 | 127,200 | 142,800 | 155,000 |
| | Tri-Cities | 245,300 | 263,100 | 316,100 | 363,800 | 396,500 |
| DWELLING UNITS | | | | | | |
| SUB-REGIONS | | 2016 | 2020 | 2030 | 2040 | 2050 |
| | Metro Vancouver Total | 1,000,500 | 1,075,500 | 1,287,700 | 1,460,500 | 1,589,400 |
| | Burrard Peninsula | 435,900 | 462,900 | 533,200 | 584,600 | 623,400 |
| | North Shore | 79,600 | 83,600 | 100,600 | 111,900 | 122,000 |
| | South of Fraser – East | 242,700 | 266,900 | 332,300 | 395,200 | 441,000 |
| | South of Fraser – West | 113,500 | 123,100 | 146,700 | 163,400 | 175,400 |
| | North East | 38,800 | 42,200 | 50,000 | 56,800 | 61,900 |
| | Tri-Cities | 90,000 | 96,800 | 124,800 | 148,600 | 165,700 |
| EMPLOYMENT | | | | | | |
| SUB-REGIONS | | 2016 | 2020 | 2030 | 2040 | 2050 |
| | Metro Vancouver Total | 1,342,200 | 1,420,100 | 1,621,600 | 1,775,300 | 1,883,600 |
| | Burrard Peninsula | 643,700 | 671,700 | 739,500 | 786,500 | 820,000 |
| | North Shore | 89,400 | 94,000 | 107,200 | 115,900 | 123,200 |
| | South of Fraser – East | 287,100 | 309,500 | 372,900 | 426,600 | 465,200 |
| | South of Fraser – West | 194,100 | 207,500 | 236,000 | 257,700 | 271,900 |
| | North East | 35,800 | 38,600 | 45,500 | 51,200 | 55,100 |
| | Tri-Cities | 92,000 | 98,900 | 120,500 | 137,500 | 148,200 |

To minimize urban sprawl and its negative impacts, support the protection of agricultural, industrial and ecologically important lands, and support the efficient provision of urban infrastructure, the regional growth strategy sets a target of containing 98% of the region's growth to areas within the Urban Containment Boundary.

To support the development of compact, complete, and transit-oriented communities within the Urban Containment Boundary, the regional growth strategy also includes targets for structuring growth to the network of Urban Centres and Frequent Transit Development Areas. It sets out a target of focusing 40% of the region's dwelling unit growth and 50% of the region's employment growth to areas within Urban Centres, and a target of focusing 28% of the region's dwelling unit growth and 27% of the region's employment growth to Frequent Transit Development Areas (Table 2).

TABLE 2. DWELLING UNIT AND EMPLOYMENT GROWTH TARGETS FOR URBAN CENTRES AND FREQUENT TRANSIT DEVELOPMENT AREAS***

| REGIONAL TARGETS FOR RESIDENTIAL GROWTH BY LOCATION | |
|--|---|
| Location | Percent of Regional Dwelling Unit Growth 2006-2041 |
| All Urban Centre Types | 40% |
| Frequent Transit Development Areas** | 28% |
| <i>Urban Centre Type Breakdown</i> | |
| • Metropolitan Core | 5% |
| • Surrey Metro Core | 6% |
| • Regional City Centres | 16% |
| • Municipal Town Centres* | 13% |
| REGIONAL TARGETS FOR EMPLOYMENT GROWTH BY LOCATION | |
| Location | Percent of Regional Employment Growth 2006-2041 |
| All Urban Centre Types | 50% |
| Frequent Transit Development Areas** | 27% |
| <i>Urban Centre Type Breakdown</i> | |
| • Metropolitan Core | 10% |
| • Surrey Metro Core | 5% |
| • Regional City Centres | 19% |
| • Municipal Town Centres* | 16% |

*Includes Municipal Town Centres and High Growth Municipal Town Centres

** Includes Corridor FTDA's and Station Area FTDA's

***This table provides guidance to assist in regional and local planning. It will be updated to extend the targets out to the year 2050 in an amendment following the adoption of Metro 2050.

E. Goals, Strategies & Actions

GOAL

1

Create a Compact Urban Area



Langley Township

Goal 1: Create a Compact Urban Area

A commitment to a compact urban area within the region reflects the recognition that sprawling urban development consumes the natural landscape, necessitates costly and inefficient urban infrastructure such as sewerage services and transit, contributes to negative health impacts, and adds to the global problem of greenhouse gasses thereby worsening climate change. Strategies under this goal delineate between urban and non-urban areas through the use of an Urban Containment Boundary.

To protect Rural, Conservation and Recreation, and Agricultural lands, it is critical to maintain the Urban Containment Boundary and to structure growth within it. This includes creating strong Urban Centres throughout the region that are well served by transit and the road network. These centres collectively make an important contribution to providing locations for employment and convenient access to shops and services close to home. Frequent Transit Development Areas, located in strategic areas within Major Transit Growth Corridors, provide an additional focus for growth, particularly for higher density residential, commercial, transit-oriented, and mixed use development. Major Transit Growth Corridors represent the priority locations for transit investment, housing and employment growth, and new Frequent Transit Development Areas, helping to bring additional certainty and greater coordination for member jurisdictions, TransLink and Metro Vancouver. Together, the Urban Centres and Frequent Transit Development Areas help shape transportation demand, optimize investments in the region's transportation system, and support the development of region-wide network of complete communities.

Complete communities are walkable, mixed use, and transit-oriented places where people can live, work, and play, at all stages of their lives. Compact and complete communities enable most people to have close access to a wide range of employment, health, social, cultural, educational and recreational services and amenities. This is integral to positive mental and physical health and well-being, and helps reduce greenhouse gas emissions and air pollution. These places also help create a strong sense of neighbourhood identity, social connection, and community resilience.

Equitable growth management includes a commitment to advancing equity to enhance sustainability, social cohesion, and overall living conditions for all, while intentionally working to mitigate negative consequences that are unique to each community.

Strategies to achieve this goal are:

- 1.1 Contain urban development within the Urban Containment Boundary
- 1.2 Focus growth in Urban Centres and Frequent Transit Development Areas
- 1.3 Develop resilient, healthy, connected, and complete communities with a range of services and amenities
- 1.4 Protect Rural Lands from urban development

Strategy 1.1 Contain urban development within the Urban Containment Boundary

Containing urban development, including job and housing growth, within the Urban Containment Boundary limits urban sprawl and supports the efficient and cost effective provision of infrastructure (such as water, sewerage, and transit) and services and amenities (such as schools, hospitals, community centres, and child care). The Urban Containment Boundary helps to protect important lands such as Conservation and Recreation, Agricultural and Rural lands from dispersed development patterns. Containing urban development also supports greenhouse gas emission reductions through trip reduction and trip avoidance, while protecting some of the region's important lands for food production and carbon sequestration and storage.

Metro Vancouver will:

1.1.1 Direct the Greater Vancouver Sewerage and Drainage District (GVS&DD) to not allow connections to regional sewerage services to lands with a Rural, Agricultural, or Conservation and Recreation regional land use designation. Notwithstanding this general rule, in the exceptional circumstances specified below, the Metro Vancouver Regional District (MVRD) Board will advise the GVS&DD Board that it may consider such a connection for existing development or for new development where, in the MVRD Board's opinion, that new development is consistent with the underlying regional land use designation, and where the MVRD Board determines either:

- a) that the connection to regional sewerage services is the only reasonable means of preventing or alleviating a public health or environmental contamination risk; or
- b) that the connection to regional sewerage services would have no significant impact on the goals of containing urban development within the Urban Containment Boundary, and protecting lands with a Rural, Agricultural, or Conservation and Recreation regional land use designation.

1.1.2 Accept Regional Context Statements that accommodate all urban development within the areas defined by the Urban Containment Boundary, and that meet or work towards Action 1.1.9.

1.1.3 In collaboration with member jurisdictions, develop an Implementation Guideline to guide the process by which member jurisdictions are to provide Metro Vancouver's Liquid Waste Services with specific, early, and ongoing information about plans for growth that may impact the regional sewer system, as well as plans to separate combined sewer systems.

1.1.4 Work collaboratively with the Federal Government, the Province, TransLink, BC Transit, and adjacent regional districts to study how interregional transportation connections can be supported and enhanced.

1.1.5 Ensure that sea level rise, flood risk, and other natural hazards have been considered and that a plan to mitigate any identified risks is in place when approving applications submitted by the respective member jurisdiction related to new sewers, drains or alterations, connections, or extensions of sewers or drains.

1.1.6 Work with First Nations to incorporate development plans and population, employment, and housing projections into the regional growth strategy to support potential infrastructure and utilities investments.

1.1.7 Advocate to the Federal Government and the Province requesting that they direct urban, commercial, and institutional facilities and investments to areas within the Urban Containment Boundary, and to Urban Centres.

1.1.8 Advocate to the Province to ensure that any transportation plans, strategies, and infrastructure investments do not encourage the dispersal of housing and employment growth outside the Urban Containment Boundary, consistent with the goals of the regional growth strategy.

Member jurisdictions will:

1.1.9 Adopt Regional Context Statements that:

- a) Depict the Urban Containment Boundary on a map, generally consistent with the Regional Land Use Designations map (Map 2);
- b) Provide member jurisdiction population, dwelling unit, and employment projections, with reference to guidelines contained in Table 1, and demonstrate how local plans will work towards accommodating the projected growth within the Urban Containment Boundary in accordance with the regional target of focusing 98% of residential growth inside the Urban Containment Boundary;

c) Include a commitment to liaise regularly with Metro Vancouver Liquid Waste Services to keep them apprised of the scale and timeframe of major development plans as well as specific plans to separate combined sewers;

d) Integrate land use planning policies with local and regional economic development strategies, particularly in the vicinity of the port and airports, to minimize potential exposure of residents to environmental noise and other harmful impacts.

TransLink will:

1.1.10 Continue to plan for a compact urban form within the Urban Containment Boundary when developing and implementing transportation plans, strategies, and investments.

1.1.11 Discourage the provision of infrastructure that would facilitate the dispersal of housing and employment growth outside the Urban Containment Boundary when preparing and implementing transportation plans, strategies, and investments.



Strategy 1.2 Focus growth in Urban Centres and Frequent Transit Development Areas

Focusing growth into a network of centres and corridors reduces greenhouse gas emissions both by supporting sustainable transportation options and by reducing the distances that people have to travel to make essential trips, all while improving the cost-efficiency of infrastructure investments. In addition, a compact built form is, on average, more land and energy efficient than other forms of development. Focusing growth into centres and corridors fosters the development of walkable, vibrant, and mixed use communities that can support a range of services and amenities.

Identifying Frequent Transit Development Areas in appropriate locations within Major Transit Growth Corridors ensures that growth is being directed to locations with high quality and frequent transit service. This provides greater certainty to residents, TransLink, and member jurisdictions, and ensures greater integration of land use and transportation planning.

Metro Vancouver will:

1.2.1 Explore, with member jurisdictions, other governments and agencies, the use of financial tools and other incentives to support the location of major commercial, office, retail, and institutional development in Urban Centres.

1.2.2 Work with member jurisdictions, TransLink, other governments and agencies to support the development and delivery of effective regional transportation networks and services that support the growth and development of Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors.

1.2.3 Maintain a reference map to provide updated information on the location and extent of Urban Centres, Major Transit Growth Corridors, and Frequent Transit Development Areas.

1.2.4 Monitor progress towards the targets set out in Table 2 (Metro Vancouver Dwelling Unit and Employment Growth Targets for Urban Centres and Frequent Transit Development Areas) for Urban Centres and Frequent Transit Development Areas.

1.2.5 Accept Regional Context Statements that prioritize growth and focus higher density development primarily in Urban Centres, additionally in Frequent Transit Development Areas, and that meet or work towards Action 1.2.24.

1.2.6 In consultation with TransLink, accept the identification of new Frequent Transit Development Areas located within Major Transit Growth Corridors identified on Map 5.

1.2.7 Work with TransLink, the Province, First Nations, and member jurisdictions to expand the supply of secure and affordable market and non-market rental housing within Major Transit Growth Corridors.

1.2.8 Consult with TransLink and utilize the required criteria set out in the Centre Type Classification Framework (Table 4) when reviewing Regional Context Statements for acceptance or proposed amendments to the regional growth strategy for the reclassification of Frequent Transit Development Areas or Urban Centres.

1.2.9 Only consider a new Urban Centre in the regional growth strategy where, in addition to meeting the criteria listed in Centre Type Classification Framework (Table 4), all of the following criteria have been met:

- a) it intersects with a Major Transit Growth Corridor identified on Map 5; and
- b) appropriate supporting local or neighbourhood plans have been completed by the respective member jurisdiction, that demonstrate how the future Urban Centre will accommodate the intended regionally-significant levels of employment and residential growth, and identify the adequate provision of park land, public spaces, and amenities to serve the anticipated growth.

1.2.10 Only consider the identification of a new Frequent Transit Development Area that is:

- a) within a Major Transit Growth Corridor; and
- b) outside known and unmitigated flood and other natural hazard risk areas.

1.2.11 Only consider reclassifying an Urban Centre or a Frequent Transit Development Area to a growth-intensive classification if it is located outside of known and unmitigated flood and natural hazard areas.

1.2.12 Develop an Implementation Guideline, in collaboration with member jurisdictions and TransLink, to be used as a resource to support transit-oriented planning throughout the region.

1.2.13 Implement the strategies and actions of the regional growth strategy that contribute to regional targets as shown on Table 2 to:

- a) focus 98% of the region's dwelling unit growth to areas within the Urban Containment Boundary;
- b) focus 40% of the region's dwelling unit growth and 50% of the region's employment growth to Urban Centres; and
- c) focus 28% of the region's dwelling unit growth and 27% of the region's employment growth to Frequent Transit Development Areas.

1.2.14 Monitor the region's total dwelling unit and employment growth that occurs in Major Transit Growth Corridors.

1.2.15 Work with First Nations and other appropriate agencies to ensure that new development and infrastructure investment is directed to areas that are transit-oriented and resilient to climate change impacts and natural hazards.

1.2.16 Advocate to the Federal Government and the Province requesting that they direct major office and institutional development, public service employment locations and other Major Trip-Generating uses to Urban Centres, Frequent Transit Development Areas, and locations within the Major Transit Growth Corridors, where appropriate. This may include, but is not necessarily limited to hospitals, post-secondary institutions, secondary schools, public-serving health care service facilities, and government-owned or funded affordable or supportive housing developments.

1.2.17 Advocate to the Federal Government and the Province that their procurement, disposition, and development of land holdings be consistent with the goals of the regional growth strategy.

1.2.18 Advocate to the Province that Metro Vancouver, member jurisdictions, TransLink, and other stakeholders be engaged early in the process on any initiatives pertaining to the planning of new or expanded major transit capital investments.

1.2.19 Advocate to the Province that any future or expanded rail-based rapid transit service:

- a) avoid locations that are exposed to unmitigated natural hazards and climate change risk;
- b) improve place-making, safety, access, and amenities for people on foot, on bikes, and for those using mobility aids; and
- c) support the safe and efficient movement of people, goods, and service vehicles, to, from, and within Urban Centres and Frequent Transit Development Areas.

1.2.20 Advocate to the Federal Government and the Province to support the coordination of growth, land use, and transportation planning at the regional scale through updates to legislation, regulations, partnerships, plans, agreements, and funding programs, including coordination between regional districts.

1.2.21 Advocate to the Federal Government and the Province to support the integration of regional land use and transportation by ensuring that all housing and transportation funding programs and initiatives for the region are consistent with the goals of the regional growth strategy.

1.2.22 Advocate to the Federal Government and the Province requesting that they support local community concerns and public health by ensuring that the Vancouver Fraser Port and airport operators continue with efforts to measure, report, and manage traffic, noise, air pollution, and vibration impacts on adjacent communities.

1.2.23 Advocate to the Province, Health Authorities, and TransLink, requesting continued efforts to develop guidance on community design, appropriate setbacks, and building standards along the Major Roads Network, Major Transit Network, railways, and Federal and Provincial Highways to minimize public exposure to unhealthy levels of noise, vibration, and pollution.

Member Jurisdictions will:

1.2.24 Adopt Regional Context Statements that:

- a) Provide dwelling unit and employment projections that indicate the member jurisdiction's share of planned growth and contribute to achieving the regional share of growth for Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors as set out in Table 2 (Metro Vancouver Dwelling Unit and Employment Growth Targets for Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors);
- b) Include policies for Urban Centres and Frequent Transit Development Areas that:
 - i) identify the location, boundaries, and types of Urban Centres and Frequent Transit Development Areas on a map that is consistent with the guidelines set out in Table 3 (Guidelines for Urban Centres and Frequent Transit Development Areas) and Map 4;
 - ii) focus and manage growth and development in Urban Centres and Frequent Transit Development Areas consistent with guidelines set out in Table 3 (Guidelines for Urban Centres and Frequent Transit Development Areas) and demonstrate how that growth will contribute to the Urban Centre and Frequent Transit Development Area targets set out in Table 2 and Action 1.2.13;
 - iii) encourage office development to Urban Centres through policies, economic development programs, or other financial incentives;

- iv) reduce residential and commercial parking requirements in Urban Centres and Frequent Transit Development Areas and consider the use of parking maximums;
 - v) consider the identification of appropriate measures and neighbourhood plans to accommodate urban densification and infill development in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors in a resilient and equitable way (e.g. community vulnerability assessments, emergency services planning, tenant protection policies, and strategies to enhance community social connectedness and adaptive capacity);
 - vi) consider the support for provision of child care spaces in Urban Centres and Frequent Transit Development Areas;
 - vii) consider the implementation of green infrastructure;
 - viii) focus infrastructure and amenity investments (such as public works and civic and recreation facilities) in Urban Centres and Frequent Transit Development Areas, and at appropriate locations within Major Transit Growth Corridors;
 - ix) support the provision of community services and spaces for non-profit organizations; and
 - x) consider, where Urban Centres and Frequent Transit Development Areas overlap with Employment lands, higher density forms of commercial, light industrial; and only within 200 metres of rapid transit stations, consider residential uses (with an emphasis on affordable, rental units) on upper floors.
- c) Include policies for General Urban lands that:
 - i) identify General Urban lands and their boundaries on a map generally consistent with Map 2;
 - ii) exclude new non-residential Major Trip-Generating uses, as defined in the Regional Context Statement, from those portions of General Urban lands outside of Urban Centres and Frequent Transit Development Areas and direct new non-residential Major Trip-Generating uses to Urban Centres and Frequent Transit Development Areas;
 - iii) encourage infill and intensification (e.g. row houses, townhouses, mid-rise apartments, laneway houses) within walking distance of the Frequent Transit Network, as appropriate; and
 - iv) encourage neighbourhood-serving commercial uses.
 - d) with regards to Actions 1.2.16 and 1.2.24 c) ii), include a definition of "non-residential Major Trip-Generating uses" that includes, but is not limited to, the following uses: office or business parks, outlet shopping malls, post-secondary institutions, and large-format entertainment venues;
 - e) consider the identification of new Frequent Transit Development Areas in appropriate locations for areas within Major Transit Growth Corridors, as part of the development of new or amended area or neighbourhood plans, or other community planning initiatives; and
 - f) consider long-term growth and transportation planning coordination with adjacent municipalities, First Nations, TransLink, and Metro Vancouver for transit corridors that run through or along two or more adjacent jurisdictions.

TransLink will:

1.2.25 Develop procurement, disposition, and development plans and actions for land holdings that support the goals of the regional growth strategy and include the provision of affordable rental housing.

1.2.26 Collaborate with member jurisdictions and other stakeholders on the expansion of the Frequent Transit Network, Major Transit Network, and new transit stations, and avoid expansion of permanent transit infrastructure into hazardous areas. Where risk is unavoidable, such as in existing settlements, use risk-mitigation or climate change adaptation strategies in the expansion of transit infrastructure.

1.2.27 Work with member jurisdictions to support the safe and efficient movement of people, goods, and service vehicles, to, from, and within Urban Centres and Frequent Transit Development Areas (e.g. by enhancing the design and operation of the road network), where appropriate.

1.2.28 Continue to develop walking and biking infrastructure programs that prioritize improvements in Urban Centres and Frequent Transit Development Areas.



TABLE 3. GUIDELINES FOR URBAN CENTRES AND FREQUENT TRANSIT DEVELOPMENT AREAS

| CENTRE TYPE | FUNCTION | GENERAL EXPECTATIONS | LOCATION |
|--|---|---|--|
| Urban Centre - All (applies to Metro Core, Surrey Metro Centre, RCCs, HG-MTCs, and MTCs) | <p>Primary hubs of activity.</p> <p>Accommodates significant regional residential and employment growth. Provides a range of amenities and services.</p> <p>Major Road Network access.</p> <p>Primary locations for Major Trip Generating Uses.</p> | <p>Complete communities with a balanced mix of housing, employment, services, and amenities. Primary focal points for concentrated growth in the region. High intersection densities. High quality, accessible walking and cycling environment. Provision of transit priority measures and other transit-supportive road infrastructure and operations. Industrial uses are maintained. Parks, green spaces, and public open spaces. The supply of affordable rental housing is protected and expanded.</p> | Locations identified on Map 4 |
| Metro Core - Vancouver | <p>The Region's downtown. Region-serving uses (central business district).</p> <p>Accommodates significant levels of regional employment and residential growth. Principal centre of business, employment, cultural, and entertainment activity for the region.</p> | <p>Existing SkyTrain transit service. High degree of cycling connectivity and cycling network completeness. High walkability index score. Office uses. Region-serving uses. Provision of transit priority measures and other transit-supportive road infrastructure and operations.</p> | Vancouver |
| Metro Centre - Surrey | <p>Centre of activity South of the Fraser River.</p> <p>Accommodates significant levels of regional employment and residential growth.</p> | <p>Existing SkyTrain transit service. High degree of cycling connectivity and cycling network completeness. High walkability index score. Office uses. Provision of transit priority measures and other transit-supportive road infrastructure and operations.</p> | Surrey |
| Regional City Centre | <p>Sub-regional hub of activity.</p> <p>Accommodates significant levels of residential and employment growth.</p> | <p>Sub-region serving uses (hospital, post-secondary). Office uses. Existing frequent transit services.</p> <p>Regional-scale employment, services, business and commercial activities. Major institutional, community, cultural and entertainment uses. High and medium density forms of housing (in General Urban only), including affordable housing choices. Provision of transit priority measures and other transit-supportive road infrastructure and operations.</p> <p>Minimum density of 60-350 Jobs + People/ hectare.</p> | Any location on the Major Transit Network. |
| High Growth Municipal Town Centre | <p>Centre of activity for a member jurisdiction.</p> <p>Locations for significant levels of regional employment and residential growth.</p> | <p>Previously a Municipal Town Centre.</p> <p>High Regional Accessibility.</p> <p>Existing Major Transit Network service.</p> <p>Higher density commercial Uses.</p> <p>High density residential uses.</p> <p>Minimum density of 60-200 Jobs + People/ hectare.</p> | <p>Maximum 1,200m from a Major Transit Network station. Not in an area with known and unmitigated natural hazards. Locations with high regional accessibility to jobs.</p> |

| | | | |
|---|--|---|---|
| Municipal Town Centre | Centre of activity for a municipality. Accommodates municipal residential and employment growth. | Municipally-serving shops, services, uses, and amenities. Medium to high density forms of residential uses. Employment, services, business and commercial activities, typically serving the municipal or local area. Institutional, community, cultural, and entertainment uses. High and medium density forms of housing (in General Urban only), including affordable housing choices. Services and activities oriented to the local needs of the surrounding communities. Municipal focus for community and cultural activities. Minimum density of 20-150 Jobs + People/ hectare. | Any location on the Major Transit Network. |
| Frequent Transit Development Area (FTDA) – All <i>(applies to both Corridor FTDA and Station Area FTDA)</i> | Location for additional medium and higher density transit-oriented development forms and mixed uses in alignment with the Major Transit Growth Corridors. Location for additional employment growth. Location for affordable rental housing. Location for Major Trip Generating Uses. | Locations for transit-oriented employment and/or housing growth. Walkable and bike-friendly urban design. Managed parking supply. Transit priority measures. Provides appropriate noise, vibration, and air quality mitigation measures. Parks, green spaces, and public open spaces provided. Industrial uses are maintained. Supply of affordable rental housing is protected and expanded. | Located in appropriate locations within the Major Transit Growth Corridors. |
| Corridor Frequent Transit Development Area | Supports bus-based frequent and rapid transit. Location for medium density housing forms. Location for affordable, particularly affordable rental housing. | Linear shaped. Minimum density of 35-80 Jobs + People/ hectare. | Up to 1000m from the Major Transit Growth Corridor centreline. |
| Station Area Frequent Transit Development Area | Location for office employment uses. Accommodate significant residential and employment growth. Support high-capacity rapid and frequent transit. | Restricted parking supply. Nodal shaped. Minimum density of 60-350 Jobs + People/hectare. | Up to 1,000m from an existing Major Transit Network or RapidBus Station. |

TABLE 4. URBAN CENTRE AND FREQUENT TRANSIT DEVELOPMENT AREAS TYPE RECLASSIFICATION FRAMEWORK

| CENTRE TYPE RECLASSIFICATION FRAMEWORK | | |
|---|--|--|
| Centre Type | Required Criteria for a new Urban Centre or Urban Centre reclassification | Metro 2050 Amendment Type |
| In order to become... | The area must meet the following criteria... | And pursue the following amendment process... |
| Frequent Transit Development Area (FTDA) – All (applies to Corridor FTDA's and Station Area FTDA's) | <i>Required for reclassification to any FTDA types:</i> Located within a Major Transit Growth Corridor. Policies supportive of, street, sidewalk and cycling network connectivity. Policies supportive of managed parking supply. Not in an area with known and unmitigated natural hazards. Official Community Plan (OCP) Land Use Map and policies supportive of infill and intensified residential and/or employment growth. | Type 3 or Regional Context Statement Update |
| Corridor FTDA | Meets the above criteria for FTDA's, and: Located within a Major Transit Growth Corridor (on Map 5). Located up to 800m from the corridor centreline. Linear shaped | Type 3 or Regional Context Statement Update |
| Station Area FTDA | Meets the above criteria for FTDA's, and: Located within a Major Transit Growth Corridor. Located up to 1,200m from a station on the Major Transit Network or RapidBus station. May be nodal shaped. | Type 3 or Regional Context Statement Update |
| Urban Centre - All (applies to all Urban Centre types) | <i>Required for reclassification to any Urban Centre type:</i> Located on the Major Transit Network. Not in a known unmitigated natural hazard area. OCP Land Use Map and policies supportive of infill and intensified residential and employment growth. | |
| Municipal Town Centre | Meets the above criteria for Urban Centre, and: Formerly a Frequent Transit Development Area. Evidence that the area is a primary hub of activity within a member jurisdiction. Minimum density of 60 Jobs + People / hectare. Minimum area of 40 hectares. | Type 3 |
| High Growth Municipal Town Centre | Meets the above criteria for Urban Centre, and: Existing rapid rail transit service High Regional Accessibility Not in a known unmitigated natural hazard area. Minimum 100 Jobs + People / hectare. Formerly a Municipal Town Centre or FTDA. Minimum area of 40 hectares. | Type 3 |
| Regional City Centre and Metro Centres | Reclassification from any centre type to or from the "Regional City Centre" or to "Metro Centre" types is not contemplated by the regional growth strategy. | |

Strategy 1.3 Develop resilient, healthy, connected, and complete communities with a range of services and amenities

Creating complete communities, especially in the region's Urban Centres, with a mix of uses and affordable services and amenities, allows residents to meet most of their daily needs by walking, rolling, or transit without leaving their neighbourhood. This supports trip reduction, walking, healthier living, climate action, more equitable access to the key amenities that support a high quality of life, and creates resilient places with inclusion and connection.

Metro Vancouver will:

1.3.1 Support member jurisdictions and work with First Nations in developing resilient, healthy, connected, and complete communities through regional strategies, research, and best practices that:

- a) promote greater local access to affordable community services and child care, healthy food, and public spaces (including regional parks and greenways);
- b) reduce greenhouse gas emissions, bolster resilience to climate change impacts and natural hazards, and improve social equity, universal accessibility, and inclusive engagement; and
- c) encourage the provision and enhancement of urban green spaces in new and established neighbourhoods.

1.3.2 Provide technical advice, assistance, research, and data to member jurisdictions and other agencies to improve air quality, reduce greenhouse gases, increase access to community services, and to better understand the health and social equity aspects of land use and infrastructure decisions.

1.3.3 Collaborate with health authorities, academic institutions, and other researchers to share best practices, research, data, and tools that can advance land use policies to:

- a) ensure neighbourhoods are designed for walking, cycling, rolling and social activities to promote positive mental and physical health;
- b) meet community social needs and priorities;

c) reduce community exposure to climate change and air quality impacts, especially communities that are disproportionately impacted; and

d) increase equitable access and exposure to public spaces through urban green space enhancement and retention opportunities.

1.3.4 Measure and monitor access to community services and amenities, particularly in Urban Centres and Frequent Transit Development Areas.

1.3.5 Advocate to the Federal Government and the Province to ensure that growing communities are served appropriately and in a timely manner with social amenities, health, schools and educational opportunities, to avoid inequities in service levels between communities in the region.

1.3.6 Advocate to the Federal Government and the Province to ensure that community, arts, cultural, recreational, institutional, social services, health and education facilities funded or built by them are located in Urban Centres or areas with good access to transit.

Member Jurisdictions will:

1.3.7 Adopt Regional Context Statements that:

- a) support compact, mixed use, transit, walking, cycling and rolling-oriented communities;
- b) locate and support community, arts, cultural, recreational, institutional, medical/health, social service, education and child care facilities, and local serving retail uses in Urban Centres or areas with good access to transit;

c) provide and encourage public spaces and other place-making amenities and facilities (e.g. community gardens, playgrounds, gathering places, etc.) in new and established neighbourhoods, for all ages, abilities, and seasons, to support social connections and engagement.

d) respond to health and climate change-related risks by providing equitable access to:

- i) recreation facilities;
- ii) green spaces and public spaces (e.g. parks, trails, urban forests, public squares, etc.); and
- iii) safe and inviting walking, cycling, and rolling environments, including resting spaces with tree canopy coverage, for all ages and abilities;

e) support the inclusion of community gardens (at-grade, rooftop, or on balconies), grocery stores and farmers' markets to support food security, and local production, distribution and consumption of healthy food, in particular where they are easily accessible to housing and transit services;

f) consider, when preparing new neighbourhood and area plans, the mitigation of significant negative social and health impacts, such as through the use of formal health and social impact methods in neighbourhood design and major infrastructure investments; and

g) provide design guidance for existing and new neighbourhoods to promote social connections, universal accessibility, crime prevention through environmental design, and inclusivity while considering the impacts of these strategies on identified marginalized members of the community.

TransLink will:

1.3.8 Provide equitable and accessible levels of transit service to communities and employment areas.

1.3.9 Continue to improve sustainable mobility options for neighbourhoods outside the Urban Centres and Frequent Transit Development Areas within the General Urban Land Use designation as shown on Map 2.



Strategy 1.4 Protect Rural lands from urban development

Rural designated lands are located outside the Urban Containment Boundary and are not intended for urban forms of development. Containing growth within the Urban Containment Boundary ensures the protection of natural, rural, and agricultural areas, and the efficient and cost effective provision of sewerage, transit, and other community services. The inherent benefits of urban containment also support reduced greenhouse gas emissions and increases opportunities for natural carbon sinks.

Metro Vancouver will:

1.4.1 Direct the Greater Vancouver Sewerage and Drainage District (GVS&DD) to not allow connections to regional sewerage services to lands with a Rural regional land use designation as identified on Map 2. Notwithstanding this general rule, in the exceptional circumstances specified below, the Metro Vancouver Regional District (MVRD) Board will advise the GVS&DD Board that it may consider such a connection for existing development or for new development where, in the MVRD Board's opinion, that new development is consistent with the Rural regional land use designation and where the MVRD Board determines either:

- a) that the connection to regional sewerage services is the only reasonable means of preventing or alleviating a public health or environmental contamination risk; or
- b) that the connection to regional sewerage services would have no significant impact on the strategy to protect lands with a Rural regional land use designation from urban development.

1.4.2 Accept Regional Context Statements that protect lands with a Rural regional land use designation from urban development and that meet or work towards Action 1.4.3.

Member Jurisdictions will:

1.4.3 Adopt Regional Context Statements that:

- a) identify the Rural lands and their boundaries on a map generally consistent with Map 2;
- b) limit development to a scale, form, and density consistent with the intent for the Rural land use designation, and that is compatible with on-site sewer servicing;
- c) specify the allowable density and form, consistent with Action 1.4.1, for land uses within the Rural regional land use designation;
- d) support agricultural uses within the Agricultural Land Reserve, and where appropriate, outside of the Agricultural Land Reserve; and
- e) support the protection, enhancement, restoration, and expansion of ecosystems identified on Map 11 to maintain ecological integrity, enable ecosystem connectivity, increase natural carbon sinks and enable adaptation to the impacts of climate change.

GOAL
2

Support a Sustainable Economy



Coquitlam

DRAFT Memo 2050

Region of Metro Vancouver
CNCL 165
Regional Planning Committee

Surrey

Goal 2: Support a Sustainable Economy

The regional growth strategy leverages the region's existing economic strengths to provide for a prosperous future by supporting diverse commercial and industrial sectors, employment growth, ensuring well designed regional places with an emphasis on public space and transit, and recognizing the region's role as a key provincial and national gateway. The regional growth strategy supports a sustainable economy through its regional land use, urban design, and transportation policies and strategies.

Urban Centres distributed throughout the region provide opportunities for commercial activities, services, and employment uses to be located close to where people live, and enable economic and transportation efficiencies. The design of these centres supports a strong sense of place, a public realm that promotes a positive civic image, and ensures a high quality of life through the provision of amenities and diversity of housing types. Policies discourage the dispersal of major employment and Major Trip-Generating uses outside of Urban Centres and Frequent Transit Development Areas, to support jobs in close proximity to homes and connected by sustainable forms of transportation.

Increasing demands for land for industrial activities as the population and economy grow, coupled with ongoing market pressure to convert Industrial lands to office, retail, residential, and other uses, has resulted in a critically diminished supply of industrial land in the region. In addition to the national, provincial, and regional serving industries in Metro Vancouver, many small to medium sized industries provide for the day-to-day needs of the region's population, such as repair and servicing activities, e-commerce, manufacturing, and renovation and construction functions. Additional lands are needed for container storage, freight forwarding, warehouses, and other distribution functions that support the regional economy to provide for a sustainable and resilient supply chain system.

Meeting the needs of both a growing regional economy and an expanding international gateway for trade requires an adequate supply of serviced industrial lands, such as those identified as 'trade-oriented' lands. Preserving the region's industrial lands supports existing businesses by allowing them to expand and supports new businesses to locate in the region, all the while avoiding long transportation distances, business inefficiencies, and higher greenhouse gas emissions. In response to the vulnerability of industrial land, policies are included to protect and intensify the use of the limited supply in the region. Efforts that encourage industrial densification and intensification provide a range of benefits such as: more efficient use of lands and resources; reduced pressures on other lands; improved capacity for businesses to grow to create employment opportunities; increased job opportunities; greater clustering of co-located operations; circular economy; and a more efficient transportation system.

There are some economic activities that are not traditional industrial uses and cannot be easily accommodated or viable in Urban Centres or Frequent Transit Development Areas. The regional growth strategy provides for these activities to be accommodated in Employment areas, which are intended to complement the planned function of Urban Centres, Frequent Transit Development Areas, and Industrial lands.

Major educational and medical institutions in this region also have a vital role in the economy, as they have key linkages with many sectors, provide and support research and innovation, and are incubators for new industries.

Agriculture is an important sector of the region's economy and a critical component of the local food system. The agricultural industry is dependent on the protection and availability of agricultural land for the production of food and other goods and services. Effective legislation and an economically viable agricultural sector are important ways to protect agricultural land for future generations.

Agricultural production is vulnerable to the impacts of climate change. Projected changes in temperature, precipitation, flooding and extreme weather events will profoundly affect agriculture production. Policies focus on increased resilience and the long-term protection of land for sustainable food production, edge planning, new drainage and irrigation infrastructure, and climate change adaptation. This strategy also seeks to protect agricultural land for local food production and supports the economic viability of the agricultural sector, while recognizing the value of ecosystem services.

Equitable growth management includes a commitment to advancing equitable and sustainable planning and land development practices that support a regional economy that is accessible and designed to benefit all people. It includes a commitment to employment growth, effective use of industrial lands, efficient transportation system, sustainable practices that work to enhance and protect natural resources, build resilience through climate-smart agricultural approaches, and mitigate the potential disproportionate impacts on ecosystems, communities, groups or individuals.

Strategies to achieve this goal are:

- 2.1 Promote land development patterns that support a diverse regional economy and employment opportunities close to where people live
- 2.2 Protect the supply, and enhance the efficient utilization, of industrial land
- 2.3 Protect the supply of agricultural land and strengthen agricultural viability



Strategy 2.1 Promote land development patterns that support a diverse regional economy and employment opportunities close to where people live

Economic and employment activities, such as post-secondary and medical institutions, shopping streets, retail centres, business parks, transportation terminals and associated infrastructure, complement employment activities in Urban Centres (Strategy 1.2) and industrial uses on Industrial lands (Strategy 2.2), which have different location requirements and attributes. These businesses support the region's economy and population, and rely on and have implications for the transportation network and the design of neighbourhoods. Locating jobs close to where people live and near the transit network supports the creation of complete communities (Strategy 1.3), reduces social inequities in the region, and helps to reduce energy consumption and greenhouse gas emissions through reduced vehicle travel and increased active transportation.

Metro Vancouver will:

2.1.1 Provide regional utility infrastructure to support the region's economic functions and to support efficient employment and settlement patterns.

2.1.2 Work with the Federal Government, the Province, member jurisdictions, First Nations, and the private sector to advance shared economic prosperity and resilience through the Regional Economic Prosperity Service to attract strategic investment to the region.

2.1.3 Work with the Federal Government, the Province, and member jurisdictions to explore:

- a) fiscal measures to reinforce the attraction of investment and employment opportunities to Urban Centres, Frequent Transit Development Areas, and lands with an Industrial or Employment regional land use designation; such employment opportunities should be consistent with the intention of the underlying regional land use designation; and
- b) fiscal reform to ensure that the property tax system supports sound land use decisions.

2.1.4 Accept Regional Context Statements that support economic activity and an urban form designed to be consistent with its context in: Urban Centres, Frequent Transit Development Areas, Industrial lands, Employment lands, ports and airports, and that meet or work towards Action 2.1.10.

2.1.5 Advocate to the Federal Government, the Province, and TransLink to develop and operate transportation infrastructure that supports and connects the region's economic activities by sustainable modes of transportation in Urban Centres, Frequent Transit Development Areas, Industrial lands, Employment lands, ports and airports.

2.1.6 Advocate that airport authorities:

- a) encourage the use of surplus airport lands for industrial activities, and where appropriate, discourage non-airport related commercial development and any expansion beyond the Industrial and Employment areas specified on Map 7;
- b) accelerate the movement of goods by energy efficient, low and zero emission modes; and
- c) develop strategies to adapt to climate change impacts and natural hazard risks.

2.1.7 Advocate that the Port of Vancouver:

- a) encourage the use of surplus port lands for industrial activities, and where appropriate, discourage non-port related commercial development and any expansion beyond the Industrial and Employment lands specified on Map 7;
- b) accelerate the movement of goods by energy efficient, low and zero emission modes; and
- c) develop strategies to adapt to climate change impacts and natural hazard risks.

2.1.8 Advocate that the Fraser Valley Regional District and the Squamish-Lillooet Regional District collaborate with the Metro Vancouver Regional District on shared initiatives related to economy, transportation, and other related matters.

2.1.9 Advocate that the Federal Government and the Province support existing and new industries in the region through such means as investment, procurement strategies, tax incentives, skill development, and small business loan programs.

Member Jurisdictions will:

2.1.10 Adopt Regional Context Statements that:

- a) include policies to support appropriate economic activities, as well as context-appropriate built form for Urban Centres, Frequent Transit Development Areas, Industrial lands, and Employment lands;
- b) support the development and expansion of large-scale office and retail uses in Urban Centres, and lower-scale uses in Frequent Transit Development Areas through policies such as: zoning that reserves land for office uses, density bonus provisions to encourage office development, variable development cost charges, and/or other incentives; and
- c) include policies that discourage the development and expansion of major commercial and institutional land uses outside of Urban Centres and Frequent Transit Development Areas.



Strategy 2.2 Protect the supply, and enhance the efficient use of, industrial land

Industrial lands are critical to supporting a diverse, resilient economy – one that supports businesses and residents by securing land for economic development and jobs within the region, and reducing costs for commuting and the transportation of goods. In response to the vulnerability of industrial land, policies are included to protect and appropriately use the region's limited supply of Industrial and Employment lands, while also considering the future of industrial activities and work, greenhouse gas emissions, and the impacts of climate change.

Metro Vancouver will:

2.2.1 Monitor the supply, demand, and utilization of Industrial land with the objective of assessing whether there is sufficient capacity to meet the needs of the growing regional economy.

2.2.2 Work with the Province, member jurisdictions, and other agencies to investigate industrial taxation rates and policies that support industrial development, efficient use of Industrial land, and industrial densification.

2.2.3 Prepare an Implementation Guideline covering the following topics: opportunities for Industrial lands to support new growth planning initiatives, new forms of industry and technologies, urban industry and e-commerce, design of industrial forms, guidance on setting criteria for trade-oriented lands, and other policy measures.

2.2.4 Seek input from TransLink, the Port of Vancouver, the Vancouver International Airport Authority, the Ministry of Transportation and Infrastructure, and/or the Agricultural Land Commission on any proposed Regional Context Statement or regional growth strategy amendments for Industrial and Employment lands as appropriate.

2.2.5 Accept Regional Context Statements that include provisions that protect and support the ongoing economic viability of industrial activities and that meet or work towards the strategies set out in Action 2.2.9.

2.2.6 Advocate to the Federal Government and the Province to coordinate transportation infrastructure and service investments that support the efficient movement of goods and people for industrial and employment operations, and considers the Regional Goods Movement Strategy and the Regional Truck Route Network.

2.2.7 Advocate to the Federal Government and the Province to support initiatives and infrastructure investments that:

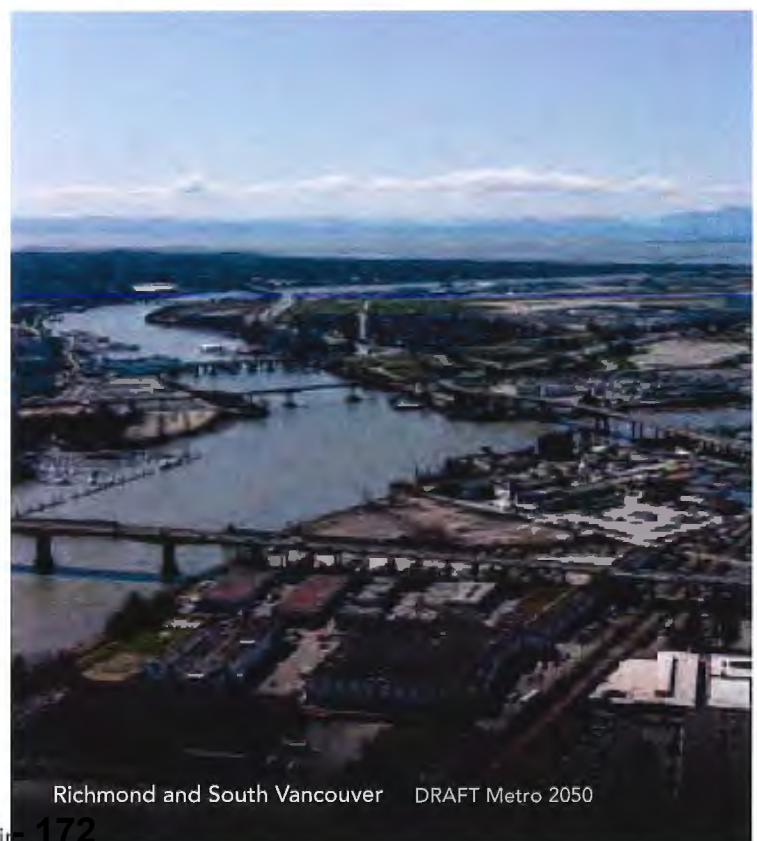
- a) introduce more energy efficient, low carbon and zero emissions equipment operations and vehicles;
- b) reduce distances travelled by commercial vehicles;
- c) accelerate the movement of goods by energy efficient, low and zero emission modes; and
- d) shift freight activity out of peak congestion periods.

2.2.8 Advocate to the Federal Government, the Province, and relevant agencies to enhance data collection and sharing related to industrial, employment, transportation, and economic matters in support of the efficient use of Industrial lands in the region.

Member jurisdictions will:**2.2.9** Adopt Regional Context Statements that:

- a) identify the Industrial and Employment lands and their boundaries on a map generally consistent with Map 7.
- b) identify Trade-Oriented lands, if applicable, with a defined set of permitted uses that support inter-regional, provincial, national, and international trade (e.g. logistics, warehouses, distribution centres, transportation and intermodal terminals) and location needs (e.g. large and flat sites, proximity to highway, port, or rail infrastructure) on a map consistent with the goals in the regional growth strategy. Strata and/or small lot subdivisions on these lands should not be permitted.
- c) include policies for Industrial lands that:
 - i) consistently define, support, and protect industrial uses in municipal plans and bylaws, and ensure that non-industrial uses are not permitted;
 - ii) support appropriate and related accessory uses, such as limited-scale ancillary commercial spaces, and caretaker units;
 - iii) exclude uses that are not consistent with the intent of Industrial lands and not supportive of industrial activities, such as medium and large format retail uses, residential uses, and stand-alone office uses, other than ancillary uses, where deemed necessary;
 - iv) encourage improved utilization and increased intensification/densification of Industrial lands for industrial activities, including the removing of any outdated municipal policies or regulatory barriers related to development form and density;
 - v) review and update parking and loading requirements to reflect changes in industrial forms and activities, ensure better integration with the surrounding character, and reflect improvements to transit service, in an effort to avoid the oversupply of parking;
 - vi) explore municipal industrial strategies or initiatives that support economic growth objectives with linkages to land use planning;
 - vii) provide infrastructure and services in support of existing and expanding industrial activities;
 - viii) introduces land use policies through area plans for rail-oriented, waterfront, and trade-oriented areas that may contain unique industrial uses;
 - ix) consider the preparation of urban design guidelines for Industrial land edge planning, such as interface designs, buffering standards, or tree planting, to minimize potential land use conflicts between industrial and sensitive land uses, and to improve resilience to the impacts of climate change; and
 - x) do not permit strata and/or small lot subdivisions on identified Trade-Oriented lands.
- d) include policies for Employment lands that:
 - i) support a mix of industrial, small scale commercial and office, and other related employment uses, while maintaining support for the light industrial capacity of the area, including opportunities for the potential densification/intensification of industrial activities, where appropriate;
 - ii) allow large and medium format retail, where appropriate, provided that such development will not undermine the broad objectives of the regional growth strategy;

- iii) support the objective of concentrating larger-scale commercial, higher density forms of employment, and other Major Trip-Generating uses in Urban Centres, and local-scale uses in Frequent Transit Development Areas;
 - iv) support higher density forms of commercial and light industrial development where Employment lands are located within Urban Centres or Frequent Transit Development Areas, and permit employment and service activities consistent with the intent of Urban Centres or Frequent Transit Development Areas, while low employment density and low transit generating uses, possibly with goods movement needs and impacts, are located elsewhere;
 - v) do not permit residential uses, except for an accessory caretaker unit;
 - vi) notwithstanding 2.2.9 (d)(v), consider limited residential uses (with an emphasis on affordable, rental units) on lands within 200 metres of a rapid transit station, and located within Urban Centres or Frequent Transit Development Areas, where appropriate. Residential uses are to be located only on the upper floors of new office and light industrial developments, and to be subject to consideration of municipal objectives, local context, and other regional growth strategy objectives.
- e) include policies to assist existing and new businesses in reducing their greenhouse gas emissions, maximizing energy efficiency, and mitigating impacts on ecosystems.
- f) include policies that assist existing and new businesses to adapt to the impacts of climate change and reduce their exposure to natural hazards risks, such as those identified within the regional growth strategy (Table 5).



Strategy 2.3 Protect the supply of agricultural land and strengthen agricultural viability

Protecting land for agricultural production is essential for the viability of the agricultural industry and a resilient region. Collaboration with the Agricultural Land Commission is necessary to address the ongoing challenges from competing residential, industrial, and commercial land use demands. Improved multi-jurisdictional collaboration that recognizes the priority to protect farm land for food production, and the importance of climate change adaptation while restricting other land uses in agricultural lands is critical. Equally important is the need to strengthen the economic viability of agriculture operations by encouraging new markets and expanding the distribution of local foods.

Metro Vancouver will:

2.3.1 Direct the Greater Vancouver Sewerage and Drainage District (GVS&DD) to not allow connections to regional sewerage services for lands with an Agricultural regional land use designation. Notwithstanding this general rule, in the exceptional circumstances specified below, the Metro Vancouver Regional District (MVRD) Board will advise the GVS&DD Board that it may consider such a connection for existing or for new development where, in the MVRD Board's discretion, the use is consistent with the underlying Agricultural regional land use designation and where the MVRD Board determines either:

- a) that the connection to regional sewerage services is the only reasonable means of preventing or alleviating a public health or environmental contamination risk; or
- b) that the connection to regional sewerage services would have no significant impact on the regional growth strategy to protect the supply of agricultural land and strengthening agricultural viability.

2.3.2 Monitor the status of agricultural land in the region including local agriculture production and other public benefits such as the provision of ecosystem services in collaboration with the Province and the Agricultural Land Commission.

2.3.3 Identify and pursue strategies and actions to increase actively farmed agricultural land, strengthen the economic viability of agriculture, and minimize conflicts between agriculture and other land uses, within or adjacent to agricultural land, in collaboration with the Province and the Agricultural Land Commission.

2.3.4 Work with the Agricultural Land Commission to protect the region's agricultural land base and not consider amending the Agricultural or Rural regional land use designation of a site if it is still part of the Agricultural Land Reserve except if the Agricultural Land Commission has:

- a) provided written confirmation that the site is not subject to the *Agricultural Land Commission Act*; or
- b) confirmed the site is subject to conditions prior to exclusion, and notifies Metro Vancouver that Metro Vancouver can consider such a proposed *Metro 2050* amendment.

2.3.5 Undertake agricultural awareness activities that promote the importance of the agricultural industry, the protection of agricultural land, and the value of local agricultural products and experiences, in partnership with other agencies and organizations.

2.3.6 Accept Regional Context Statements that protect the region's supply of Agricultural land and strengthen agricultural viability that meet or work towards the provisions set out in Action 2.3.12.

2.3.7 Advocate to all levels of government the necessity of agriculture impact assessments and mitigation requirements when transportation, utility, and recreational infrastructure is being planned, developed, or operated on agricultural lands.

2.3.8 Advocate to the Province for farm property tax reform that encourages more actively farmed land and enables secure land tenure for new and established farmers.

2.3.9 Advocate to the Province to increase agricultural producers' knowledge and adoption of innovative practices for advancing agriculture economic development, and resilience to climate change and natural hazards impacts as defined in the regional growth strategy (Table 5).

2.3.10 Advocate to the Province to provide incentives to encourage land management practices that reduce greenhouse gas emissions, improve soil health, protect natural assets, and maintain ecosystem services from agricultural land.

2.3.11 Advocate to the Province for changes to the *Local Government Act* to require that Official Community Plans prioritize the need for agricultural land, similar to how long-term needs are considered for residential, commercial, and industrial lands.

Member Jurisdictions will:

2.3.12 Adopt Regional Context Statements that:

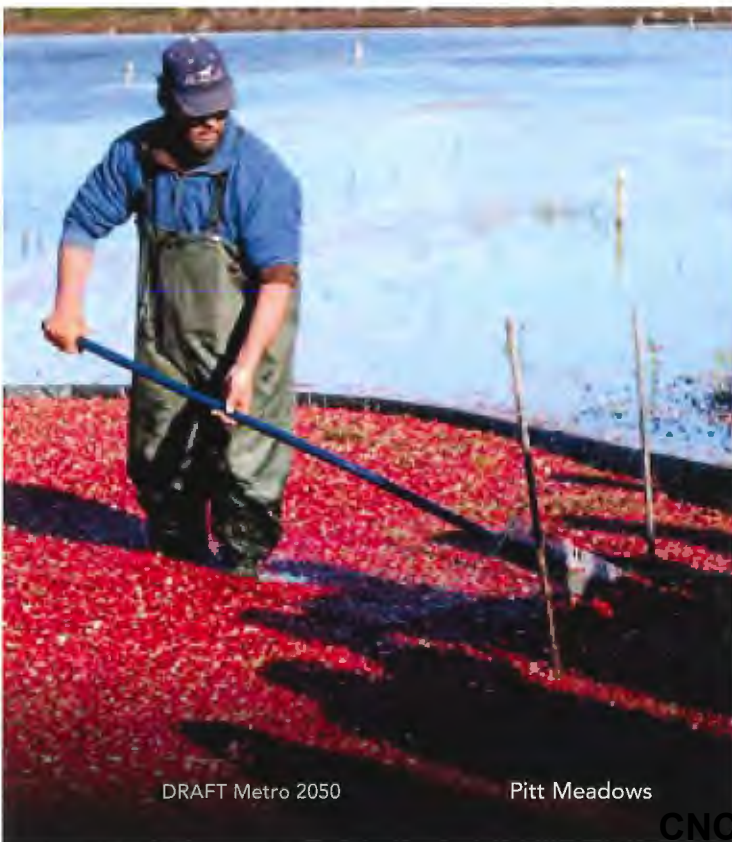
- a) specify the Agricultural lands and their boundaries within their jurisdiction on a map consistent with Map 8;
- b) consider policies and programs that increase markets and the distribution of local food in urban areas to strengthen the viability of agriculture and increase availability of local food for all residents;
- c) include policies that protect the supply of agricultural land and strengthen agriculture viability including those that:
 - i) assign appropriate land use designations to protect agricultural land for future generations and discourage land uses on Agricultural lands that do not directly support and strengthen agricultural viability;
 - ii) encourage the consolidation of small parcels and discourage the subdivision and fragmentation of agricultural land;
 - iii) support climate change adaptation including:
 - monitor storm water, flooding, and sea level rise impacts on agricultural land,
 - implement flood construction requirements for residential uses,
 - and maintain and improve drainage and irrigation infrastructure that supports agricultural production, where appropriate and in collaboration with other governments and agencies;



Delta

- iv) protect the integrity of agricultural land by requiring edge planning along the Urban Containment Boundary and adjacent to agricultural operations through activities such as screening, physical buffers, roads, or Development Permit area requirements;
- v) demonstrate support for economic development opportunities for agricultural operations that are farm related uses, benefit from close proximity to farms, and enhance primary agricultural production as defined by the *Agricultural Land Commission Act*;
- vi) align Official Community Plan policies and zoning regulations with the Minister's Bylaw Standards and Agricultural Land Commission legislation and regulations;

2.3.13 In partnership with other agencies and organizations, support agricultural awareness and promote the importance of the agricultural industry, the importance of protecting agricultural land, and the value of local agricultural products and experiences.



DRAFT Metro 2050

Pitt Meadows

GOAL
3

Protect the Environment and
Respond to Climate Change
and Natural Hazards



Langley Township

DRAFT Metro 2019

CNCL - 177
Regional Planning Committee

Electoral Area A

Goal 3: Protect the Environment and Respond to Climate Change and Natural Hazards

Metro Vancouver has a spectacular natural environment. Many of Metro Vancouver's ecosystems have global significance, providing both internationally-important fish habitat and key feeding and resting points for migratory birds along the Pacific Flyway. The region's forests, fields, coastal and intertidal areas, wetlands, and watercourses together are integral pieces of a habitat network for birds, fish, and other wildlife.

The diverse mountain, coastal, and river areas provide the region's residents with essential ecosystem services such as fresh water, clean air, pollination, traditional Indigenous food and medicines, fertile soil, flood control, cooling, carbon storage, and opportunities for tourism, recreation, cultural and spiritual enrichment, health and wellbeing. Climate change, land development, invasive species, and other human-induced pressures are causing ecosystem change and loss in many areas, which reduces nature's capacity to provide these life-sustaining services. If planned, designed, and built in harmony with nature, communities will be healthier and more resilient over the long-term.

The tenets of the regional growth strategy, such as the ongoing focus on urban containment, and land use patterns that support sustainable transportation options and carbon storage opportunities in natural areas, are critical for the region to address climate change. This section contains a strategy and associated policies that support Metro Vancouver's commitment to reaching a carbon neutral region by the year 2050. Climate change is expected to continue to cause warmer temperatures, a reduced snowpack, increasing sea levels, and more intense and frequent drought and rainfall events in the region. An additional strategy aims to improve resilience to these climate change impacts, since many of the region's natural hazards will be worsened by a changing climate.

A commitment to improving social equity includes advancing equitable climate change strategies and actions that will: intentionally consider the suite of concerns that increase community vulnerability, and acknowledge current financial, health, social disparities that are being exacerbated by low carbon solutions and the impacts of climate change. It includes developing a process that delineates resources for greenhouse gas reduction and resilience efforts equitably, prioritizing nature-based solutions and communities and support for people in the region that are disadvantaged or have been disproportionately impacted by climate change.

Strategies to achieve this goal are:

- 3.1 Protect and enhance Conservation and Recreation lands
- 3.2 Protect, enhance, restore, and connect ecosystems
- 3.3 Encourage land use, infrastructure, and human settlement patterns that reduce energy consumption and greenhouse gas emissions, create carbon storage opportunities, and improve air quality
- 3.4 Encourage land use, infrastructure, and human settlement patterns that improve resilience to climate change impacts and natural hazards

FIGURE 4. ECOSYSTEM SERVICES PROVIDED BY HEALTHY ECOSYSTEMS



Strategy 3.1 Protect and enhance Conservation and Recreation lands

The Conservation and Recreation regional land use designation is intended to help protect significant ecological and recreation assets throughout the region. Protection and management of these assets will ensure they remain productive, resilient, and adaptable, providing vital ecosystem services that support both humans and wildlife, while also safeguarding communities from climate change and natural hazard impacts.

Metro Vancouver will:

3.1.1 Direct the Greater Vancouver Sewerage and Drainage District (GVS&DD) to not allow connections to regional sewerage services to lands with a Conservation and Recreation regional land use designation. Notwithstanding this general rule, in the exceptional circumstances specified below, the Metro Vancouver Regional District (MVRD) Board will advise the GVS&DD Board that it may consider such a connection for existing development or for new development where, in the MVRD Board's opinion, that new development is consistent with the underlying Conservation and Recreation regional land use designation and where the MVRD Board determines either:

- a) that the connection to regional sewerage services is the only reasonable means of preventing or alleviating a public health or environmental contamination risk; or
- b) that the connection to regional sewerage services would have no significant impact on the strategy to protect lands with a Conservation and Recreation regional land use designation.

3.1.2 Implement the *Metro Vancouver Regional Parks Plan*, the *Regional Parks Land Acquisition 2050 Strategy*, and *Regional Greenways 2050*, and work collaboratively with member jurisdictions to identify, secure and enhance habitat and park lands, and buffer park and conservation areas from activities in adjacent areas.

3.1.3 For the Greater Vancouver Water District and the Greater Vancouver Sewerage and Drainage District, avoid ecosystem loss and fragmentation on lands with a Conservation and Recreation regional land use designation when developing and operating infrastructure, but where unavoidable, mitigate the impacts, including ecosystem restoration and striving for no net ecosystem loss.

3.1.4 Monitor ecosystem gains and losses on lands with a Conservation and Recreation regional land use designation and the Natural Resource Areas therein, as identified on Map 9.

3.1.5 Accept Regional Context Statements that protect lands with a Conservation and Recreation regional land use designation, and that meet or work towards Action 3.1.9.

3.1.6 Advocate to the Federal Government, the Province, utility companies, and TransLink to avoid ecosystem loss and fragmentation on lands within a Conservation and Recreation regional land use designation when developing and operating utility and transportation infrastructure, but where unavoidable, to mitigate the impacts, including ecosystem restoration and striving for no net ecosystem loss.

3.1.7 Advocate to the Province and its agencies to actively manage provincially-owned land within a Conservation and Recreation regional land use designation, and work with adjacent land owners to effectively buffer these lands, with the intent of minimizing negative impacts and enhancing ecosystem integrity and providing public recreational opportunities.

3.1.8 Advocate to the Federal Government and the Province to:

- a) recognize the Conservation and Recreation regional land use designation and ensure that their activities within or adjacent to these lands are consistent with the long-term intent of the land use designation; and
- b) consult and collaborate with all levels of government, including First Nations, and other stakeholders in the planning and management of lands with a Conservation and Recreation regional land use designation, including during the review of future natural resource extraction projects.

Member jurisdictions will:

3.1.9 Adopt Regional Context Statements that:

- a) identify Conservation and Recreation lands and their boundaries on a map generally consistent with Map 2;
- b) include policies that support the protection and enhancement of lands with a Conservation and Recreation land use designation, which may include the following uses:
 - i) drinking water supply areas;
 - ii) environmental conservation areas;
 - iii) wildlife management areas and ecological reserves;
 - iv) forests;
 - v) wetlands (e.g. freshwater lakes, ponds, bogs, fens, estuarine, marine, freshwater, and intertidal ecosystems);
 - vi) riparian areas (i.e. the areas and vegetation surrounding wetlands, lakes, streams, and rivers);
 - vii) ecosystems not covered above that may be vulnerable to climate change and natural hazard impacts, or that provide buffers to climate change impacts or natural hazard impacts for communities; and



viii) uses within those lands that are appropriately located, scaled, and consistent with the intent of the designation, including:

- major parks and outdoor recreation areas;
- education, research and training facilities, and associated uses that serve conservation and/or recreation users;
- commercial uses, tourism activities, and public, cultural, or community amenities;
- limited agricultural use, primarily soil-based; and
- land management activities needed to minimize vulnerability/risk to climate-related impacts.

c) include policies that:

- i) protect the integrity of lands with a Conservation and Recreation regional land use designation from activities in adjacent areas by requiring wildland interface planning, and introducing measures such as physical buffers or development permit requirements; and
- ii) encourage the consolidation of small parcels, and discourage subdivision and fragmentation of lands within a Conservation and Recreation regional land use designation.



Strategy 3.2 Protect, enhance, restore, and connect ecosystems

This Strategy establishes a collective vision for ecosystems across the region, recognizing the scientific evidence that ‘nature needs half’ of the land base to continue functioning for the benefit of all life and support human well-being. The vision can be realized in this region by working together to protect, enhance, and restore ecosystems, strategically linking green spaces into a region-wide network that sustains ecosystem services and movement of wildlife across the landscape. Actions to enhance tree canopy cover in urban areas will also improve community resilience by intercepting rainwater, moderating the urban heat island effect, and improving health outcomes.

Metro Vancouver will:

3.2.1 Implement the strategies and actions of the regional growth strategy that contribute to regional targets to:

- a) increase the area of lands protected for nature from 40% to 50% of the region’s land base by the year 2050; and
- b) increase the total tree canopy cover within the Urban Containment Boundary from 32% to 40% by the year 2050.

3.2.2 Implement the Metro Vancouver *Ecological Health Framework*, including relevant actions to:

- a) collect and maintain data, including the Sensitive Ecosystem Inventory, tree canopy cover, imperviousness, and carbon storage datasets; report on gains and losses and climate-related impacts on ecosystems; and share these datasets with member jurisdictions; and
- b) incorporate ecosystem services into Metro Vancouver’s corporate planning, asset management systems and investments, and provide regionally-appropriate guidance on methodologies, tools and decision-making frameworks.

3.2.3 Manage Metro Vancouver assets and collaborate with member jurisdictions, First Nations, and other agencies to:

- a) protect, enhance, and restore ecosystems as identified on Map 11 or more detailed local ecological and cultural datasets;
- b) identify ecosystems that may be vulnerable to climate change and natural hazard impacts as part of regional multi-hazard mapping in Action 3.4.2 a);
- c) identify a regional green infrastructure network that connects ecosystems and builds on existing local networks, while maximizing the climate adaptation, biodiversity, and human health benefits; and
- d) prepare Implementation Guidelines to support a regional green infrastructure network and to assist with the protection, enhancement, and restoration of ecosystems.

3.2.4 Work with local First Nations to:

- a) increase understanding of Indigenous ecological knowledge, and share information about environmental research, policy development, and planning best practices; and
- b) find joint stewardship and restoration opportunities on Metro Vancouver sites, and expand access to sustainably cultivate and harvest plants for cultural purposes.

3.2.5 Accept Regional Context Statements that advance the protection, enhancement, restoration, and connection of ecosystems in a regional green infrastructure network, and that meet or work towards Action 3.2.7.

3.2.6 Advocate to the Federal Government and the Province to:

- a) strengthen species-at-risk and ecosystem protection legislation to better protect critical habitat, and support restoration and biodiversity, in addition to convening a local government support network; and
- b) support the uptake of nature-based climate solutions, including those that protect or restore foreshore ecosystems.

Member jurisdictions will:**3.2.7** Adopt Regional Context Statements that:

- a) identify local ecosystem protection and tree canopy cover targets, and demonstrate how these targets will contribute to the regional targets in Action 3.2.1;
- b) refer to Map 11 or more detailed local ecological and cultural datasets and include policies that:
 - i) support the protection, enhancement, and restoration of ecosystems through measures such as land acquisition, density bonusing, development permit requirements, subdivision design, conservation covenants, land trusts, and tax exemptions;
 - ii) seek to acquire, restore, enhance, and protect lands, in collaboration with adjacent member jurisdictions and other partners, that will enable ecosystem connectivity in a regional green infrastructure network;
 - iii) discourage or minimize the fragmentation of ecosystems through low impact development practices that enable ecosystem connectivity; and
 - iv) indicate how the interface between ecosystems and other land uses will be managed to maintain ecological integrity using edge planning, and measures such as physical buffers, or development permit requirements.



c) include policies that:

- i) support the consideration of ecosystem services in land use decision-making and land management practices;
- ii) enable the retention and expansion of urban forests using various tools, such as local tree canopy cover targets, urban forest management strategies, tree regulations, development permit requirements, land acquisition, street tree planting, and reforestation or restoration policies, with consideration of climate resiliency;
- iii) reduce the spread of invasive species by employing best practices, such as the implementation of soil removal and deposit bylaws, development permit requirements, and invasive species management plans;
- v) increase green infrastructure along the Regional Greenway Network, the Major Transit Network, community greenways, and other locations, where appropriate, and in collaboration with Metro Vancouver, TransLink, and other partners; and
- iv) support watershed and ecosystem planning, the development and implementation of Integrated Stormwater Management Plans, and water conservation objectives.

Strategy 3.3 Encourage land use, infrastructure, and human settlement patterns that reduce energy consumption and greenhouse gas emissions, create carbon storage opportunities, and improve air quality

The tenets of the regional growth strategy are crucial for meeting the region's commitment to reduce greenhouse gas emissions and to reach carbon neutrality by the year 2050. As described in other strategies in the regional growth strategy, this can be achieved in three key ways: by supporting growth and development patterns that enable sustainable transportation options; by encouraging higher-density built forms and multi-unit developments which are typically more energy efficient than lower-density alternatives; and by reducing development pressures in areas that naturally store and sequester carbon (such as conservation and agricultural lands). To supplement these important policy actions from other goal areas in the regional growth strategy, Strategy 3.3 contains the region's greenhouse gas emissions reduction targets and associated policies.

Metro Vancouver will:

3.3.1 Implement the:

a) strategies and actions of the regional growth strategy that contribute to regional targets to reduce greenhouse gas emissions by 45% below 2010 levels by the year 2030 and to achieve a carbon neutral region by the year 2050; and

b) *Metro Vancouver Clean Air Plan, Climate 2050*, and other associated actions to help achieve the regional greenhouse gas emissions reduction targets in Action 3.3.1 a).

3.3.2 Work with the Federal Government, the Province, TransLink, member jurisdictions, First Nations, non-governmental organizations, energy utilities, the private sector, and other stakeholders, as appropriate, to:

a) monitor energy consumption, greenhouse gas emissions, and air quality related to land use, buildings, industry, agriculture, waste, transportation, and other emission sources, and consider lifecycle energy and emissions;

b) monitor and pursue opportunities to increase carbon storage in natural areas; and

c) promote best practices and develop guidelines to support local government actions that reduce energy consumption and greenhouse gas emissions, support a transition to clean, renewable energy (including electricity), create carbon storage opportunities, and improve air quality.

3.3.3 Work with TransLink, member jurisdictions, and health authorities to advocate that health impact assessments be conducted for major transportation projects and significant development projects with an aim to minimizing public exposure to traffic-related air contaminants.

3.3.4 Work with the Federal Government, the Province, and other stakeholders when conducting environmental assessments to reduce the environmental and health impacts related to regional air quality and greenhouse gas emissions.

3.3.5 Accept Regional Context Statements that encourage land use, infrastructure, and settlement patterns that reduce energy consumption and greenhouse gas emissions, improve air quality, create carbon storage opportunities, and that meet or work towards Action 3.3.7.

3.3.6 Advocate to the Federal Government and the Province to establish and support legislative and fiscal actions, that help the public and private sector maximize reductions in energy consumption and greenhouse gas emissions, and improve air quality, such as:

- a) in the building sector,
 - i) accelerating the transition of energy efficiency requirements in the BC Building Code to net-zero energy ready levels by 2032;
 - ii) setting greenhouse gas and energy performance requirements for new and existing buildings;
 - iii) increasing incentives and financing tools for new low-carbon, zero-emissions, and resilient buildings;
 - iv) supporting large-scale building electrification;
 - v) requiring benchmarking and energy labels for new and existing buildings;
 - vi) supporting reductions in embodied emissions of buildings, and the increased use of low-carbon building products;
 - vii) supporting programs, services and incentives for low-carbon upgrade options in rental buildings that benefit building owners and tenants;
 - viii) incenting equitable transit-oriented development through policy and funding programs; and
 - ix) supporting, where feasible and appropriate, energy recovery, renewable energy generation and zero-carbon district energy systems, and related transmission needs.

b) in the transportation sector,

- i) revising enabling legislation to allow regional road usage charging for the purposes of managing congestion and greenhouse gasses;
- ii) supporting electric vehicle charging in new and existing buildings through requirements and programs;
- iii) continuing to increase the amount of reliable and sustainable funding available for sustainable transportation infrastructure and low emission travel modes, such as active transportation and public transit; and
- iv) continuing to advance stringent standards for on-road vehicle emissions and fuel carbon content.

Member jurisdictions will:

3.3.7 Adopt Regional Context Statements that:

- a) identify how local land use and transportation policies will contribute to meeting the regional greenhouse gas reduction target of 45% below 2010 levels by the year 2030 and achieving a carbon neutral region by the year 2050;
- b) identify policies, actions and/or strategies that reduce energy consumption and greenhouse gas emissions, create carbon storage opportunities, and improve air quality from land use, infrastructure, and settlement patterns, such as:
 - i) existing building retrofits and construction of new buildings to meet energy and greenhouse gas performance guidelines or standards (e.g. BC Energy Step Code, passive design), the electrification of building heating systems, green demolition requirements, embodied emissions policies, zero-carbon district energy systems, and energy recovery and renewable energy generation technologies, such as solar panels and geoechange systems, and zero emission vehicle charging infrastructure;

- ii) community design, infrastructure, and programs that encourage transit, cycling, rolling and walking; and
- c) focus infrastructure and amenity investments in Urban Centres and Frequent Transit Development Areas, and at appropriate locations along Major Transit Growth Corridors.

TransLink will:

3.3.8 Support regional air quality objectives and greenhouse gas emission reduction targets by advancing policy and infrastructure to support the aggressive transition of the ground-based vehicle fleet to zero-emissions, and by transitioning the entire transit fleet to one that utilizes low-carbon fuels.

3.3.9 In collaboration with Metro Vancouver and member jurisdictions, establish a definition of major development proposals, which are referenced in the *South Coast British Columbia Transportation Authority Act*, to support the objective of concentrating Major Trip-Generating uses in areas well served by transit.



Strategy 3.4 Encourage land use, infrastructure, and human settlement patterns that improve resilience to climate change impacts and natural hazards

Climate change is expected to impact Metro Vancouver through warmer temperatures, decreased snowpack, sea level rise, longer summer drought periods, and increased precipitation in the fall, winter, and spring. The region is also exposed to multiple natural hazards, many of which are worsened by climate change. Where and how the region accommodates growth determines the degree to which communities and infrastructure are exposed to these risks. While efforts need to be made to ensure that all populations are well-equipped to address these challenges, proactive and collaborative planning can minimize risks by encouraging growth and development in more resilient areas, where feasible, and taking measures to ensure existing communities and infrastructure are resilient to current and future risks.

TABLE 5. MAJOR NATURAL HAZARDS AND CLIMATE CHANGE IMPACTS AFFECTING METRO VANCOUVER

| NATURAL HAZARDS | RELATED CLIMATE CHANGE IMPACTS |
|--|---|
| Earthquakes | |
| Tsunamis | Sea level rise |
| Landslides | More precipitation (fall, winter, and spring) |
| Floods (pluvial, coastal, riverine) | More precipitation (fall, winter, and spring) Sea level rise Decrease in snowpack |
| Wildfires | Longer drought periods (summer) Warmer temperatures and extreme heat events Reduced air quality |
| Erosion | Sea level rise More precipitation (fall, winter, and spring) |
| Subsidence | Sea level rise |
| Windstorms and other extreme weather events | Sea level rise More precipitation (fall, winter, and spring) |

Metro Vancouver will:

3.4.1 Incorporate climate change and natural hazard risk assessments into the planning and location of Metro Vancouver utilities, assets, operations, and other critical infrastructure.

3.4.2 Work with the Integrated Partnership for Regional Emergency Management, the Federal Government, the Province, First Nations, TransLink, member jurisdictions, adjacent regional districts, and other stakeholders, as appropriate, to:

- a) collaboratively develop and share information and data related to hazards, risks, and vulnerabilities in the Metro Vancouver region, which may include preparing a regional multi-hazard map, and identifying and coordinating priority actions, implementation strategies, and funding mechanisms;
- b) plan for climate change impacts and natural hazard risks when extending utilities and transportation infrastructure that support development;
- c) support the integration of emergency management, utility planning, and climate change adaptation principles in land use plans, transportation plans, and growth management policies;
- d) research and promote best practices and develop guidelines to support resilience to the impacts of climate change and natural hazards as it relates to planning and development;
- e) support regional flood management approaches, such as the implementation of the Lower Mainland Flood Management Strategy; and
- f) research and share information related to the impacts of climate change and natural hazards on vulnerable populations, and focus resilience actions on equitable outcomes.

3.4.3 Accept Regional Context Statements that encourage land use, settlement patterns, transportation and utility infrastructure which improve the ability to withstand climate change impacts and minimize natural hazard risks, and that meet or work towards Actions 3.4.5, 3.4.6, 3.4.7, and 3.4.8.

3.4.4 Advocate to the Federal Government and the Province that they:

- a) review and improve existing provincial legislation and guidelines regarding flood hazard management at the local level, encourage the adoption of local flood hazard policies and bylaws, and implement appropriate preparatory actions to address the long-term implications of sea level rise on infrastructure planning, construction, and operations;
- b) incorporate resilience considerations into building codes and standards;
- c) modernize the provincial *Emergency Program Act* and associated regulations with requirements for land use planning, and consider land use implications in the development of climate change adaptation strategies; and
- d) provide guidelines, programs, funding, and timely data and information to support regional and local planning for climate change impacts and natural hazards.

Member jurisdictions will:

3.4.5 Adopt Regional Context Statements that include policies that:

- a) minimize risks associated with climate change and natural hazards in existing communities through tools such as heat and air quality response plans, seismic retrofit policies, and flood-proofing policies; and
- b) discourage new development in current and future hazardous areas to the extent possible through tools such as land use plans, hazard-specific Development Permit Areas, and managed retreat policies, and where development in hazardous areas is unavoidable, mitigate risks.

3.4.6 Incorporate climate change and natural hazard risk assessments into planning and location decisions for new municipal utilities, assets, operations, and community services.

3.4.7 Integrate emergency management, utility planning, and climate change adaptation principles when preparing land use plans, transportation plans, and growth management policies.

3.4.8 Adopt appropriate planning standards, guidelines, and best practices related to climate change and natural hazards, such as flood hazard management guidelines and wildland urban interface fire risk reduction principles.



GOAL
4

Provide Diverse and Affordable
Housing Choices

Maple Ridge

DRAFT Metro 2050

CNCL - 193

New Westminster

Goal 4: Provide Diverse and Affordable Housing Choices

A diverse and affordable housing stock is critical to accommodating growth and supporting the region's population. Communities across Metro Vancouver are experiencing significant housing pressures paired with accelerating housing costs in the rental and ownership markets. Strong demand for rental housing is causing low rental vacancy rates and rising rental costs, and at the same time, existing affordable rental housing stock is aging and in need of maintenance and renewal.

High land and construction costs make the delivery of new rental units that are affordable to low and moderate income households challenging, particularly in proximity to transit. Lower income households earning less than 80% of the Regional Median Household Income, who make up the majority of renters in the region, are being forced to look further afield for housing that is affordable and meets their needs. Additionally, there is a shortage of permanent, affordable, and supportive housing units to meet the acute housing needs of vulnerable populations including those experiencing or at risk of homelessness.

In response to these challenges, a diverse mix of housing types and tenures that respond to an aging population, changing family and household characteristics, and a range of household incomes across the region is needed. Having housing choices means that all residents can find adequate and suitable housing that is affordable based on their household income, and that meets their unique needs and preferences. For the purpose of implementing *Metro 2050's* policies, "affordable housing" is defined as housing that is affordable to households earning up to 120% of the Regional Median Household

Income. Goal 4 encourages diverse and affordable housing choices as a means to provide opportunities for residents to live in their desired community or neighbourhood, close to employment, transit, schools, parks, amenities and important social connections.

The first strategy identifies actions to promote an adequate supply of housing to meet existing and future housing needs across the housing continuum. Supporting housing policy efforts across the region through housing strategies or action plans that work towards achieving the number and type of housing units required to meet the needs identified in local housing needs reports or assessments is critical to this strategy.

The second strategy encourages policies and actions that expand rental housing supply, mitigate or limit the net loss of existing purpose-built rental and non-market housing stock, and protect renter households. The strategy also advocates for measures and incentives to stimulate the supply of below-market and market rental housing, particularly in proximity to transit.

The third strategy advocates for capital and operating funding to support the non-profit housing sector and the overall provision of permanent, affordable, and supportive housing. The strategy also requests ongoing housing and income benefits to supplement the high cost of rent in the private market. It recognizes that housing strategies and action plans must be aligned with plans to address homelessness. All levels of government have a role to play in creating opportunities for diverse housing options, and senior government funding is essential to meeting the housing needs of these populations.

A commitment to social equity prioritizes planning and decision-making processes that ensure the housing needs of the region's residents and populations that are housing insecure are met, so that everyone can access safe, quality, affordable, and climate resilient housing. Furthermore, it means intentionally seeking to prevent economic, health or access disparities in the housing market that are primarily experienced by lower income populations, renter households, and individuals experiencing or at risk of homelessness. Essential to this commitment is examining and modifying any systemic and institutional practices and policies that may limit the quality, affordability, accessibility, and equitable distribution of housing that is essential to creating a livable and resilient region for current and future generations.

Strategies to achieve this goal are:

- 4.1 Expand the supply and diversity of housing to meet a variety of needs
- 4.2 Expand, retain, and renew rental housing supply and protect tenants
- 4.3 Meet the housing needs of lower income households and populations experiencing or at risk of homelessness



Strategy 4.1 Expand the supply and diversity of housing to meet a variety of needs

Housing diversity refers to the range of housing types and tenures required to meet the needs of households of all sizes, incomes, ages, and abilities. Expanding the supply and diversity of housing that meets a variety of needs across the housing continuum increases affordability, social equity, and resilience in the region.

Metro Vancouver will:

4.1.1 Assist member jurisdictions in developing housing strategies or action plans by providing analysis on regional demographics, household characteristics, and market conditions, and work with member jurisdictions to review and refine local housing priorities, policies, and housing needs reports or assessments in the context of this analysis.

4.1.2 Monitor and report on the progress of member jurisdiction housing strategies or action plans in achieving the number and type of housing units required to meet current and anticipated housing needs, as determined in the member jurisdiction's housing needs report or assessment.

4.1.3 Support member jurisdictions in the development and delivery of housing policies and actions by compiling, analyzing, and communicating data, preparing implementation guidelines and best practices research, and convening discussions on issues of common interest.

4.1.4 Accept Regional Context Statements that describe how local plans, strategies, and policies will achieve diverse and affordable housing options, expand the supply and diversity of housing to meet a variety of needs along the housing continuum, and meet or work towards Actions 4.1.8 and 4.1.9.

4.1.5 Advocate to the Province to create new enabling legislation that provides the ability for local governments to mandate affordable housing through inclusionary zoning powers.

4.1.6 Advocate to the Province to provide funding to support member jurisdictions in the development and update of housing strategies or action plans that are aligned with housing needs reports or assessments.

4.1.7 Advocate to the Province for expanded funding maximums and eligibility that support Treaty and Non-Treaty First Nations in developing housing needs reports or assessments to ensure a complete regional and provincial understanding of housing needs, and to help inform local plans, policies, and development decisions.



Vancouver

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Member jurisdictions will:**4.1.8** Adopt Regional Context Statements that:

- a) indicate how they will work towards meeting estimated future housing needs and demand, as determined in their housing needs report or assessment;
- b) articulate how local plans and policies will meet the need for diverse (in tenure, size, and type) and affordable housing options;
- c) identify policies and actions that contribute to the following outcomes:
 - i) increased supply of adequate, suitable, and affordable housing to meet a variety of needs along the housing continuum;
 - ii) increased supply of family-friendly, age-friendly, and accessible housing;
 - iii) increased diversity of housing tenure options, such as attainable homeownership, rental, co-op housing, rent-to-own models, and cohousing;
 - iv) increased density and supply of diverse ground-oriented and infill housing forms in low-density neighbourhoods, such as duplex, four-plex, townhouse, laneway/coach houses, and apartments, particularly in proximity to transit;
 - v) integration of land use and transportation planning such that households can reduce their combined housing and transportation costs;

- vi) increased social connectedness in multi-unit housing;
- vii) integrated housing within neighbourhood contexts and high quality urban design; and
- viii) existing and future housing stock that is low carbon and resilient to climate change impacts and natural hazards.

4.1.9 Prepare and implement housing strategies or action plans that:

- a) are aligned with housing needs reports or assessments, and reviewed or updated every 5-10 years to ensure that housing strategies or action plans are based on recent evidence and responsive to current and future housing needs;
- b) are based on an assessment of local housing market conditions, by tenure, including assessing housing supply, demand, and affordability;
- c) identify housing priorities, based on the assessment of local housing market conditions, household incomes, changing population and household demographics, and key categories of local housing need, including specific statements about special needs housing and the housing needs of equity-seeking groups; and
- d) identify implementation measures within their jurisdiction and financial capabilities, including actions set out in Action 4.1.8.

Strategy 4.2 Expand, retain, and renew rental housing supply and protect tenants

Purpose-built rental housing is a critical component of the housing continuum, offering security of tenure to the many residents who cannot or choose not to purchase a home. The private rental market also forms a large part of the region's overall rental housing stock, and provides additional rental housing options such as secondary suites, laneway/coach houses, and rented condominiums. Increasing the rental housing supply, retaining existing rental housing, and renewing aging rental housing while minimizing the impacts of redevelopment and renovation on existing tenants preserves affordability and increases opportunities for everyone in the region to access an energy efficient home they can afford.

Metro Vancouver will:

4.2.1 Monitor the purpose-built rental housing stock in the region, and report on rental housing supply gaps by income level and number of bedrooms.

4.2.2 Implement the *Metro Vancouver Housing 10-Year Plan* (2019) and seek opportunities for Metro Vancouver Housing to partner with member jurisdictions and others to expand affordable rental housing across the region.

4.2.3 Set a regional target of 15% affordable rental housing in new and redeveloped housing development within Urban Centres and Frequent Transit Development Areas, and monitor progress towards the target every 5 years.

4.2.4 Accept Regional Context Statements that describe how local plans, strategies, and policies will increase rental housing supply while protecting tenants, and that meet or work towards Actions 4.2.7 and 4.2.8.

4.2.5 Advocate to the Federal Government and the Province to provide measures and incentives to stimulate private sector investment in rental housing to help achieve the current and anticipated need for rental housing units, as determined by housing needs reports or assessments.

4.2.6 Advocate to the Province for expanded measures to address housing speculation and vacant homes as a means of increasing long-term rental options, and bringing unoccupied housing into the secondary rental market.

Member jurisdictions will:

4.2.7 Adopt Regional Context Statements that:

- a) indicate how they will, within their local context, work towards the regional target of 15% affordable rental housing in redeveloped and new housing development within Urban Centres and Frequent Transit Development Areas;
- b) articulate how local plans and policies will mitigate impacts on renter households, particularly during redevelopment or densification of Urban Centres and Frequent Transit Development Areas;
- c) identify the use of regulatory tools that protect and preserve rental housing;
- d) identify policies and actions that contribute to the following outcomes:
 - i) increased supply of affordable rental housing in proximity to transit and on publicly-owned land;
 - ii) increased supply of market and below-market rental housing through the renewal of aging purpose-built rental housing and prevention of net rental unit loss;

- iii) protection and renewal of existing non-market rental housing;
- iv) mitigated impacts on renter households due to renovation or redevelopment, and strengthened protections for tenants; and
- v) reduced energy use and greenhouse gas emissions from existing and future rental housing stock, while considering impacts on tenants and affordability.

4.2.8 Prepare and implement housing strategies or action plans that:

- a) encourage the supply of new rental housing and mitigate or limit the loss of existing rental housing stock;
- b) encourage tenant protections and assistance for renter households impacted by renovation or redevelopment of existing purpose-built rental housing; and
- c) cooperate with and facilitate the activities of Metro Vancouver Housing under Action 4.2.2.



Strategy 4.3 Meet the housing needs of lower income households and populations experiencing or at risk of homelessness

Lower income households and populations experiencing or at risk of homelessness have the most acute housing needs in the region. Through collaboration with the Federal Government and the Province, efforts to support the provision of non-market housing can ensure equitable access to housing for all. Meeting the housing needs of the most vulnerable in our communities also provides a number of co-benefits including positive health outcomes and improved social cohesion.

Metro Vancouver will:

4.3.1 Accept Regional Context Statements that describe how local plans, strategies, and policies will meet the specific housing needs of lower income households, including the existing housing needs of populations experiencing or at risk of homelessness, and that meet or work towards Actions 4.3.7 and 4.3.8.

4.3.2 Collaborate with member jurisdictions, non-profit housing and homelessness services providers, and the Federal Government and the Province on coordinated actions to address regional homelessness.

4.3.3 Advocate to the Federal Government and the Province for measures and incentives to stimulate non-market rental supply and capital and operating funding to support the construction of permanent, affordable, and supportive housing across the region.

4.3.4 Advocate to the Federal Government and the Province to provide capital and operating funding to meet the current and anticipated housing needs of lower income households and populations experiencing or at risk of homelessness, as determined by housing needs reports or assessments.

4.3.5 Advocate to the Federal Government and the Province for portfolio-based, long-term funding sources for non-profit housing providers that shift away from short-term, project-based funding models as a means of ensuring the sustainability of the non-profit housing sector.

4.3.6 Advocate to the Federal Government and the Province to provide and expand ongoing rent supplements and housing benefits, and to increase

the shelter portion of income assistance to ensure that lower income households and populations experiencing or at risk of homelessness can afford suitable and adequate housing.

Member jurisdictions will:

4.3.7 Adopt Regional Context Statements that:

- a) indicate how they will collaborate with the Federal Government, the Province, and other partners, to assist in increasing the supply of permanent, affordable, and supportive housing units; and
- b) identify policies and actions that partner with other levels of government and non-profit organizations to create pathways out of homelessness and contribute to meeting the housing and support needs of populations experiencing or at risk of homelessness.

4.3.8 Prepare and implement housing strategies or action plans that:

- a) identify opportunities to participate in programs with other levels of government to secure additional housing units to meet the housing needs of lower income households;
- b) identify strategies to increase community acceptance and communicate the benefits of affordable and supportive housing development; and
- c) are aligned with or integrate plans to address homelessness, and identify strategies to reduce the total number of households that are in core housing need and populations experiencing or at risk of homelessness.

GOAL
5

Support Sustainable
Transportation Choices



North Vancouver City

76 DRAFT Metro 2051

Regional Planning
CNCL 201

Surrey

Goal 5: Support Sustainable Transportation Choices

Land uses influence travel patterns and transportation systems, in turn, affect land use and development. Achieving the goals of *Metro 2050* requires the alignment of land use and transportation strategies. Accessible and sustainable transportation choices are supported by strategies for a compact urban area, with transit-oriented development patterns that focus growth in Urban Centres, Major Transit Growth Corridors and Frequent Transit Development Areas. This transit-oriented pattern of growth helps reduce vehicle use, traffic congestion, energy consumption and greenhouse gas emissions from on-road sources while fostering transit ridership and active transportation. It provides the region's residents with resilient mobility options, a cleaner environment, and opportunities to reduce household transportation costs.

The first strategy identifies actions to increase the proportion of trips by transit, cycling, walking, and other alternatives to single occupancy vehicles. *Transport 2050's* Major Transit Network will be critical in reinforcing *Metro 2050's* network of Urban Centres and Frequent Transit Development Areas. *Metro 2050* aligns these locations for growth with planned transit connections to provide clearer expectations about future growth and investment. Aligning land use and transportation in this way enables a diversity of transit-oriented affordable housing, shorter trips and greater access to opportunity.

The second strategy recognizes the fundamental role that the Major Road Network, Regional Truck Route Network, provincial highways, and federal transportation facilities play in shaping regional growth, moving people and goods within the region, and connecting the region with intra-provincial, national and international destinations. The strategy advocates for active management of the existing and planned capacity of the road network and the demands put upon it to minimize the need for capital-intensive roadway expansion in the future. Further, rail and marine transportation have the potential to play a larger role in the future for goods movement, so protecting rail rights-of-way and access points to waterways today is critical to preserving transportation options in the future. This strategy also anticipates the changing nature of industry and digitalization of commerce.

Metro Vancouver works in partnership with member jurisdictions, TransLink, Port of Vancouver, airport authorities, the Federal Government, and the Province to coordinate decision-making in support of the regional growth strategy. TransLink prepares and implements strategic transportation plans for roads, transit, active transportation, and goods movement, among other regional transportation programs. TransLink is also responsible for the region's long-term transportation strategy, *Transport 2050*. *Metro 2050* and *Transport 2050* comprise the region's long-term vision for the land use and transportation system. The Province prepares provincial highway and transit plans which help to guide the development of regional transportation plans. Both the Federal Government and the Province play significant roles in funding regional transit and goods movement infrastructure. Metro Vancouver advocates for reductions in transportation-related greenhouse gas emissions and common air contaminants.



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Burnaby

A commitment to equity includes creating a more equitable land use and transportation system across the region that will enhance social cohesions and connectedness to benefit all communities; mitigate the environmental, economic, and social risks associated with goods and service movement; and ultimately, provide affordable and accessible transportation that creates quality jobs, promotes safe and inclusive communities, and focuses on results that benefit all.

Strategies to achieve this goal are:

- 5.1 Coordinate land use and transportation to encourage transit, multiple-occupancy vehicles, cycling and walking
- 5.2 Coordinate land use and transportation to support the safe and efficient movement of vehicles for passengers, goods, and services

Strategy 5.1 Coordinate land use and transportation to encourage transit, multiple-occupancy vehicles, cycling and walking

The coordination of land use and transportation supports positive region building by ensuring communities are connected to sustainable transportation networks while investing in transportation improvements for existing neighbourhoods. Over time, this creates a regional growth pattern where destinations are closer together and more accessible for all, with less need to drive. The benefits of this transit-oriented growth pattern include: reduced greenhouse gas emissions; formation of complete, compact communities; more physical activity and improved health; lower transportation costs; and a more resilient economy with better access to job opportunities, diverse and affordable housing, and community amenities.

Metro Vancouver will:

5.1.1 Provide advice and input into TransLink's regional transportation system, planning, and demand management strategies through the provision of land use, growth management and air quality information and forecasts, and the evaluation of land use and vehicle emissions impacts.

5.1.2 Establish the following objectives for the regional transportation system:

- a) support the regional land use framework and strategy, as set out in Strategy 1.2;
- b) reduce energy consumption and greenhouse gas emissions while improving air quality, as set out in Strategy 3.3; and
- c) ensure the safe and efficient movement of vehicles for passengers, goods, and services, as set out in Strategy 5.2.

5.1.3 Encourage TransLink and member jurisdictions, in support of Action 5.1.2 (a), to prioritize the expansion of transit services between Urban Centres, according to the following priorities:

- Priority 1: Major Transit Network
- Priority 2: Frequent Transit Network
- Priority 3: Local Transit Networks

5.1.4 Collaborate with TransLink, in support of Action 5.1.2 (b), on the achievement of regional priorities to increase the share of trips made by transit, shared mobility options, cycling, and walking, and reduce energy consumption and air emissions from on-road transportation sources. Metro Vancouver will support the development of strategic transportation plans to achieve this objective, within TransLink's mandate to plan and manage the regional transportation system.

5.1.5 In collaboration with other levels of government, implement the Regional Greenway Network, as shown in Map 10.

5.1.6 Collaborate with member jurisdictions and TransLink to jointly develop a regional parking strategy that:

- a) provides guidance to inform municipal parking requirements;
- b) considers local needs through customized guidance for different land use and transportation contexts; and
- c) seeks to right-size the supply of parking in the region, make more efficient use of the limited land supply, and improve housing and transportation affordability.

5.1.7 Accept Regional Context Statements that identify policies and actions that coordinate land use and transportation planning to support transit, shared mobility options, cycling, and walking, that support the transition to zero-emission vehicles, and that meet or work towards Action 5.1.14.

5.1.8 Advocate to the Federal Government and the Province, in collaboration with TransLink and member jurisdictions, to evaluate and develop measures to mitigate the potential negative impacts on the region's Industrial, Agricultural, and Conservation and Recreation lands when planning transportation infrastructure, including roadways, railways and rapid transit systems.

5.1.9 Advocate for the Province to work with TransLink, adjacent regional districts, and Metro Vancouver in coordinating transportation planning and infrastructure projects in the Lower Mainland.

5.1.10 Advocate to the Federal Government and the Province to provide increased reliable and sustainable funding for expanding, and operating:

- a) the regional transit system;
- b) the Regional Cycling Network (i.e. the Major Bikeway Network for utility cycling trips and Regional Greenway Network for recreational travel); and
- c) municipal pedestrian infrastructure.

5.1.11 Advocate to railway companies, when developing their plans and strategies for rail corridors and facilities in the region, that they coordinate and consult with member jurisdictions, TransLink, Port of Vancouver, and Metro Vancouver to ensure that they are compatible with and support the regional transportation and land use planning goals of the regional growth strategy.

5.1.12 Advocate to member jurisdictions to engage with impacted municipalities and First Nations when developing plans, policies, and programs related to new mobility, shared mobility, and inter-jurisdictional connectivity.

5.1.13 Advocate to the Province and TransLink to co-locate active transportation facilities with rapid transit infrastructure and include delivery of such facilities within the scope of rapid transit projects.

Member jurisdictions will:

5.1.14 Adopt Regional Context Statements that identify land use and transportation policies and actions that:

- a) coordinate to encourage a greater share of trips made by transit, shared mobility options, cycling, and walking;
- b) support the development and implementation of transportation demand management strategies, such as: parking pricing and supply measures, transit priority measures, end-of-trip facilities for active transportation, and shared mobility services;
- c) manage and enhance municipal infrastructure in support of transit, multiple-occupancy vehicles, cycling, and walking;
- d) support the transition to zero-emission vehicles;
- e) support implementation of the Regional Greenway Network and Major Bikeway Network, as identified in Map 10; and
- f) support implementation of local active transportation facilities that connect to the Regional Greenway Network or Major Bikeway Network.

TransLink will:

5.1.15 In support of coordinated land use and transportation to encourage transit, multiple-occupancy vehicles, cycling and walking:

- a) prepare and implement strategic transportation plans that support focused growth in Urban Centres and Frequent Transit Development Areas, while avoiding known unmitigated flood and other natural hazard risk areas;

b) provide Metro Vancouver with adequate opportunity to provide input into TransLink's strategic planning and decision-making processes that would affect the achievement of the objectives and priorities as set out in Action 5.1.2;

c) establish performance measures and/or targets that support an increased share of trips made by transit, shared mobility, zero-emission vehicles, cycling and walking, and the associated reductions in air emissions from on-road transportation sources, and monitor progress towards achieving these targets;

d) prepare and implement regional transportation system and demand management strategies, such as: ridesharing programs, transportation user-based pricing, and regulation for ride-hailing services and other emerging mobility technologies;

e) support the development of safe and comfortable regional cycling networks serving Urban Centres, Frequent Transit Development Areas, and other areas of high potential for utility and/or recreational cycling;

f) work with the Province, the Integrated Partnership for Regional Emergency Management, and member jurisdictions to evaluate the potential impacts of climate change and known unmitigated natural hazards on rapid transit alignments, station locations, and associated transportation infrastructure;

g) explore methods to support affordable housing through existing and future revenue sources, such as: continuing the reduction or waiver of the TransLink Development Cost Charge on certain types of not-for-profit rental housing; seeking partnership opportunities with the Province and others to support delivering affordable housing; seeking commitments on the development of affordable housing policies and targets in partnership agreements required for major transportation projects; and considering the impacts of proposed projects on affordable housing when evaluating future rapid transit investments;

h) continue developing active transportation and transit networks as a means to create redundancy in low-cost, low-emission travel options;

i) work with the Province, member jurisdictions, and others, to implement both the Regional Greenway Network and the Major Bikeway Network, as identified in Map 10; and

j) continue to identify viable new opportunities to create and improve transit and active transportation linkages to and within First Nations communities.



Pitt Meadows

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Strategy 5.2 Coordinate land use and transportation to support the safe and efficient movement of vehicles for passengers, goods, and services

Roadways, truck routes, provincial and federal highways, port terminals, rail corridors, navigable waterways, airports, transit routes and active transportation facilities play a vital role in supporting the regional economy, shaping regional growth, and connecting Metro Vancouver to other regions. Making the most of the goods movement system requires protecting industrial lands and transportation rights-of-way, minimizing community impacts, reducing greenhouse gas emissions, and seeking demand-management alternatives to infrastructure expansion, particularly for roadway expansion.

Metro Vancouver will:

5.2.1 Support implementation of the Regional Goods Movement Strategy and continue to participate in the Greater Vancouver Urban Freight Council.

5.2.2 Accept Regional Context Statements that identify coordinated land use and transportation policies and actions in support of the safe and efficient movement of vehicles for passengers, goods and services and that meet or work towards Action 5.2.6.

5.2.3 Support the ongoing efforts of the Federal Government, the Province, and the Port of Vancouver to reduce truck traffic on local roads by exploring: the more effective use of the existing multi-modal transportation network on a 24-hour basis; expanding short-sea shipping; moving more containers by rail directly from marine container terminals to transload facilities; and enhancing co-location of import and export transload facilities.

5.2.4 Advocate to the Province, TransLink, and neighbouring regional districts to request that the following elements are considered when contemplating future expansion of private vehicle capacity on major roads, highways, and crossings:

- a) transportation demand management and active transportation strategies as alternatives to, or as integral with, such capacity expansion;
- b) the negative impacts on the achievement of regional greenhouse gas emission reduction targets and air quality objectives;
- c) the negative impacts on the implementation of the regional land use framework and strategy as set out in Strategy 1.2;
- d) the long-term effects of induced demand, ongoing maintenance requirements, life-cycle costs, and opportunity costs;
- e) the negative impacts on ecosystems, as identified in Map 11; and
- f) the ability of the transportation system to withstand known unmitigated climate change impacts and natural hazards.

5.2.5 Advocate to the Federal Government and the Province to support the safe, reliable, and efficient movement of vehicles for passengers, goods, and services through:

- a) policies and regulations to protect rail rights-of-way, truck routes, transit routes, and access points to navigable waterways;
- b) policies and regulations to protect communities and habitats by mitigating air quality impacts;
- c) local government funding programs for applied research into transportation system and demand management-related technologies, policies, and regulations to optimize the low-carbon movement of vehicles for passengers, goods, and services, in particular to and from airports, ports, intermodal goods handling facilities, last mile delivery, and distribution centres for e-commerce;
- d) local government funding programs for survey instruments to obtain timely and comprehensive data on the travel patterns of residents, workers, and goods and service vehicles travelling inter- and intra-regionally; and
- e) local government funding programs and regulations to encourage the transition to zero-emissions options for medium- and heavy-duty vehicles.

Member jurisdictions will:

5.2.6 Adopt Regional Context Statements that:

- a) identify routes on a map for the safe and efficient movement of goods and service vehicles to, from, and within Urban Centres, Frequent Transit Development Areas, Major Transit Growth Corridors, Industrial, Employment and Agricultural lands, ports, airports, and international border crossings;
- b) identify land use and related policies and actions that support the optimization and safety of goods movement via roads, highways, railways, aviation, and short sea shipping;
- c) support the development of local and regional transportation system management strategies, such as the provision of information to operators of goods and service vehicles for efficient travel decisions, management of traffic flow using transit priority measures, coordinated traffic signalization, and lane management;
- d) identify policies and actions that support the protection of rail rights-of-way, truck routes, and access points to navigable waterways in order to reserve the potential for goods movement;
- e) identify policies and actions to mitigate public exposure to unhealthy levels of noise, vibration, and air pollution associated with the Major Road Network, Major Transit Network, railways, truck routes, and Federal / Provincial Highways; and



Port Coquitlam

DRAFT Metro 2050



f) identify policies and actions that anticipate the land and infrastructure requirements for goods movement and drayage, such as truck parking, zero-emission vehicle charging infrastructure, and e-commerce distribution centres, and mitigate any negative impacts of these uses on neighbourhoods.

TransLink will:

5.2.7 Support the safe and efficient movement of vehicles for passengers, goods and services in consideration of the regional land use framework and strategy, as set out in Strategy 1.2, by:

- a) managing and maintaining the Major Road Network and Regional Truck Route Network;
- b) implementing the Regional Goods Movement Strategy;
- c) preparing and implementing regional transportation system and demand management strategies; and
- d) continuing to identify viable new opportunities to create and improve active transportation and transit linkages between the region's Industrial and Employment lands and the regional labour force.

5.2.8 Support the protection of rail rights-of-way, truck routes, and access points to navigable waterways to preserve the potential for goods movement, in consideration of the potential impacts on air quality, habitat, and communities.

5.2.9 Seek to minimize negative impacts from within-and-through passenger, goods, and service vehicle movement on the environment and public health within the Lower Fraser Valley Airshed.

F. Implementation

6.1 Regional Growth Strategy Implementation Framework

6.1.1 Metro Vancouver and affected local governments will implement the regional growth strategy within a collaborative decision-making framework. This framework is based on provisions set out in the *Local Government Act* and in recognition by Metro Vancouver and affected local governments that collaborative decision-making is necessary in order to achieve the vision and goals laid out in the regional growth strategy.

The regional growth strategy has been designed so that the more regionally significant an issue, the higher the degree of regional federation involvement in decision-making, and conversely, the less regionally significant an issue, the less Metro Vancouver involvement there is. This approach is intended to provide appropriate consideration of land use planning decisions made within Metro Vancouver and member jurisdictions.

This collaborative decision-making process applies to:

- acceptance by affected local governments of the initial regional growth strategy and subsequent amendments;
- acceptance by Metro Vancouver of municipal Regional Context Statements and subsequent amendments;
- ongoing regional growth strategy and Regional Context Statement administration and procedures;
- implementation guidelines.

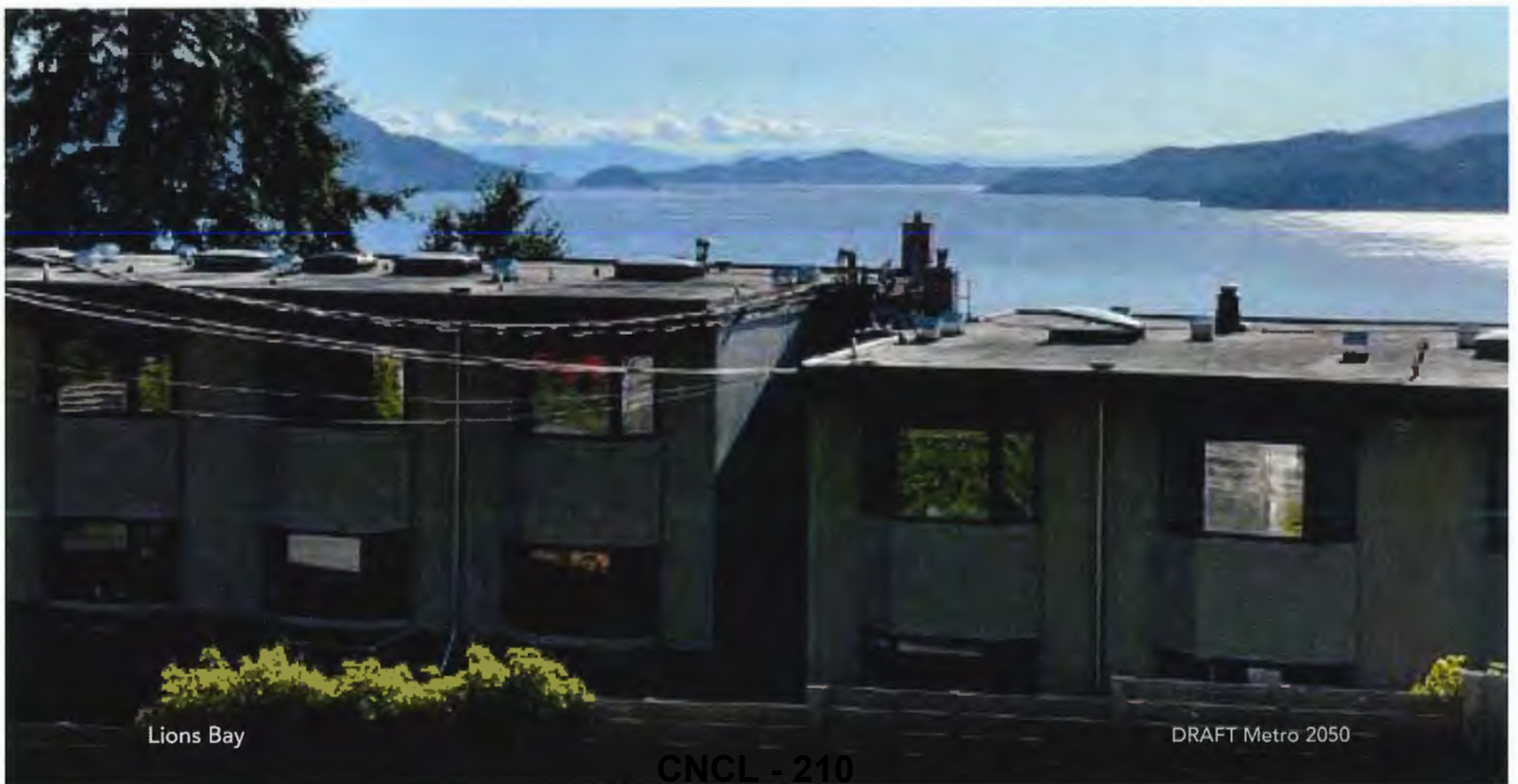


TABLE 6: REGIONAL GROWTH STRATEGY IMPLEMENTATION FRAMEWORK*

| PRINCIPLES | EXAMPLES | PROCEDURES |
|---|--|---|
| Fundamental change to core goals or strategies | Amend the goals or strategies; delete an entire goal; change the amendment process | Type 1: 50% + 1 Board vote and acceptance by all affected local governments |
| Region-wide significance for non-urban designations | Change Urban Containment Boundary or Agricultural designation | Type 2: 2/3 Board vote |
| Region-wide significance for urban designations | Large scale Industrial area designation change | Type 3: 50% + 1 Board vote |
| Small scale urban designation changes | Small scale Industrial area designation change, changes to Urban Centre boundaries | Official Community Plan change only, no requirement to amend Regional Context Statement |
| Local planning matter with no regional significance | Rezoning consistent with Official Community Plan | Official Community Plan matters, no Regional Context Statement reference required |

*Table 6 for reference only

6.2 Regional Context Statements

6.2.1 Within two years of the Metro Vancouver Regional District (MVRD) Board's adoption of a regional growth strategy or of a Type 1 amendment, each member jurisdiction must include, or update, in its Official Community Plan, and submit to the MVRD Board for acceptance, a Regional Context Statement. A member jurisdiction will submit its Regional Context Statement to the MVRD Board for acceptance after the member jurisdiction holds its public hearing and subsequent reading relating to its Official Community Plan bylaw amendment.

FIGURE 5: RELATIONSHIP BETWEEN THE REGIONAL GROWTH STRATEGY AND OFFICIAL COMMUNITY PLANS

Each member jurisdiction prepares an updated Official Community Plan (OCP) and Regional Context Statement (RCS) within two years of the adoption of a new regional growth strategy or a Type 1 Amendment. The RCS sets out the relationship between the regional growth strategy and the member jurisdiction's OCP, and identifies how local actions will contribute to achieving regional growth strategy goals. Member jurisdictions must submit their RCS to the Metro Vancouver Board for acceptance.

Contents of Regional Context Statement

6.2.2 The Regional Context Statement must identify the relationship between an Official Community Plan and the goals, strategies, and actions identified in the regional growth strategy. If applicable, the Regional Context Statement will identify how the Official Community Plan will be made consistent with the regional growth strategy over time. Regional Context Statements that propose to add or delete Frequent Transit Development Areas must be accompanied by written comments from TransLink.

Regional Context Statement Process

6.2.3 If a member jurisdiction proposes an amendment to a Regional Context Statement, it must submit to Metro Vancouver a council resolution, including an accompanying report, that sets out the member jurisdiction's proposed amendment(s).

6.2.4 If a member jurisdiction anticipates that its proposed Regional Context Statement, or amendment to its Regional Context Statement, will not be accepted by the Metro Vancouver Regional District Board because it is not generally consistent with the regional growth strategy, the member jurisdiction should submit a proposed amendment to the regional growth strategy. The procedure for amendments to the regional growth strategy is set out in section 6.4.

6.2.5 The Metro Vancouver Regional District (MVRD) Board will respond within 120 days of receiving a Regional Context Statement from a member jurisdiction by council resolution, indicating whether it accepts the Regional Context Statement. If the MVRD Board does not accept a Regional Context Statement, the Board will indicate the provisions to which it objects and the reasons for its objections.

Consistency with Regional Growth Strategy

6.2.6 In considering acceptance of Regional Context Statements, the Metro Vancouver Regional District Board's expectation is that acceptable Regional Context Statements are generally consistent with the regional growth strategy's goals, strategies, actions and the regional land use designations depicted on Map 2. Regional Context Statements should respond to all applicable policies in the regional growth strategy, and indicate how the Official Community Plan is generally consistent (including projections, maps, and specific policy language) or how it will be made consistent over time.

Providing for Appropriate Municipal Flexibility

6.2.7 A member jurisdiction may include language in its Regional Context Statement that permits amendments to the municipality's Official Community Plan to adjust the boundaries of regional land use designations within the Urban Containment Boundary, as follows:

a) the member jurisdiction may re-designate land from one regional land use designation to another regional land use designation, only if the aggregate area of all proximate sites so re-designated does not exceed one hectare;

b) notwithstanding section 6.2.7 (a), for sites that are greater than one hectare and less than three (3) hectares in area, the member jurisdiction may re-designate land:

- from Industrial to General Urban regional land use designation, if the site is contiguous with an Industrial site and the developable portion of the site will be predominantly within 150 metres of an existing or approved rail rapid transit station; or

provided that:

- the re-designation does not impede rail, waterway, road, or highway access for industrial uses; and
- the aggregate area of all proximate sites so re-designated does not exceed three (3) hectares;

c) the aggregate area of land affected by all re-designations under section 6.2.7 (a) and (b) together cannot exceed two (2) percent of the member jurisdiction's total lands within each applicable regional land use designation as of July 29, 2011.

6.2.8 A member jurisdiction may include language in its Regional Context Statement that permits amendments to its Official Community Plan to adjust the boundaries of Urban Centres and Frequent Transit Development Areas, provided such boundary adjustments meet the guidelines set out in Table 3 (Guidelines for Urban Centres and Frequent Transit Development Areas) of the regional growth strategy.

6.2.9 Member jurisdictions will notify Metro Vancouver, in writing, of any and all adjustments, as permitted by sections 6.2.7 and 6.2.8, within thirty (30) days after the member jurisdiction has adopted its Official Community Plan amendment bylaw.

6.2.10 If a member jurisdiction includes language in its Regional Context Statement that permits amendments to its Official Community Plan to adjust the boundaries of regional land use designations within the Urban Containment Boundary or the boundaries of Urban Centres and Frequent Transit Development Areas, as permitted by sections 6.2.7 and 6.2.8 respectively, the prescribed adjustments do not require a new Regional Context Statement or consideration by the Metro Vancouver Regional District (MVRD) Board. All other adjustments to regional land use designation boundaries require an amendment to the member jurisdiction's Regional Context Statement, which must be submitted to the MVRD for acceptance in accordance with the requirements of the *Local Government Act*.

6.3 Categories of Regional Growth Strategy Amendments

Type 1 Amendments to the Regional Growth Strategy

6.3.1 The following Type 1 amendments to the regional growth strategy require an affirmative 50%+1 weighted vote of the Metro Vancouver Regional District Board and acceptance by all affected local governments in accordance with section 436 of the *Local Government Act*:

- a) the addition or deletion of regional growth strategy goals or strategies;
- b) an amendment to the process for making minor amendments to the regional growth strategy, which is specified in sections 6.3.3 and 6.3.4; and

c) the matters specified in section 437 (4) of the *Local Government Act*.

6.3.2 All amendments to the regional growth strategy other than the amendments specified in section 6.3.1 are minor amendments (Type 2 and Type 3) for the purposes of section 437 (2) of the *Local Government Act*.

Type 2 Amendments to the Regional Growth Strategy

6.3.3 The following Type 2 amendments require an affirmative two-thirds weighted vote of the Metro Vancouver Regional District Board:

- a) amendment to the Urban Containment Boundary;
- b) amendment of Agricultural or Conservation and Recreation regional land use designations, except as set out in section 6.3.4 (e), (f) and (g);
- c) amendment from Rural to Industrial, Employment, or General Urban regional land use designations;

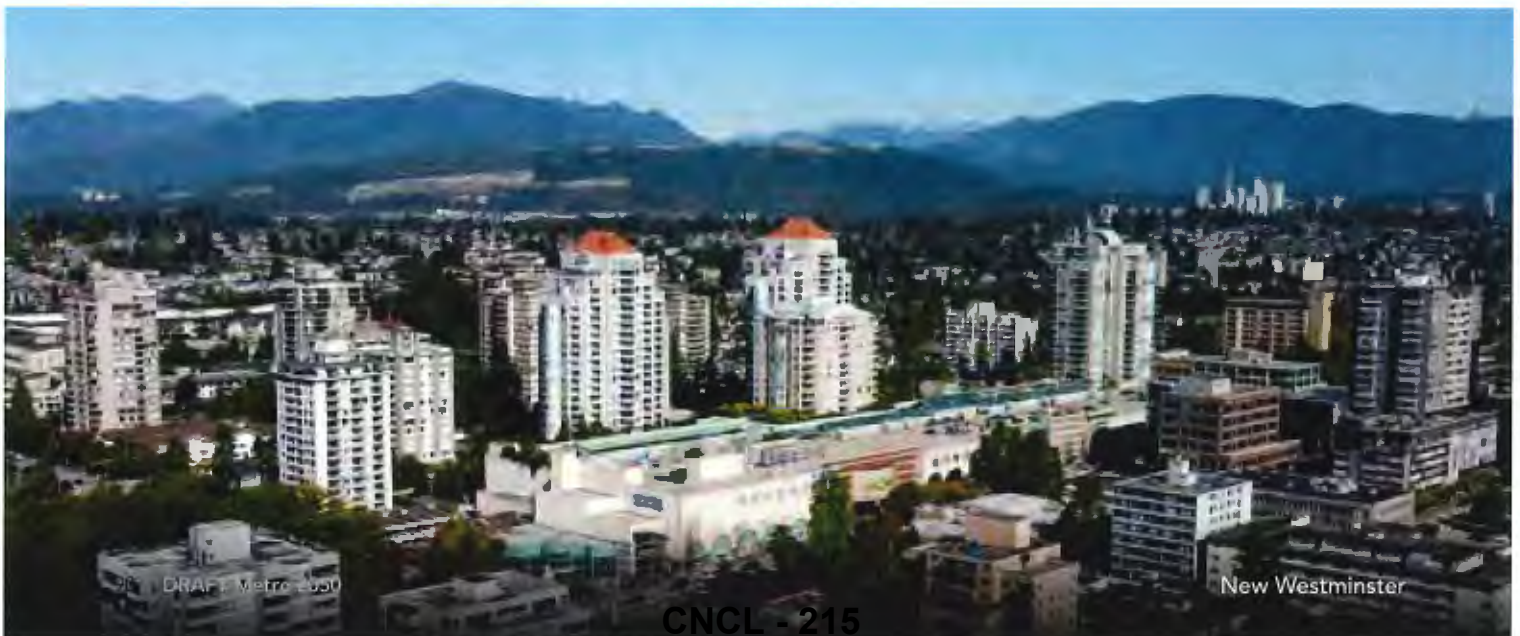
d) amendment of sites located outside the Urban Containment Boundary from Employment to a General Urban regional land use designation;

- e) the addition or deletion of an Urban Centre; and
- f) the addition or deletion of, or amendment to, the descriptions of the regional land use designations or actions listed under each strategy.

Type 3 Amendments to the Regional Growth Strategy

6.3.4 The following Type 3 amendments require an affirmative 50% + 1 weighted vote of the Metro Vancouver Regional District Board:

- a) the addition or deletion of a Frequent Transit Development Area;
- b) for sites within the Urban Containment Boundary, amendments from Industrial, Employment, or General Urban to any other such regional land use designation(s);
- c) amendment from Industrial, Employment, or General Urban to Rural, Agricultural, or Conservation and Recreation regional land use designations;
- d) amendment from Rural to Agricultural or Conservation and Recreation regional land use designation;
- e) amendment from Conservation and Recreation to Agricultural regional land use designation;
- f) for sites that are contiguous with, or within, the Urban Containment Boundary, and are not within the Agricultural Land Reserve and subject to the *Agricultural Land Commission Act*, amendment from Agricultural or Rural to Industrial regional land use designation, and associated Urban Containment Boundary adjustments;
- g) for sites that are identified as Special Study Areas on Map 12, an amendment to another regional land use designation and associated Urban Containment Boundary adjustments;
- h) removal of the Trade-Oriented Lands overlay from parcels with an Industrial regional land use designation;
- i) housekeeping amendments to figures, tables or maps, performance measures or other items related to document structure that do not alter the intent of the regional growth strategy;
- j) amendments to mapping to incorporate maps included in accepted Regional Context Statements;
- k) the reclassification of a Frequent Transit Development Area to an Urban Centre, or reclassification of an Urban Centre type to another Urban Centre type;
- l) an amendment to the Major Transit Growth Corridors; and
- m) all other amendments not identified in sections 6.3.1 or 6.3.3.



6.4 Procedures for Regional Growth Strategy Amendments

Who Can Apply for an Amendment

6.4.1 The process to initiate amendments to the regional growth strategy is by resolution of the Metro Vancouver Regional District (MVRD) Board. Member jurisdictions may, by resolution, request amendments. The MVRD Board will not give first reading to an amendment bylaw which proposes to change a regional land use designation or Urban Containment Boundary unless or until the member jurisdiction or jurisdictions in which the subject site is located have requested that amendment or have been given the opportunity to formally comment on the proposed amendment.

Notification and Request for Comments

6.4.2 For all proposed amendments to the regional growth strategy the Metro Vancouver Regional District (MVRD) Board will:

- a) provide written notice of the proposed amendment to all affected local governments;
- b) provide a minimum of forty-five (45) days from the date of the notice for affected local governments, and the appropriate agencies, to respond to the proposed amendment;
- c) post notification of the proposed amendment on the MVRD website, for a minimum of forty-five (45) days from the date of the notice;

d) if the proposed amendment is to change a site from Industrial or Employment to General Urban regional land use designation, provide written notice and a minimum of forty-five (45) days from the date of the notice for the Port of Vancouver, the Vancouver International Airport Authority, the Ministry of Transportation and Infrastructure and/or the Agricultural Land Commission, as appropriate, to respond to the proposed amendment.

Procedures for Type 1 Amendments

6.4.3 For Type 1 amendments to the regional growth strategy set out in section 6.3.1, the procedures set out in section 436 of the *Local Government Act* apply.

Procedures for Type 2 Amendments

6.4.4 For Type 2 amendments to the regional growth strategy set out in section 6.3.3, the Metro Vancouver Regional District (MVRD) Board will:

- a) consider first, second, and third reading of the amendment bylaw;
- b) provided the amendment bylaw receives an affirmative two-thirds weighted vote of the MVRD Board at first, second, and third readings, refer for comment the proposed amendment to the regional growth strategy to all affected local governments, in accordance with the requirements set out in section 6.4.2;

c) provide public engagement opportunities that may include:

- notification of the proposed amendments on the Metro Vancouver website;
- requesting written comments by way of a comment form on the Metro Vancouver website;
- opportunities for the public to appear as a delegation to the Regional Planning Committee or the MVRD Board when the amendment is being considered;
- conveyance of comments submitted from the respective local public hearing to the MVRD Board, and
- hosting a public information meeting (digitally or in person).

d) receive the comments from the notification and referral for comments process set out in section 6.4.2, and consider final reading and adoption of the amendment bylaw, which must receive at least a two-thirds weighted vote of the MVRD Board.

Procedures for Type 3 Amendments

6.4.5 For Type 3 amendments to the regional growth strategy set out in section 6.3.4, the Metro Vancouver Regional District (MVRD) Board will:

- a) consider first, second, and third reading of the amendment bylaw;
- b) provided the amendment bylaw receives an affirmative majority weighted vote of the MVRD Board at each of the first, second, and third readings, notify and refer for comment the proposed amendment to the regional growth strategy to all affected local governments, in accordance with the requirements set out in section 6.4.2;
- c) consider final adoption of the amendment bylaw and, provided the amendment bylaw receives an affirmative simple majority weighted vote of the MVRD Board, adopt the amendment bylaw.

6.5 Coordination with First Nations

6.5.1 Metro Vancouver will work with First Nations to facilitate the compatibility of the regional growth strategy and First Nations' planning and development initiatives.

6.5.2 A land use plan prepared by Tsawwassen First Nation will include a statement equivalent to a Regional Context Statement as defined in the *Local Government Act*, identifying how the Nation's land use plan is consistent with the regional growth strategy.

6.6 Coordination with TransLink

6.6.1 Metro Vancouver will work with TransLink with the objective that the regional growth strategy and TransLink's regional transportation plans are compatible and complementary. Metro Vancouver will refer to TransLink for written comments on proposed Regional Context Statements that would impact the regional transportation system or significantly affect the demand for regional transportation services.

6.6.2 As an affected local government, TransLink is required to consider acceptance of the regional growth strategy and any proposed Type 1 amendments, as set out in section 6.3.1.

6.6.3 TransLink is mandated to provide a regional transportation system that is consistent and supportive of the regional growth strategy, and its associated goals, objectives, land use designations, overlays, and policies. *The South Coast British Columbia Transportation Authority Act* also requires TransLink to: review the regional growth strategy and any amendments to it and advise Metro Vancouver of the implications for the Regional Transportation Strategy, and prepare regional transportation investment plans that set out the relationships between major actions and the regional growth strategy.

6.7 Coordination with Other Governments and Agencies

6.7.1 Metro Vancouver will work with the Fraser Valley Regional District, the Squamish-Lillooet Regional District, and the Islands Trust (regarding Bowen, Bowyer, and Passage Islands) to facilitate the compatibility of regional planning and growth management initiatives in Metro Vancouver and these neighbouring jurisdictions.

6.7.2 Metro Vancouver will collaborate with the Federal Government and the Province on major investments in the regional transportation system, expansion of diverse and affordable housing options, and the location of public facilities that support the goals and strategies specified in the regional growth strategy. Metro Vancouver will seek formal Implementation Agreements with these agencies to give effect to that intent.



White Rock

6.8 Coordination with Metro Vancouver / Greater Vancouver Boards

6.8.1 All bylaws adopted and all works and services undertaken by Metro Vancouver Regional District, the Greater Vancouver Water District, or the Greater Vancouver Sewerage and Drainage District must be consistent with the regional growth strategy.

The Greater Vancouver Sewerage and Drainage District and the Greater Vancouver Water District will not directly or indirectly supply, agree to supply, or authorize connections that enable the supply of services to a site that is developed or proposed to be developed after the date of adoption of the regional growth strategy where the nature of that development is, in the sole judgment of the Metro Vancouver Regional District Board, inconsistent with the provisions of the regional growth strategy.

6.8.2 For further clarity, sites within the Urban Containment Boundary that are designated General Urban, Industrial, or Employment, would be eligible for sewerage services, subject to normal Greater Vancouver Sewerage and Drainage District technical considerations, provided that the proposed development complies with the applicable policies under those designations and any such Urban Centre and Frequent Transit Development Area overlays that might apply.

6.8.3 For lands with a Rural, Agricultural, or Conservation and Recreation regional land use designation, sections 1.1.1, 1.4.1, 2.3.1, and 3.1.1 apply regardless of whether the area is within one of the Greater Vancouver Sewerage and Drainage District's sewerage areas.

With reference to sections 1.1.1, 1.4.1, 2.3.1, and 3.1.1, in determining whether, in the circumstances, connection to regional sewerage services is the only reasonable means of preventing or alleviating a public health or environmental contamination risk, the Metro Vancouver Regional District (MVRD) Board will consider the opinion of a professional, as such term is defined in the Sewerage System Regulation pursuant to the *Public Health Act* (British Columbia), or if appropriate a qualified professional, as such term is defined in Municipal Wastewater Regulation 87/2012 pursuant to the *Environmental Management Act* (British Columbia), submitted by the member jurisdiction as to the technical and economic feasibility of installing and maintaining a private on-site sewage treatment system in accordance with all laws and regulations applicable in British Columbia. The MVRD Board may also obtain its own opinion from a professional and consider such opinion.

6.9 Sewerage Area Extensions

6.9.1 Notwithstanding any other provision in the regional growth strategy, within the areas identified on Map 12 in the Township of Langley as "Rural within the Sewerage Area", which includes part of the Salmon River Uplands that is contained within the Greater Vancouver Sewerage and Drainage District's Fraser Sewerage Area, and within the area identified as "Sewerage Extension Areas", regional sewer servicing will be permitted subject only to the land uses being consistent with the applicable regional land use designation and normal Greater Vancouver Sewerage and Drainage District technical considerations.

6.9.2 All connections to regional sewerage services approved by the Greater Vancouver Sewerage and Drainage District (GVS&DD) Board as per sections 1.1.1, 1.4.1, 2.3.1, and 3.1.1 will be contained within a sewerage area footprint boundary as determined by the Metro Vancouver Regional District (MVRD) and GVS&DD Boards. Any sewerage service connection outside of that boundary will require MVRD Board and GVS&DD Board approval.

6.10 Special Study Areas

6.10.1 Special Study Areas as depicted on Map 12 identify locations where, prior to the adoption of *Regional Growth Strategy Bylaw No. 1136*, on July 29, 2011, a member jurisdiction had expressed an intention to alter the existing land use, and is anticipating a future regional land use designation amendment. Pending Metro Vancouver Regional District Board approval of a regional land use designation amendment, the current regional land use designation(s) applies within the Special Study Area. Amending a regional land use designation within a Special Study Area is considered a Type 3 amendment under section 6.3.4 of the regional growth strategy.

This includes any associated adjustment(s) to the Urban Containment Boundary for a Special Study Area. As part of any amendment establishing a change in regional land use designation, the Special Study Area boundaries for those amended lands will be removed from the regional growth strategy.

6.10.2 If the Special Study Area involves lands within the Agricultural Land Reserve, the member jurisdiction is required to consult with the Agricultural Land Commission during the preparation of the planning studies prior to initiating an application to exclude the lands from the Agricultural Land Reserve.

6.11 Jurisdiction

6.11.1 The regional growth strategy applies to all lands within the boundaries and jurisdiction of the Metro Vancouver Regional District.

6.11.2 In accordance with the *Agricultural Land Commission Act*, in the event that there is an inconsistency between the regional land use designations or policies set out in the regional growth strategy and the requirements of the *Agricultural Land Commission Act* or regulations and orders made pursuant thereto, the Agricultural Land Commission requirements will prevail.



6.12 Regional Growth Strategy Maps

6.12.1 The maps contained in the regional growth strategy are small scale depictions of the official regional land use designation maps and have been included for convenience purposes only. The official regional land use designation maps, the Sensitive Ecosystems Inventory map, and the Major Transit Growth Corridor map are maintained by Metro Vancouver and available for viewing on the Metro Vancouver website, and will be updated to incorporate changes to designation boundaries that result from adopted regional growth strategy amendment bylaws. TransLink owns and maintains the official Major Transit Network map on its website.

6.12.2 Where a regional land use designation boundary does not align with a property or parcel legal boundary, the Agricultural Land Reserve boundary, a member jurisdiction Official Community Plan or zoning boundary, or a distinct geographic or natural feature, the regional land use designation boundary will be considered approximate, and the boundary depicted in the respective accepted Regional Context Statement will prevail.

6.12.3 The boundaries of Urban Centres, Frequent Transit Development Areas, and Trade-Oriented Lands are to be defined by member jurisdictions in Official Community Plans, Neighbourhood or Area Plans, or equivalent, and shown in Regional Context Statements. Where member jurisdictions amend the boundaries of Urban Centres, Frequent Transit Development Areas, or Trade-Oriented Lands, and, in accordance with section 6.2.8, have not changed their Regional Context Statement, member jurisdictions will notify Metro Vancouver, in writing, within thirty (30) days.

6.12.4 The boundaries for Special Study Areas depicted on Map 12 are not to be expanded nor are new areas to be created. A Type 3 amendment to Map 12 is only permitted to delete Special Study Areas and may occur after the regional growth strategy has been amended to change the regional land use designation of the Special Study Area or when a member jurisdiction decides to eliminate a Special Study Area.

6.13 Tables, Figures and Performance Measures

6.13.1 Tables 1 and 2 showing growth projections and dwelling unit and employment growth targets for Metro Vancouver and member jurisdictions are included in the strategy as guidelines only. These tables are included in the regional growth strategy as a reference for use when preparing Regional Context Statements and regional planning initiatives. Metro Vancouver, in collaboration with member jurisdictions, will maintain projections to monitor growth and will propose updates to tables in accordance with the amendment process set out in section 6.3.4 following Metro Vancouver Regional District Board acceptance of Regional Context Statements or a significant change in the growth projections assumptions.

6.13.2 The following figures and maps in the regional growth strategy are included as reference only: Table 6; Figures 1, 2, 3, 4, 5; Maps 1, 10, and 11.

6.13.3 Pursuant to the *Local Government Act*, Metro Vancouver will prepare an annual report on progress in meeting the goals of the regional growth strategy through the monitoring of the performance measures identified in the Performance Measures section and in meeting other targets set out in the regional growth strategy.

6.14 Interpretation

6.14.1 All terms used in the regional growth strategy that are defined in the *Local Government Act* have the meanings given to such terms in the *Local Government Act*.

6.14.2 For terms not addressed in 6.14.1, a Glossary of Terms is provided and will be used to define terms used in *Metro 2050*.

6.14.3 In the case of the Electoral Area A, a Regional Context Statement is not required, but the policy actions listed for member jurisdictions should be addressed in the Electoral Area A Official Community Plan, as applicable.

6.15 Implementation Guidelines

6.15.1 Metro Vancouver may periodically prepare Implementation Guidelines to assist in the implementation of the regional growth strategy, to be prepared in collaboration with member jurisdictions. These guidelines should be read in conjunction with the regional growth strategy, and do not replace or supersede the content and requirements of the regional growth strategy.



G. Performance Monitoring

Performance monitoring allows for the informed review and update of the regional growth strategy as required. Metro Vancouver will produce annual reports on implementation of the regional growth strategy and progress towards its goals using the following performance measures.

Regional land use designations

- Total and cumulative change in hectares of land in each of the six regional land use designations

Goal 1: Create a Compact Urban Area

Urban Containment

- Total and cumulative change in hectares of land in the Urban Containment Boundary
- Percent of regional dwelling unit growth located within the Urban Containment Boundary
- Number and status of new regional sewerage service connection applications made for areas outside of the Urban Containment Boundary (UCB) to lands with an Agricultural, Rural, or Conservation and Recreation regional designation
- Change in hectares of greenfield lands within the Urban Containment Boundary that have a General Urban regional land use designation.

Growth in Priority Areas

- Percent of regional dwelling unit growth located in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors
- Change in people plus jobs per hectare in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors

Complete Communities and Health

- A walkability index composed of, land use mix, commercial floor area ratio, intersection density, residential density, and sidewalk completeness
- Total and change in number of community services and amenities in Urban Centres and Frequent Transit Development Areas, including, but not limited to, child care, green space and land use mix

Goal 2: Support a Sustainable Economy

Employment in Priority Areas

- Percent of regional employment growth located in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors
- Total and change in employment by sector in Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors
- Change in office floor area within Urban Centres, Frequent Transit Development Areas, and Major Transit Growth Corridors

Agricultural Lands

- Percent of land in the Agricultural Land Reserve that is actively farmed

Employment Accessibility

- Average number of kilometres travelled for commute (region-wide)
- Average number of minutes travelled for commute (region-wide)
- Average trip length by transportation mode (region-wide)

Industrial and Employment Lands

- Total and cumulative change in hectares of land designated Industrial and Employment that is developed and vacant

Goal 3: Protect the Environment and Respond to Climate Change and Natural Hazards

Ecosystem Health

- Change in hectares of land protected for nature across the region
- Change in the percentage of regional total tree canopy cover within the Urban Containment Boundary
- Change in hectares of land identified as a Sensitive or Modified Ecosystem
- Change in hectares of identified Sensitive and Modified Ecosystems rated high quality

Greenhouse Gas Emission Reduction

- Total and change in tonnes of regional greenhouse gas emissions related to land use, buildings, industry, agriculture, waste, transportation, and other emission sources in support of the regional target to reduce greenhouse gas emissions by 45% below 2010 levels by the year 2030 and to achieve a carbon neutral region by the year 2050
- Tonnes of carbon storage in natural areas including lands with Rural, Conservation and Recreation, and Agricultural regional land use designations

Goal 4: Provide Diverse and Affordable Housing Choices

- Percentage of affordable rental housing in new and redeveloped units in Urban Centres and Frequent Transit Development Areas
- Percentage of household income spent on housing and transportation expenses across the region and by tenure and income level

Goal 5: Support Sustainable Transportation Choices

Travel Mode Choices

- Total and change in trips by transportation mode
- Percent of residents within walking distance of the Major Transit Network
- Total and per-capita change in the number of actively insured vehicles

Road and Vehicle Use and Safety

- Total and per-capita change in annual vehicle kilometres travelled by transportation mode



H. Glossary of Terms

METRO 2050 GLOSSARY

The following terms used in the regional growth strategy are defined as follows:

Affected Local Governments - Metro Vancouver Regional District member jurisdictions (excluding Bowen Island Municipality), Squamish-Lillooet Regional District, Fraser Valley Regional District, and the South Coast British Columbia Transportation Authority (also known as TransLink).

Affordable Housing - For the purpose of *Metro 2050*, "Affordable Housing" is housing that is affordable to households earning up to 120% of the Regional Median Household Income. In Canada, a general measure of housing affordability is the shelter-cost-to-income ratio, where no more than 30% of a household's gross income is spent on housing (including all housing-related costs like utilities).

Air Contaminant - Any substance that is introduced into the air that: injures or is capable of injuring the health or safety of a person; injures or is capable of injuring property or any life form; interferes or is capable of interfering with visibility; interferes or is capable of interfering with the normal conduct of business; causes or is capable of causing material physical discomfort to a person; or damages or is capable of damaging the environment.

Carbon Neutral Region - A region that generates no net greenhouse gas emissions. This is achieved by any greenhouse gas emissions across all economic sectors being balanced out by the removal of carbon dioxide from the atmosphere by the plants, trees, and soil of the region, or through technological means.

Carbon Storage - The total amount of carbon stored in ecosystems such as forests, wetlands and intertidal areas, which often takes thousands of years to accumulate. A conservative estimate of the total carbon stored in the vegetation and soils of the region's ecosystems is 65 million tonnes. This estimate is derived from Metro Vancouver's regional carbon storage dataset and applies to the full extents of the watersheds that supply the Metro Vancouver region's drinking water, along with estuarine and intertidal areas.

Climate Change Impacts - The consequences of realized climate change risks on ecosystems, economies, infrastructure, and communities.

Dwelling Unit - For the purposes of *Metro 2050*, the term "Dwelling Unit" is used as a short-form for "private dwelling that is occupied by usual residents" and is measured using Census household data.

Ecosystem Connectivity - The physical and functional links between ecosystems that support biodiversity by allowing the movement of species within and between ecosystems. Ecosystem connectivity is achieved by conserving and maintaining a connected network of natural and urban ecosystems.

Ecosystem Fragmentation - The process of ecosystems being divided into smaller and isolated patches of land thereby reducing ecosystem integrity.

Ecosystem Integrity - The ability of an ecosystem to support diverse communities of organisms and maintain ecological processes (e.g. water, carbon, and nutrient cycling).

Ecosystem Services - The benefits people obtain from ecosystems. These services can be grouped into four main types: supporting, provisioning, cultural, and regulating.

Embodied Emissions - The greenhouse gas emissions associated with the construction of goods and products, including the raw materials, manufacture, and the transport of the good or product to where it is sold.

Green Infrastructure - The natural, enhanced, and engineered assets that collectively provide society with ecosystem services. Natural assets (e.g. forests, wetlands, and soil), enhanced assets (e.g. urban trees, and bioswales), and engineered systems (e.g. green roofs and permeable pavement) improve resilience and mitigate negative environmental impacts from urban development, benefiting both people and ecosystems.

Low Impact Development - Development that works with nature to: manage stormwater quantity and quality by preserving trees and other natural features where possible; support ecosystem connectivity; minimizes impervious surfaces; and create dispersed multi-functional landscapes that minimize pollutant runoff, the need for stormwater infrastructure, and extreme flooding and heat events.

Lower Income Households - Households earning less than 80% of the Regional Median Household Income.

Member Jurisdictions - Metro Vancouver Regional District member municipalities, Tsawwassen First Nation, and Electoral Area A.

Natural Hazards - Naturally occurring phenomena that may cause loss of life, injury or other health impacts, property damage, social, and economic disruption or environmental degradation. Examples of natural hazards affecting the Metro Vancouver region include earthquakes, landslides, floods, and wildfires. Many natural hazards are worsened by climate change.

Official Community Plan - As defined by the British Columbia *Local Government Act*, or land use plan equivalent in the case of the City of Vancouver, Tsawwassen First Nation, and Electoral Area A.

Province - The Government of British Columbia, including its ministries and agencies.

Regional Context Statement - As described by the British Columbia *Local Government Act*, the linking document that demonstrates the relationship between an Official Community Plan and the regional growth strategy and, if applicable, how the Official Community Plan is to be made consistent with the regional growth strategy over time. A Regional Context Statement and the rest of the Official Community Plan must be consistent.

Regional Median Household Income - The median total household income of all households living in the Metro Vancouver region based on Census data. As defined by Statistics Canada, the median divides the region's households into two equal groups: half having an income above that amount, and half having an income below that amount. It differs from the mean (or average) income.

Resilience - The capacity to prepare for, avoid, absorb, recover, and adapt to the effects of shocks and stresses in an efficient manner through the preservation, restoration, and adaptation of essential services and functions.

Risk - A combined function of the probability of a hazard occurring and the magnitude or severity of its potential consequences (i.e. injury, damage, loss of habitat etc.).

Sensitive Ecosystem Inventory - An inventory of the region's most ecologically important areas mapped using provincial methodology. It does not include small, young, significantly disturbed, farmed or landscaped vegetation (e.g. young forests <5 hectares, crop or fallow land, enhanced or engineered assets, backyards and street trees). The inventory includes sensitive ecosystems and modified ecosystems, as follows:

- **Sensitive Ecosystems** - are ecologically fragile, rare or at-risk ecosystems such as wetlands, forests, and riparian areas.
- **Modified Ecosystems** - include young forests (30-80 years old) and freshwater reservoirs, that have experienced some human alteration, but still provide ecosystem services and remain important for biodiversity. In many cases, modified ecosystems are essential to maintaining ecosystem connectivity in highly fragmented landscapes where sensitive ecosystems have been lost.

Social Equity - The promotion of fairness and the removal of systemic barriers that may cause or aggravate disparities experienced by different groups of people. This can include the many dimensions of identity, such as socioeconomic status, ethnicity, race, sex, age, disability, gender, sexuality, religion, indigeneity, class, and other equity related issues.

Transit-Oriented - Areas located in close proximity to transit (generally within 800 m). Distances over 800 m from rapid transit stations may also be considered within the context of the area.

Transportation Demand Management - Measures that seek to reduce the overall amount of driving, particularly for single-occupant vehicle trips, through strategies aimed at deterring driving (e.g. priced parking) or promoting alternative modes of transportation (e.g. providing free bike parking).

Map 1: Metro Vancouver Region

I. Maps



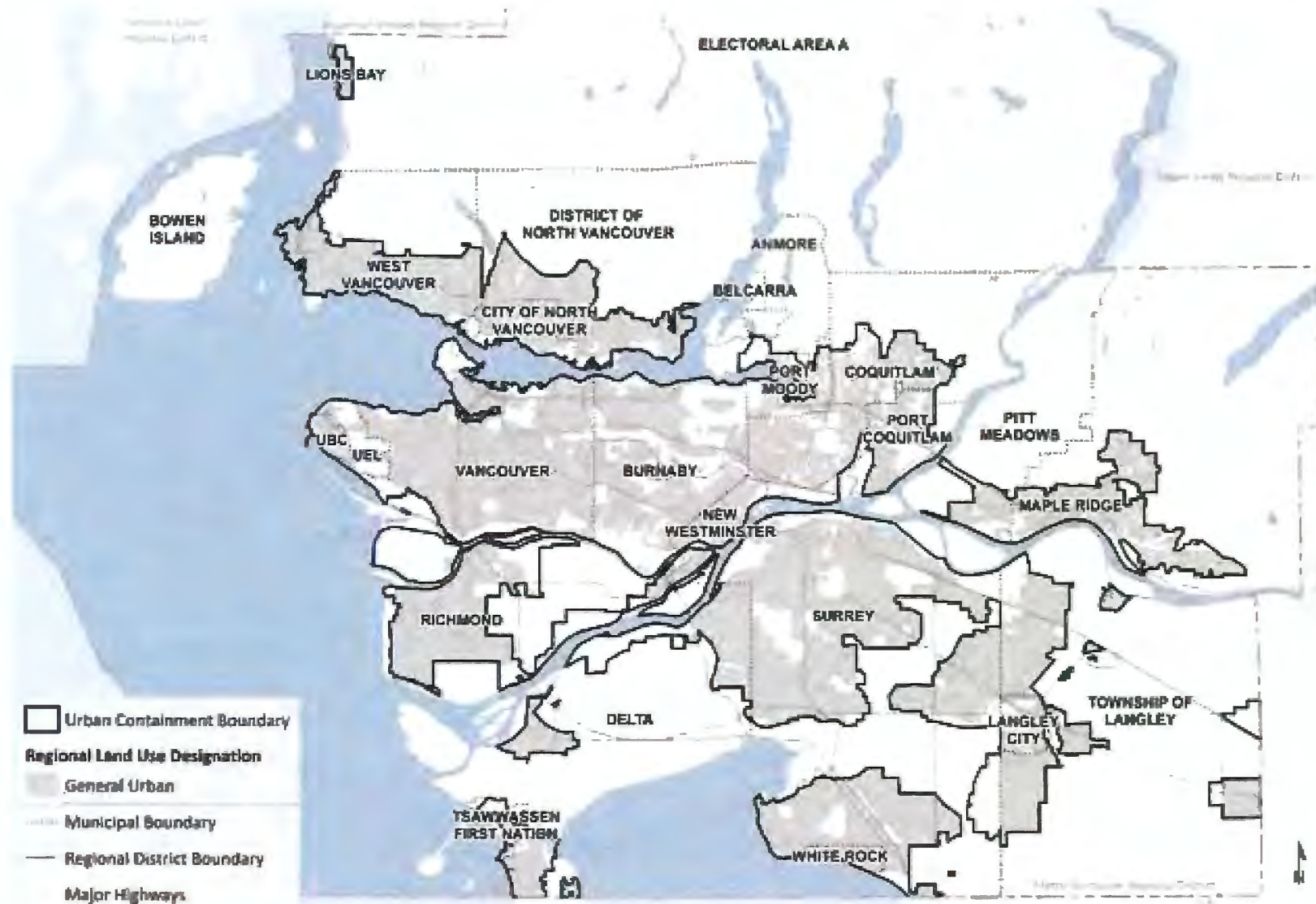
Map for reference only.

Map 2: Regional Land Use Designations

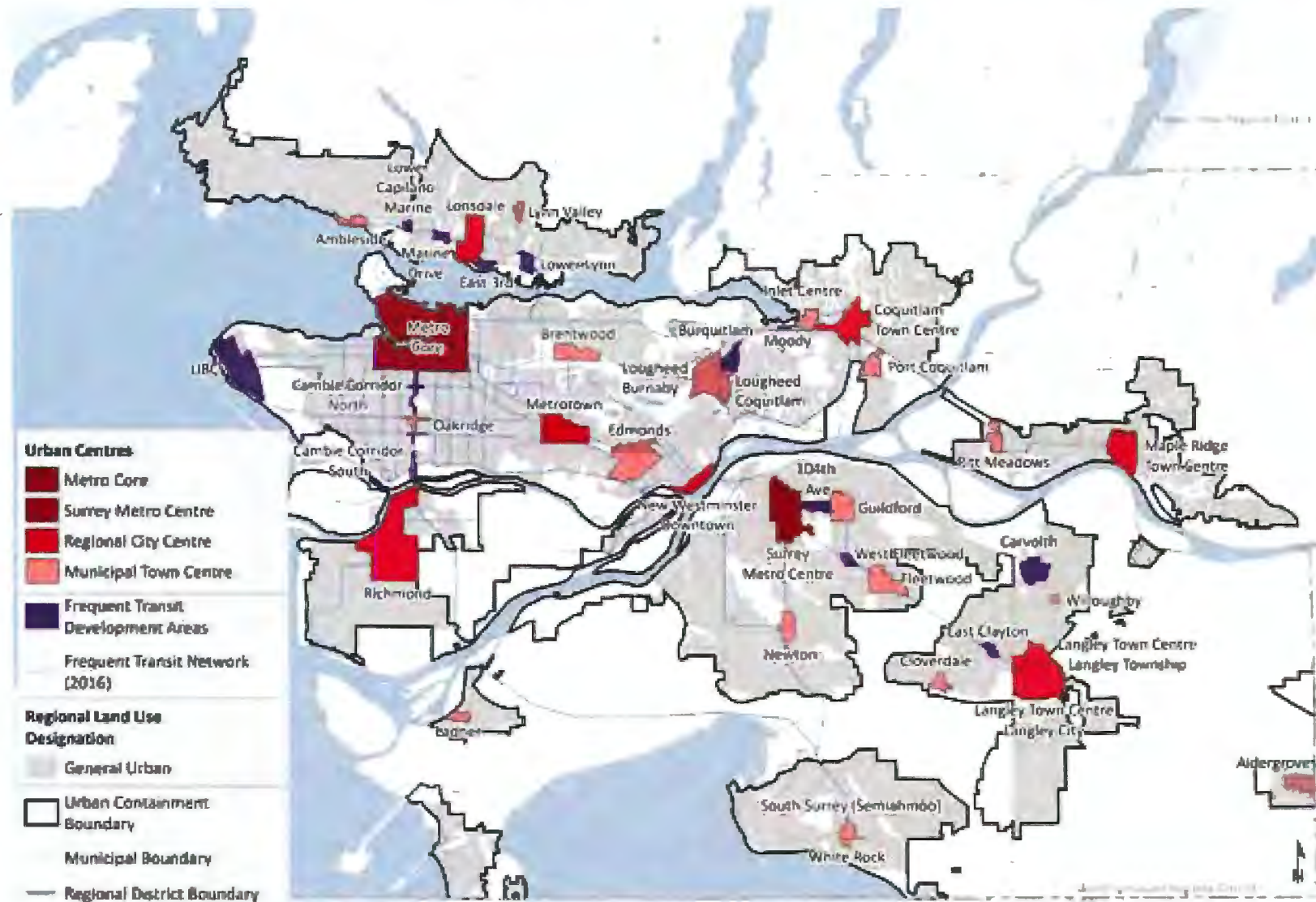


This map is a small scale depiction of the Regional Land Use Designation Map that Metro Vancouver maintains as the basis for defining land use designation boundaries. The official Regional Land Use Designation Map can be viewed on the Metro Vancouver website.

Map 3: Urban Containment Boundary and General Urban Lands

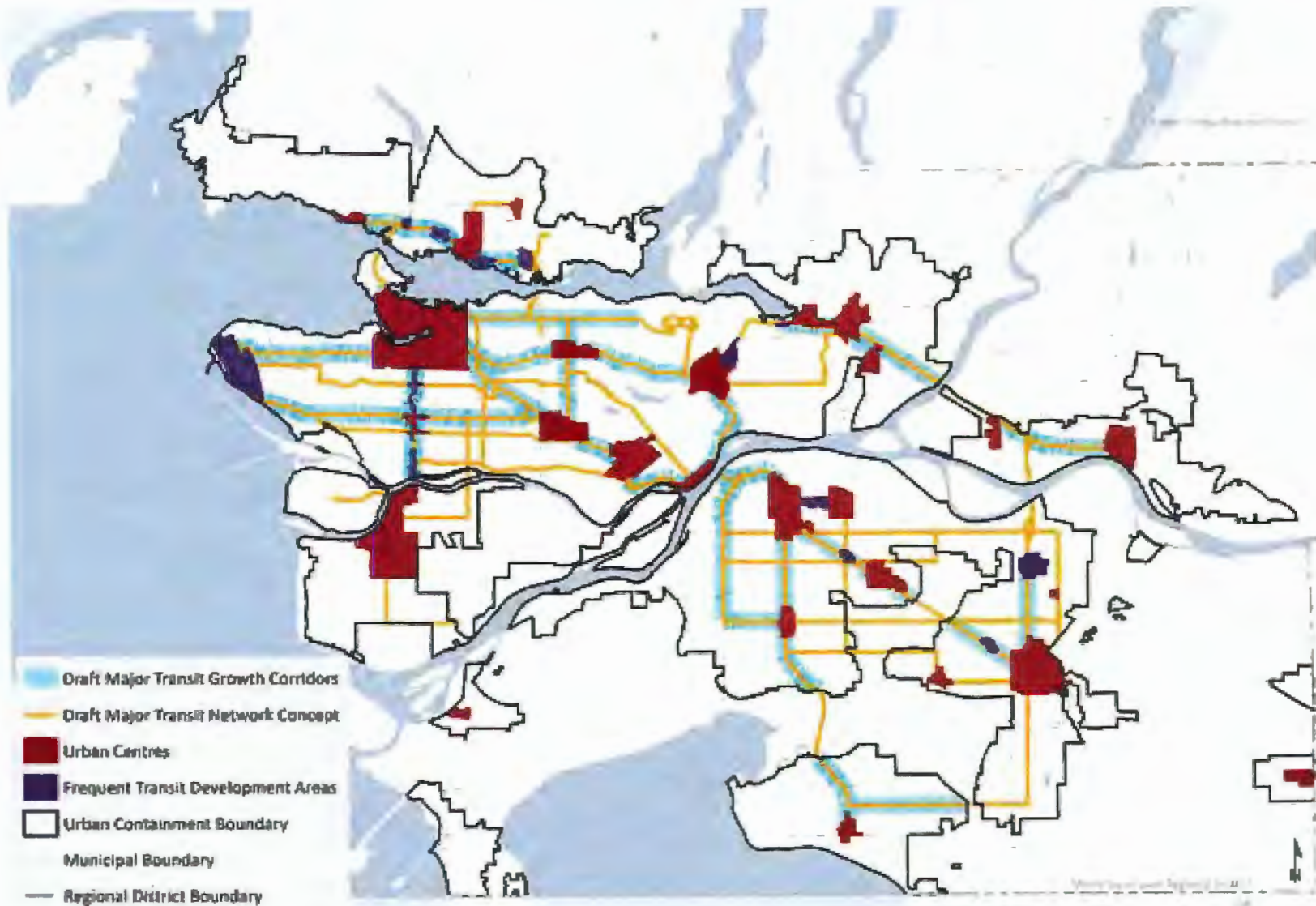


Map 4: Urban Centres and Frequent Transit Development Areas



Urban Centers and FTDAs are overlays for structuring residential and employment growth. The boundaries are identified by member jurisdictions. Where overlays cover areas other than General Urban or Mixed Employment, the intent and policies of the underlying regional land use designations still apply.

Map 5: Major Transit Growth Corridors and Major Transit Network

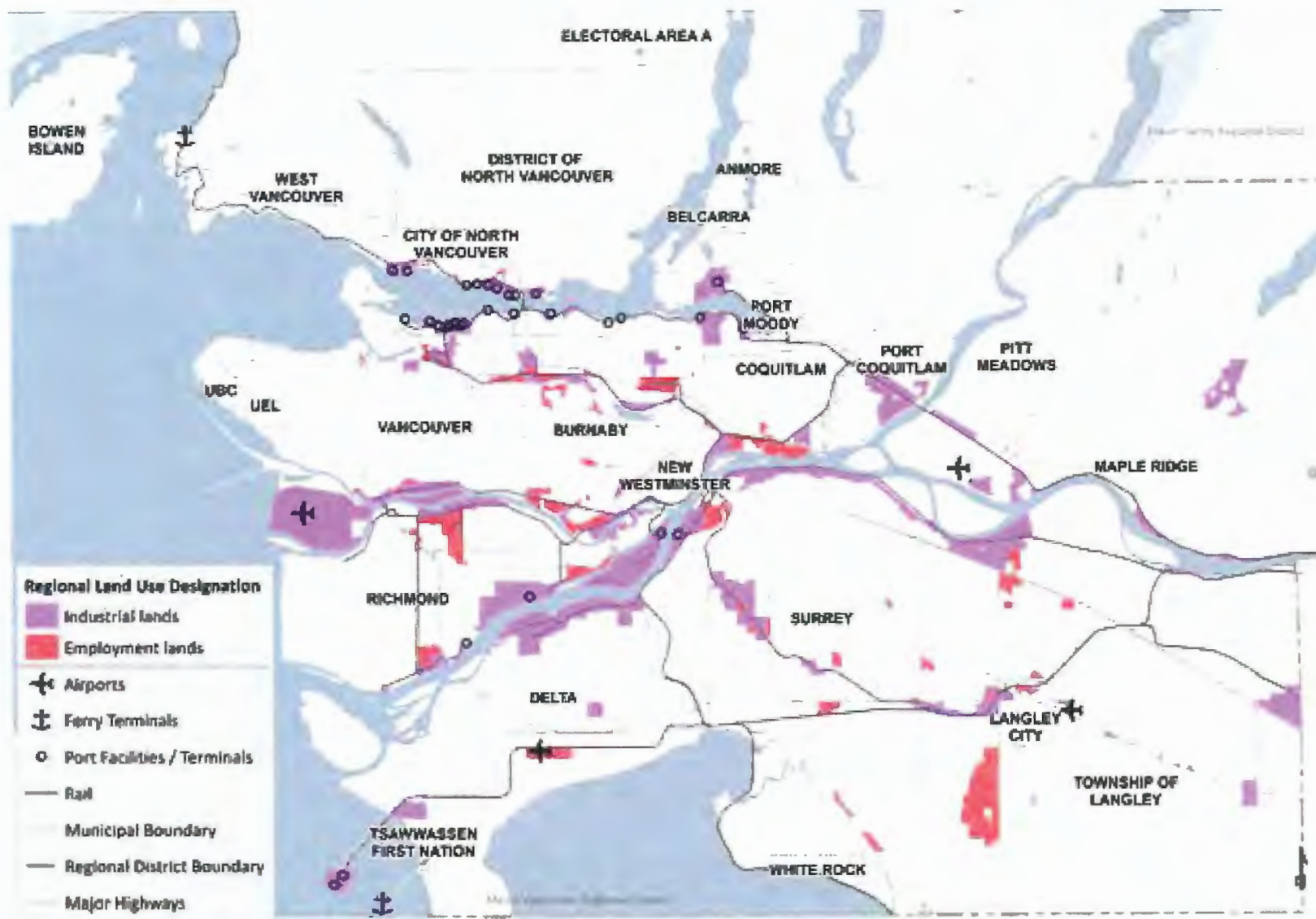


The Major Transit Growth Corridors are preliminary and subject to review and confirmation. The Draft Major Transit Network comprises both Transport 2050 Concepts A and B, which are also to be confirmed and are shown on this map for illustrative purposes only.

Map 6: Rural Lands



Map 7: Industrial and Employment Lands



The depicted highway network, rail lines, and port / airport transportation facilities are shown for reference only.

Map 8: Agricultural Lands



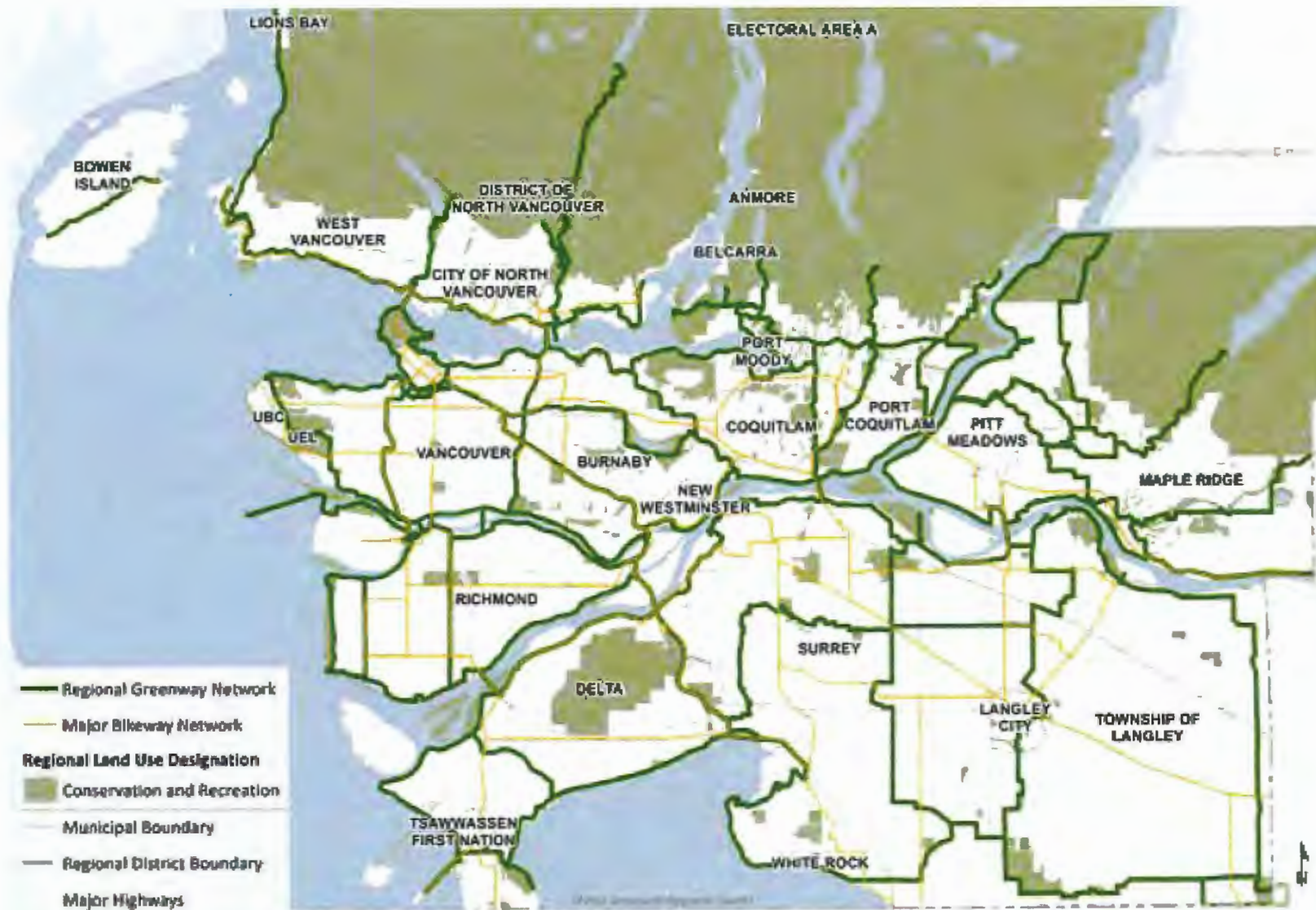
For the latest ALR geography, please visit the Agricultural Land Commission website at www.alc.gov.bc.ca

Map 9: Conservation and Recreation Lands



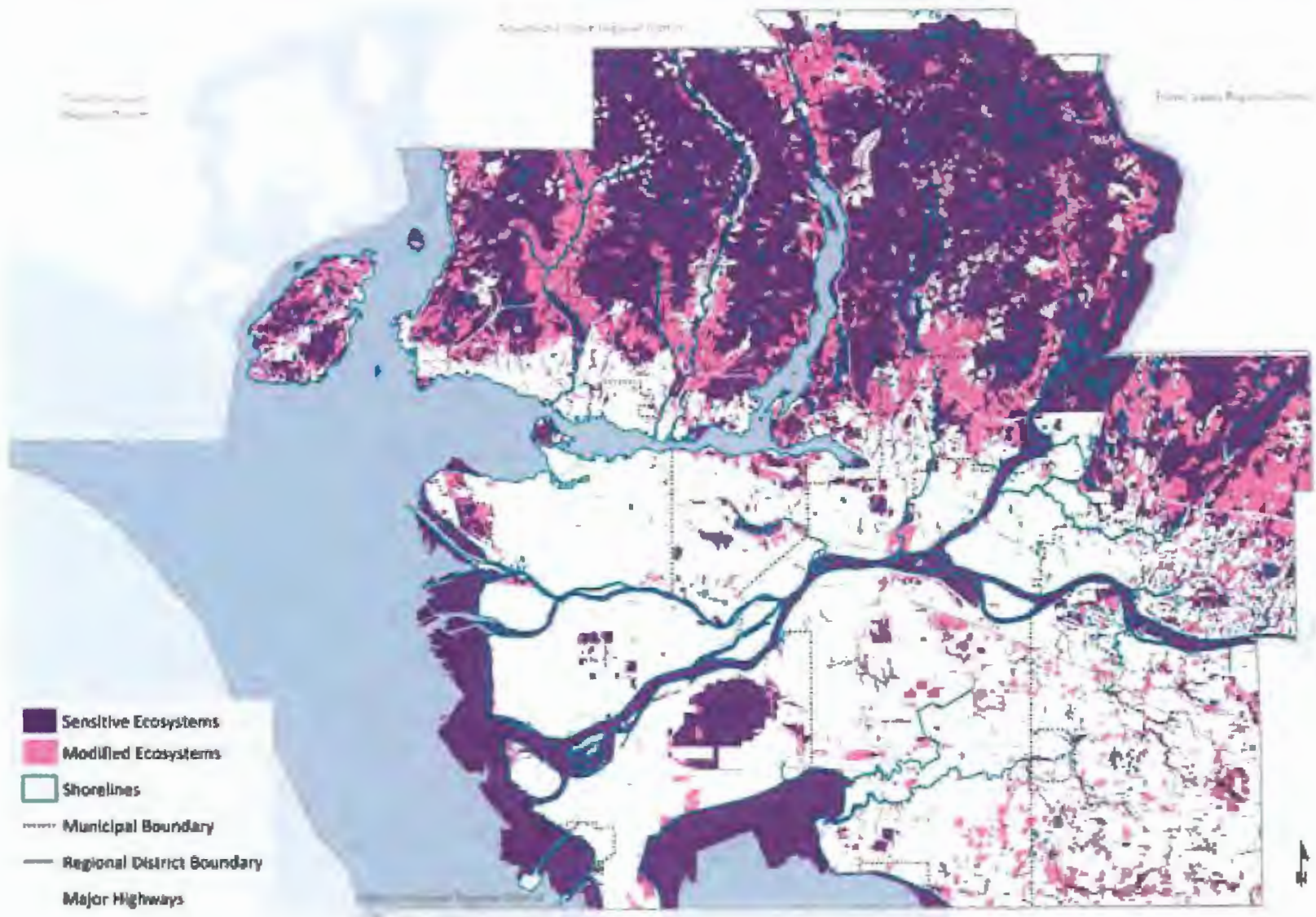
The Natural Resource Areas Overlay was collated by Metro Vancouver from several data sources including: Active managed forest tenure licenses, relevant OCPs, GVS&DD, and GVWD

Map 10: Regional Greenway Network and Major Bikeway Network



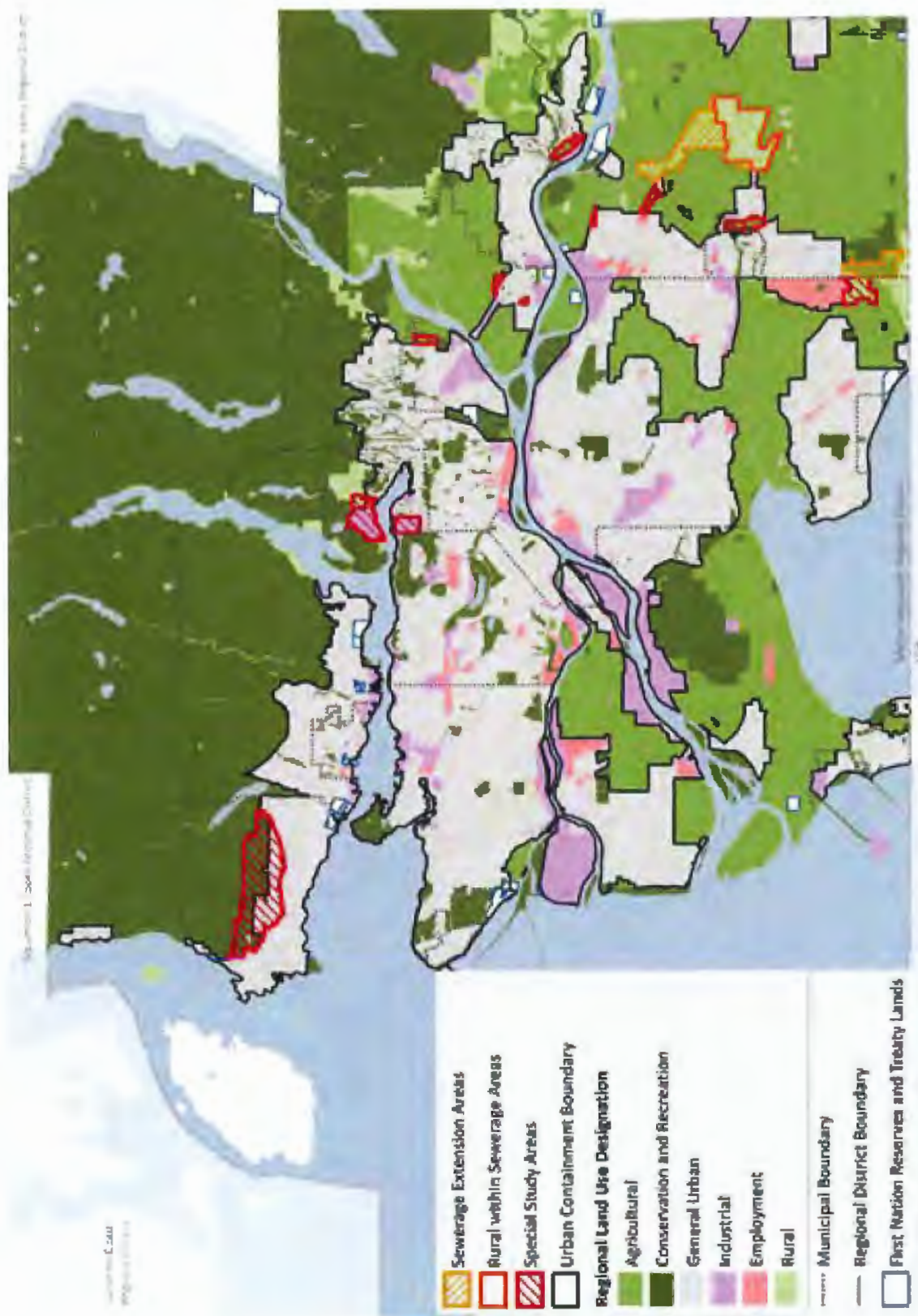
The Regional Greenway Network and Major Bikeway Network (MBN) are concepts illustrating existing and planned active transportation corridors of regional significance. The MBN is being developed through TransLink's Transport 2050 process and will be updated following the identification of a preferred MBN concept.

Map 11: Sensitive Ecosystem Inventory



Map for reference only. An online SEI Tool is available at <https://gis.metrovancouver.org/mvmaps/SEI> and downloadable from <http://www.metrovancouver.org/data>. The SEI dataset is from 2014. Local ecological datasets may be more current and detailed.

Map 12: Special Study Areas and Sewerage Extension Area



Bylaw No 1136, 2010 and List of Amendments

This will be the same as current Metro 2040

List of Affected Local Governments and Dates of Acceptance

This will be the same as current Metro 2040

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SERVICES AND SOLUTIONS FOR A LIVABLE REGION



City of Richmond

Report to Committee

To: General Purposes Committee
From: Mark Corrado
Manager, Community Safety Policy and Programs
Date: October 5, 2021
File: 12-8080-12-01/Vol 01
Re: **Soil Use for the Placement of Fill Application for the Property PID: 005-480-663 (17260 Block of River Road - Sahota)**

Staff Recommendation

That the 'Soil Use for the Placement of Fill' application, submitted by Harinder (Harry) Sahota (the "Applicant"), proposing to deposit soil for the purpose of developing a garlic farm on the property identified as PID: 005-480-663, located south of 17260 River Road, be authorized for referral to the Agricultural Land Commission (ALC) for the ALC to review and determine the merits of the proposal from an agricultural perspective as the Applicant has satisfied all of the City's current reporting requirements.

Cecilia Achiam
General Manager, Community Safety
(604-276-4122)

Att. 6

| REPORT CONCURRENCE | |
|-----------------------------------|-------------------------------------|
| ROUTED TO: | CONCURRENCE |
| Engineering | <input checked="" type="checkbox"/> |
| Finance | <input checked="" type="checkbox"/> |
| Policy Planning | <input checked="" type="checkbox"/> |
| Sustainability & District Energy | <input checked="" type="checkbox"/> |
| Transportation | <input checked="" type="checkbox"/> |
| SENIOR STAFF REPORT REVIEW | INITIALS: |
| APPROVED BY CAO | |

Staff Report

Origin

The City of Richmond has received a 'Soil Use for the Placement of Fill' application for the property identified as PID: 005-480-663 (the "Property") which is located south of 17260 River Road. The Property and 17260 River Road, which are both owned by the Owner, are bisected by a City-owned "right-of-way" i.e. unimproved road allowance (the "Allowance"). The Applicant is proposing to import and deposit 12,000 cubic metres of soil to improve the agricultural capability of the Property to produce garlic.

The Property is situated within the Agricultural Land Reserve (ALR) and is subject to provisions of the *Agricultural Land Commission Act* (the "ALCA") and its regulations (the "Regulations"), and the City's Soil Deposit and Removal Bylaw No. 10200 (the "Soil Bylaw").

Pursuant to applicable Provincial regulations, a 'Soil Use for the Placement of Fill' application requires authorization from local government in order to be referred to the Agricultural Land Commission (ALC) for their review and approval. As such, this application must be submitted to the City for review and a decision from Council. Should the application be referred to the ALC and should it subsequently be approved by the ALC, the Applicant is required to satisfy the City's requirements outlined in the Soil Bylaw before a soil deposit permit would be issued by the City.

The Applicant has satisfied all of the City's referral requirements for submission to the ALC.

Should the applicant's 'Soil Use for the Placement of Fill' application be approved by Council and the ALC, the Applicant would be required to obtain a licensing agreement with the City to utilize the Allowance.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

2.3 Increase emphasis on local food systems, urban agriculture and organic farming.

Analysis

The Property is zoned AG1 (Agriculture). The current zoning permits a wide range of farming and compatible uses consistent with the provisions of the *ALCA* and Regulations and the City's Official Community Plan and Zoning Bylaw. The Applicant is proposing to deposit 12,000 cubic metres of soil over the majority of the 1.22 ha Property at an average depth of 1.0m. The primary objective is to improve the agricultural capability of the Property by eliminating excess water issues by raising the elevation of the property to create a garlic farm.

Uses on Adjacent Lots

- To the North: ALR – Land is not in agricultural production
- To the East: ALR – Land is not in agricultural production
- To the South: ALR – Canadian National Railway
- To the West: ALR – Land is not in agricultural production

Table 1: Existing Information and Proposed Changes for the Property

| Item | Existing |
|---|---|
| Owner | Sahota Holdings Ltd. |
| Applicant | Harinder (Harry) Sahota (the “Applicant”) |
| Qualified Agrologists (the “Agrologists”) | Daniel Lamhonwah, PhD, MES, P. Ag. (Madrone Environmental Services Ltd.) Jessica Stewart, P.Ag., P.Geo (Madrone Environmental Services Ltd.) |
| Lot Size | 1.22 hectares (3.02 acres) |
| Current Land Uses | The Property is not currently being farmed |
| Proposed Land Uses | The Applicant intends to farm the Property following completion of the proposed project |
| Zoning | AG1 |
| Official Community Plan Designation | Agriculture |
| ALR Designation | The Property is within the ALR |
| Riparian Management Area (RMA) | Yes; no disturbance proposed |
| Environmental Sensitive Area (ESA) | Yes |

Project Overview

The Applicant, who has owned the Property since 2008, is applying to deposit 12,000 cubic metres of soil over the entirety of the Property minus setback requirements at an average depth of 1.0m. The objective is to improve the agricultural capability of the Property from its current Class 4W (with excess water limitations) to a 2W classification to allow for the development of a garlic farm. The Agrologists have stated the proposed soil type to be imported (sandy loam, loamy sand) will ensure the Applicant can grow garlic post-project completion. In addition, the soil to be imported will provide flexibility for the Applicant to grow the widest range of crops should the Applicant wish to do so in the future.

The Applicant has advised that the project will take two years to complete. The timeline for completion is heavily dependent on ensuring the appropriate soil as recommended by the Agrologists, is sourced to complete the project. Soil sourcing has not commenced at this time due to the considerable period of time involved with respect to the soil deposit application process and seeking approval from the City and ALC.

Staff Comments

The proposal aligns with a number of Council endorsed strategies and directions including concerns about the use of Richmond soil. Other objectives satisfied by the project are described as follows:

- The Applicant's desire to utilize Richmond soil where possible provides for a reduction in carbon emissions as there will be a considerable decrease in mileage as trucks will not be traveling back and forth from City approved development projects to the Fraser Valley as is the common practice;
- Following completion of the project and implementation of the Farm Plan under the guidance of a qualified agrologist, the Applicant will start farming lands not currently under production thus supporting initiatives as described within the City's Food Charter; and
- The proposal to raise the Property to improve the agricultural viability is consistent with the City's current Flood Protection Management Strategy (FPMS) which identifies raising land levels within all areas of the City as a key overall long-term objective.

Richmond Food Security and Agricultural Advisory Committee (FSAAC) Consultation

The Applicant presented the proposal to the FSAAC on September 28, 2021. The FSAAC unanimously supported the proposal passing a motion with the following condition:

That the Food Security and Agricultural Advisory Committee (FSAAC) support the Agricultural Land Reserve Soil Use for the Placement of Fill Application at PID 005-480-663 (CD 93639) subject to the City retaining a portion (\$40,000) of the security deposit associated with the application to ensure the farm plan is implemented within a year of the project completion.

Agricultural Considerations

The Applicant retained Jessica Stewart, P.Ag., P.Geo to review and assess the Property and prepare recommendations to improve the growing conditions on the Property in addition to preparing a farm plan that addresses the Applicant's desire to grow garlic post-project completion. The Agrologists have provided a Soil Placement Plan (Attachment 1) and a Summary Report (Attachment 2) which includes a farm plan.

The Soil Placement Plan (the "Placement Plan") has addressed the current soil conditions on the Property. The Agrologists have concluded that the Property has a class 4W limitation. As per the Land Capability Classification for Agriculture in British Columbia manual, a Class 4W property has "frequent or continuous occurrence of excess water during the growing period causing moderate crop damage and occasional crop loss. Water level is near the soil surface during most of the winter and/or until late spring preventing seeding in some years, or the soil is very poorly drained."

The Agrologists have stated “that the placement of soil will raise the growing medium above the water tables and would be a **permanent solution** to improve the agricultural limitations of the [Property].” Furthermore, it is the opinion of the Agrologists that pumping may not be an appropriate solution given the surrounding area and would be “costly and may not be reliable” for the Applicant to implement.

As noted in the Placement Plan, the Applicant intends to strip/excavate the native topsoil/peat and stockpile on the Property prior to soil importation. Following completion of importation, the peat/topsoil will be placed on top of the imported soil. The primary motivator in conserving the native topsoil/peat is to ensure conservation of the “good-quality topsoil.”

The Summary Report provided by the Agrologists both encapsulates the overall soil deposit proposal and provides a framework of the Applicant’s intentions to grow garlic following completion of the project. The Summary Report is in line with the City’s Farm Plan requirements.

In addition to the aforesaid reports, the Agrologists have provided a memorandum (Attachment 3) identifying areas within the Lower Mainland in which the agriculturally-suitable soil may be sourced. As per the memorandum, the Agrologists have identified that agriculturally-suitable soil required to complete the proposal may be sourced from Richmond (first priority of the Applicant), Delta, South Vancouver, South Burnaby, and the UBC Endowment Lands. Analysis to determine suitable source locations was undertaken by the Agrologists utilizing the BC Soil Information Tool which provides access to soil survey data, reports and maps and is hosted by the provincial government.

Bruce McTavish (MSc, MBA, PAg, RPBio), an independent qualified agrologist representing the City, has reviewed the proposal (Attachment 4) from an agricultural perspective on behalf of the City and has not provided any concerns regarding the proposal or current land capability assessment by the Agrologists.

Mr. McTavish’s review substantiates the conclusions of the Agrologists that the Property has a land capability of 4W. In addition, Mr. McTavish “supports [their] conclusion that the wetness is likely exacerbated by land raising on adjacent properties.” Lastly, Mr. McTavish has confirmed that the proposal satisfies requirements as per ALC Policy P-10 “Criteria for Agricultural Capability Assessments.”

City staff have reviewed the reports provided by the Agrologists and have concluded that the reports satisfy the City’s requirements.

Drainage & Geotechnical Considerations

The Applicant has provided the City a Drainage Plan (Attachment 5) and a Geotechnical Investigation report (Attachment 6).

The Geotechnical Report, provided by Geopacific Consultants Ltd., has concluded that implementation of the Placement Plan, which includes excavation of the native peat and replacement with structural fill (i.e. soil) with a grade reinstatement of 1.0m will not negatively impact neighbouring lands or City infrastructure. As noted above, soil placement will follow the stripping and stockpiling of the excavated native topsoil/peat which will then be placed over top of the imported soil.

As noted in the Placement Plan, the Applicant owns two properties that are separated by an Allowance. The Applicant will be required to obtain a licencing agreement with the City to utilize the Allowance to access the Property and direct runoff to the City drainage system on River Road. Completion of a licencing agreement will be required prior to issuance of a soil deposit permit should the proposal receive approval. Additional drainage and geotechnical information may be required by staff to facilitate a potential licensing agreement.

Staff have reviewed the Drainage Plan and Geotechnical Report and have no concerns relative to the conclusions of the Applicant's qualified professionals.

Environmental Considerations

The Property is designated as an Environmentally Sensitive Area; however, the Property is within the ALR. As per City requirements, the Applicant will be required to obtain an ESA DP exemption.

The Applicant is exempt from obtaining a tree removal permit for the Property.

Should the City and ALC provide approval, the City's soil deposit permit (the "Permit") conditions will require that all work undertaken in or around a watercourse, must be completed in compliance with the *Water Sustainability Act*, under the guidance of a Qualified Environmental Professional (QEP). Should it be deemed necessary, City staff will require that erosion and sediment control measures be installed and inspected by a QEP.

Financial Costs and Considerations for the Applicant

Due to ongoing and approved development within the City of Richmond and the Lower Mainland, developers and contractors must find a location (the "End Site") that will accept soil excavated and removed off-site to facilitate development. Due to such demand, a market has been created in which End Site owners can generate income via tipping fees such as the fees collected by the City for accepting agriculturally viable soil for the Garden City Lands. Such fees are variable depending on the location, type and volume of soil, and season. Contractors are willing to pay a premium based on location of the soil (the "Source Site") to the End Site in order to reduce significant costs. Although End Site owners derive income due to tipping fees, soil deposit projects are not without significant costs to the Permit holder.

It is anticipated that the project may generate tipping fees in excess of \$100,000 for the Applicant. However, the income derived through tipping fees shall be offset by costs due to upfront reporting expenditures, site preparation, project management, daily personnel and machine expenditures, ongoing inspection and reporting by the project's agrologist-of-record, drainage upgrades, and final reporting expenses. It is estimated by the Applicant that site preparation costs will be "approximately \$30,000 to \$40,000."

In addition, should Consolidated Fees Bylaw No. 8636, Amendment 10283 be adopted by Council, the City will require payment from the Applicant of a non-refundable volume fee in the range of \$12,000 to \$24,000.

Please refer to Attachment 2 for an outline of potential costs to the Applicant to complete the project, conduct farming operations and projected income through the sale of garlic.

Road and Traffic Considerations

Transportation staff have reviewed the proposal and will require a Transportation Management Plan should the application receive approval.

Soil Deposit Permit Requirements and City Inspection and Project Oversight Protocols

Should the proposal receive ALC and City approval, City staff will prepare a comprehensive Permit that sets out a number of conditions, including but not limited to:

- Project oversight and reporting requirements by an qualified agrologist;
- Source site inspection requirements;
- On-site monitoring requirements;
- Requirements for protection of the Riparian Management Area near the proposed truck entrance point on River Road;
- Permitted hours/days of operation;
- Traffic Management Plan requirements; and
- Security deposits (further explained below).

Qualified Professional reporting requirements are intended to be similar to the requirements for the Sixwest Holdings soil deposit project located on Westminster Highway. This will include that the agrologist-of-record inspect and approve all source sites. An on-site monitor will be required to inspect each load of soil prior to deposition on the Property and maintain an accurate daily log of trucks depositing soil on the site. At the sole discretion of the City, alternate measures may be required (i.e. survey) to determine the final volume of soil deposited on the Property.

In addition to the expected reporting requirements of the agrologist-of-record or other qualified professionals, City staff will maintain proactive inspection and enforcement on the Property that will include the following:

- Multiple site inspections per week of the Property at the onset of the project to ensure conditions of the Permit are being maintained;
- Weekly site assessments to continue to be undertaken when soil importation is underway to ensure the Permit conditions are respected;
- Regular monthly on-site meetings with the site supervisor;
- Maintain communication with the agrologist-of-record on a regular basis;
- Review reports to ensure conditions of the Permit are being satisfied; and
- Advise the ALC of concerns relative to the project and request that ALC staff undertake inspections to ensure compliance with ALC approval conditions.

No soil will be permitted to be imported/deposited until such time as all City and ALC requirements have been satisfied and the Permit has been issued by the City.

Security Bonds

Should the soil deposit project receive approval, the City will require that the Applicant provide as per the Soil Bylaw, a security deposit in the amount of \$60,000 (\$5 per cubic metre). The security deposit will not be returned until all conditions as stated in the Permit and the ALC approval are satisfied in their entirety, to the satisfaction of the City.

The Applicant has been advised that a portion of the security deposit in the amount of \$40,000 will be withheld until implementation of the Farm Plan has been confirmed by the agrologist-of-record as completed.

In addition to the security bond provided to the City, the ALC has the authority to require a performance bond to ensure that the project is satisfactorily completed. The bond required by the ALC is also intended to ensure the rehabilitation of the Property in the event the project is not completed. ALC performance bonds and the approved volumes from previous approvals for projects within the City are as follows:

- \$60,000 – 23,673m³ (Gosal - approved Oct 2020)
- \$70,000 – 17,500m³ (Athwal - approved May 2020)
- \$160,000 – 48,000m³ (City of Richmond - approved June 2017)
- \$290,000 – 140,000m³ (Sixwest Holdings - approved Jan 2017)
- \$500,000 – 102,080m³ (Sunshine Cranberry Farms - approved Jan 2014)

Alternatives to Council Approval

Should Council not authorize staff to refer the proposal to the ALC for their review and decision; the application will be considered to be rejected. Council may add additional recommendations for ALC consideration within a referral to the ALC.

Financial Impact

Should the proposal receive approval and the revised Consolidated Fees Bylaw No. 8636, Amendment 10283 be adopted, the project will generate revenue for the City of between \$12,000 and \$24,000.

Conclusion

Staff recommends that the soil deposit application for the Property identified as PID: 005-480-663, located south of 17260 River Road, be authorized for referral to the ALC and for the ALC to review and determine the merits of the proposal from an agricultural perspective as the Applicant has satisfied all of the City's current reporting requirements.



Mike Morin
Soil Bylaw Officer, Community Bylaws
(604-204-8625)



Mark Corrado
Manager, Community Safety Policy and
Programs
(604-204-8673)

MC: mm

- Att. 1: Soil Placement Plan - Madrone (22 July 2020)
 2: Summary Report - Madrone (17 July 2020)
 3: Memorandum re. Locations of Suitable Soils - Madrone (01 Nov 2021)
 4: McTavish Memo (21 Apr 2020)
 5: Drainage Plan - GeoPacific (rev. 29 June 2021)
 6: Preliminary Geotechnical Investigation Report - GeoPacific (12 Feb 2021)



SOIL PLACEMENT PLAN

PID: 005-480-663
River Road
Richmond, BC

FOR:

Mr. Harinder Sahota
5547 S.E. Marine Drive
Burnaby, B.C., V5J 3G7

BY:

Jessica Stewart, P.Ag., P.Geo.
Madrone Environmental Services Ltd.

July 22, 2021

MADRONE ENVIRONMENTAL SERVICES LTD.
202-2790 GLADWIN ROAD • ABBOTSFORD • BC • V2T 4S7
TEL 604.504.1972 • FAX 604.504.1912 • WWW.MADRONE.CA

DOSSIER: 19.0469

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SOIL PLACEMENT PLAN

PID: 005-480-663

**River Road
Richmond, BC**

1 Introduction

Madrone Environmental Services Ltd. (Madrone) was retained by Mr. Harinder Sahota to prepare a soil placement plan for his property located just south of River Road in the City of Richmond. Mr. Sahota owns two properties – one small 0.34 ha parcel is accessed via River Road and has a civic address of 17260 River Road (PID: 004-905-88). It is referred to in this report by its 'civic address'. This property has a single residence in the northwest corner at River Road.

The proposed soil placement project pertains **only**¹ to the second property that Mr. Sahota owns to the immediate south 17260 River Road, which has a separate property identification number but no civic address (PID: 005-480-663). It is referred to in this report as "the Property" and "the Site". The properties are bisected by a "city road dedication"; according to Mr. Sahota, this was a planned road that was ultimately not built.

This soil placement plan and soil deposit application ('Schedule B') will be submitted to the City of Richmond (COR) and the Agricultural Land Commission (ALC) for consideration. According to B.C. Assessment data², the Property is 1.39 hectares (3.44 acres). It is zoned

¹ There are no plans to improve the gravel driveway access that crosses the City road dedication and provides access to the no-frontage property from 17260 River Road.

² <https://www.bcassessment.ca/Property/Info/QTAWMDA1VzdDRQ==> B.C. Assessment property data. Accessed January 13, 2020

Agricultural (AG-1), and lies within the Agricultural Land Reserve (ALR). Mr. Sahota's other property at 17260 River Road is also in the ALR.

The primary limitation of the land for soil-based agriculture is poor drainage. There is a uniform class 4W limitation. The property, which was formerly part of a large bog containing forest and standing water, experiences excess water during the winter months late into spring, and after prolonged precipitation events during the growing season. The peat soils are shallow and limit water movement. There is a firm, slowly pervious mineral horizon situated below the peat. Mottling in that mineral horizon indicates fluctuating water tables.

Furthermore, the property is located on the Fraser River floodplain. Due to the River Road dyke (which is part of the North Dyke), it is however, not subject to annual inundation by the Fraser River freshet. The significance of the floodplain designation is that the Property is low-lying with little elevation differences between surrounding drainage ditches.

The placement of underdrains or drain tiles may result in a limited improvement. There is only one ditch bordering the property that is situated to the south of the site at similar elevation, therefore, the Site lacks freeboard.

Subsurface drainage³ does not function when the water level in the receiving drainage ditch (which in this case, is to the south) is higher than the drainage tile. Pumping water out of the property would require assurance that the ditch to the south can accommodate the volume of new water without impact to the railway or surrounding property owners. It would also entail running discharge pumps – these are costly and may not be reliable, which may result in losses to the farmer should they fail during a period of crop production.

I have proposed that the placement of soil will raise the growing medium above the water tables and would be a **permanent solution** to improve the agricultural limitations of the site.

Mr. Sahota has not farmed the property but intends to cultivate vegetables in an open field following soil placement (he originally planned greenhouses but these are not allowed by CoR engineering on a 'backland' property lacking frontage and dedicated road access). The land will be leased to a farmer to undertake this agricultural operation. **Essentially, Mr.**

³ A formerly used term for this is 'drainage tile'. The ALC uses the term drainage tile frequently. These are perforated pipes or 'PVC' placed under the surface – the exact spacing is subject to the soil texture and local drainage.

Sahota wishes for his land to be used for some form of agricultural production rather than lying vacant and unused.

He wishes to overcome the existing agricultural limitations and raise the surface level by an average⁴ of 1.0 m by placing well-draining, sandy soil (screened by a P.Ag. for textural suitability and agricultural suitability⁵ prior to importation) on the property. The total volume for this proposed project is 12,000 m³, covering approximately 1.39 ha (the entirety of the property). Again, this pertains only to the PID: 005-480-663 property and not the 17260 property or right-of-way.

2 Physical Setting and Proposed Development

2.1 Location, Municipal Zoning & Development

The Property subject to this proposed development is situated approximately 8.1 km northeast of downtown Richmond (**Figure 1**). The property is bound to the east and west by residential lots (agricultural) and to the south by the Canadian National railway line.

It is bound to the north by a right-of-way that I understand was to be a built road. It is not identified as a utility right-of-way or as an “undeveloped street” on the City of Richmond Interactive Map program⁶. This right-of-way separates the Property from 17260 River Road (not physically but as a legal boundary). There are no field markings (i.e. fence, stakes) that indicate this right-of-way exists. The driveway built from River Road runs through this feature to access the Property that is intended to be developed under this proposal.

⁴ The average elevation of the property is approximately 0.9 m, however site elevations range from 0.77 m to 1.29 m. The elevations are from a topographic survey recently completed for the Site.

⁵ Contains no prohibited materials or excess coarse fragments, and is not overly sandy or clay rich.

⁶ <https://maps.richmond.ca/rim/> Richmond Interactive Map. Accessed January 13, 2020



FIGURE 1: OVERVIEW OF THE PROPERTY (ORANGE OUTLINE) AND 17260 RIVER ROAD (PINK OUTLINE). THE RIGHT-OF-WAY FEATURE SEPARATING THE LOTS IS INDICATED (NOT PART OF EITHER PROPERTY). THE PARCEL BOUNDARIES ARE FROM IMAPBC, WHICH IS A PROVINCIAL GEODATABASE.

The 17260 River Road property is situated on the south side of the Fraser River on River Road, which is also a dyke constructed by the City of Richmond to protect from Fraser River flooding.

The legal description, zoning, and size of both properties owned by Mr. Sahota are summarized in Table 1 below.

Air photo analysis allows us to observe changes in the landscape over time, as well as find features that may not be clearly visible during field assessments. However, short-term events such as flooding are not always captured in air photos; we can only see them when the damage is extensive and long-lasting.

TABLE 2: HISTORICAL AIRPHOTO REVIEW

| Year | Photo Number | Observations & Interpretations of Property and Surrounding Area |
|------|----------------|---|
| 1938 | A5872-90 | <p>Single, old, black and white airphoto. Very grainy image, difficult to see subject property detail but CP railway has been constructed. River Road established. To the south of the railway, the wet peat bog is nearly completely undeveloped. There are standing pools of water throughout the bog.</p> <p>There is no house on the property. Property and adjoining lots appear to be cultivated fields at River Road but are undeveloped on the north side of the CP railway (bog) – this at present day, is the approximate southern half of these lots. Mayland Farms Ltd. at No. 7 exists by this time – appears to be planted rows and a long barn (possibly dairy cows).</p> |
| 1949 | BC786-75, -76 | <p>Extensive post-war development of bog. There are visible field rows throughout the area, particularly along No. 7 and No. 8 roads. The bog hasn't been developed between the farms that front these roads (south of the CP railway).</p> <p>There appears to be a house on the 17260 Road property near the present-day location. Nearly the entire property area subject to soil placement is wet, with visible standing water, particularly in the southwest corner (topographic low based on the information in the supplied topographic survey).</p> <p>There is what appears to be either a road or a drainage canal between the CP Railway and a farm at No. 7 Road. Difficult to tell but appears to be drainage-related.</p> |
| 1951 | S70-RI-24, -25 | <p>There is a house in the present-day location of 17260 River Road, as well as two structures at the southwest corner of the 17260 property. The land appears to be joined with what is now a separate property to the east. There is field grain or forage crop on the property where it meets River Road.</p> <p>The Property (subject to soil placement proposal) is visibly wet, with standing water along the southern half. A body of water appears to connect to the adjacent property to the west (see also, Photo 1, below). There are scattered trees in the wet area. It is not used for farming.</p> <p>The bog is undeveloped south of the railway and between farms along No. 7 and No. 8 roads. There is standing water throughout.</p> |

| Year | Photo Number | Observations & Interpretations of Property and Surrounding Area |
|------|-------------------------|--|
| 1955 | BC1870-15 | Single, black and white photo. Farming development has moved into the bog from both No. 7 and No. 8 roads. Trees have been cleared in the southern limit of the property (there are still some remaining) – the adjacent property to the west is wet but the property itself appears quite dry. This photo may have been taken during the summer months. Discrete standing water throughout the bog to the south of the railway visible. 17260 used for field crop (perhaps hay). |
| 1963 | BC5063-16, -17 | Trees completely removed from the property. There is standing water in the southern portion of the property visible. The 17260 property and the subject property form one field – appears to be cultivated for hay. Substantial development of the bog to the south of the railway. Development of cranberry farms. Field rows present. |
| 1969 | BC5321-073, -74 | Photo taken March 12, 1969. No change from 1963 photo. Property is completely cleared. There is standing water throughout the proposed soil placement area. This water connects to the water to the west – the southern half of these properties towards the railway are completely undeveloped. |
| 1973 | BC5525-131, -132 | Photo taken April 30, 1973. Approximately 2/3rds of the property is visibly wet with standing water and shrubs in the photo – the northern 1/3 rd is drier. The 17260 River Road property has a wet swale through the centre and towards the northwest corner where the house is. The neighboring properties to the west are forested towards their southern extent at the railway. |
| 1982 | BCC324-208, -209 | First colour airphoto available. There are numerous cranberry and blueberry farms in the surrounding area. Approximately 2/3 ^{ds} of the property is now covered in small trees and shrubs. The 17260 property and right of way are covered in grass (completely deforested) but do not appear to be cultivated. There are no farm rows. There may be hay/forage. This photo is taken during the fall as the cranberry wet harvest is clearly visible. No apparent wetness on the property. The ditch along River Road is full of water. There may be water in the vegetated area on the property but it is not visible. This is upland bog forest. |
| 1986 | 30BC86039-021, -22 | Photo taken July 6, 1986. The 17260 property appears to have a plowed field. There is no agriculture in the right of way or on the subject Property. Similar to 1982, the property is forested and has shrubs. It appears quite dry – this photo is taken during the summer. The ditch between the property and the railway does have visible water. |
| 1991 | FF9131-106 | Colour photograph taken September 18, 1991. The quality is good but the scale is quite small (1:24,000). There are no significant changes to the site since 1986. The property is still covered in upland forest and shrubs. Only the northern part of the property near the right of way is clear of vegetation. No apparent agricultural activity at 17260 Road. There may be hay grown in the field as it is kept continuously clear of vegetation but detail is difficult to see. |
| 1997 | FFCVCR9700L-5-145, -146 | Colour photograph taken September 22, 1997. As for 1991 – increasing density of upland forest on the property. The bog to the south of the railway is now completely developed into farmland. Of significant note – the property to the west of the Site is cleared and there appears to be soil deposition and earthworks underway. All trees have been removed. |

| Year | Photo Number | Observations & Interpretations of Property and Surrounding Area |
|------|--------------------|--|
| 2004 | SRS6929-5 | <p>Photo taken April 2, 2004. Neighbour to the west – vegetation has grown over placed soil. There is no apparent agriculture underway (field rows, trees, crops, greenhouses ect). There are no structures on this particular site.</p> <p>The subject property is forested – only the northern 1/3rd and the right of way are cleared.</p> <p>It appears that the 17260 field has been under hay or other forage production. The field is gold/brown as for a pasture – there are no shrubs or trees.</p> |
| 2016 | BCD16408-378, -379 | <p>Black and white photo. Relatively large scale (small area) – good detail of the property.</p> <p>The forest/shrubs have expanded northwards into the right-of-way. The field at 17260 is also overgrown. There are larger trees growing at River Road along the ditch. There is no agricultural use apparent. The surrounding properties fronting River also do not have apparent agriculture such as fields/crops. There may be small hobby uses that are not visible such as chickens (eggs) ect.</p> |



PHOTO 1: AIRPHOTO FROM 1951 OF THE SUBJECT PROPERTY (INCLUDING 17260 RIVER ROAD).

There is a body of standing water along the southern property line of the proposed placement area. This merges with water to the west. This is a peat bog that formerly merged with the peat bog to the south. The peat bog to the south of the railway is undeveloped (there are farms on the perimeter of No. 7 (west) and No. 8 (east) Roads. The 17260 river road property and the right-of-way appears to be a pasture (forage, hay crop).

2.3 Current Land Use – Property and Surrounding Area

The property was cleared of the majority of its trees in 2019. As mentioned above, there is a single residence on the 17260 property that was re-built following a fire. Otherwise, there are no other land uses. Neither property is farmed.

Mr. Sahota recently (also in 2019) replaced the driveway crossing (that spans the large ditch on the south side of River Road) that was in the northwest corner of 17260 River Road with a new crossing that is approximately 40 m east-southeast. The old crossing was removed. There is a new gravel driveway that runs from the new crossing, through 17260 river Road, through the right-of-way, and terminates at the southwest corner of the Property subject to development. There are **no** plans to improve this driveway (e.g. pave, add more gravel, widen).



PHOTO 2: THE RESIDENCE ON THE WEST END OF 17260 RIVER ROAD, ORIGINALLY CONSTRUCTED IN 1950 BUT RECONSTRUCTED FOLLOWING A FIRE. NOTE FLOODED CONDITIONS. THIS PHOTOGRAPH WAS TAKEN IN EARLY JANUARY.



PHOTO 3: NEW GRAVEL DRIVEWAY (AND CROSSING IN BACKGROUND TO THE CENTRE) THAT CONNECTS THE PROPERTY TO RIVER ROAD. THE DRIVEWAY HAS BEEN BUILT ABOVE THE NATURAL GRADE BY UP TO 0.5 M ACCORDING TO THE LAND SURVEY.

The surrounding area has a mix of land uses, including dense residential, industrial (railways, shipyards, sawmills, timber transport and storage, trucking), and agricultural. The nearest agricultural operations are predominantly cranberry farms. There are also poultry farmers (chickens, eggs), vegetable farms (and retail), dairy, and forage and grain crops. The CN Railway runs along the southern perimeter of the property. To the east and west, there are small residential lots that are in the ALR but do not appear to be used for agriculture.

According to the property report available on the Richmond Interactive Map, the "City of Richmond has applied on behalf of the property owners for the block exclusion of 16360 to 17360 River Road from the Agricultural Land Reserve". This is indicated as approved on the property report. The exact wording is: "Development Applications, 2000 084994 000 00 AG (Approved)." I noted that the property report still states it is in the ALR; however, this may have been done in advance of constructing the road through the right-of-way (the road was ultimately not built).

2.4 Climate

Mr. Sahota's property is situated approximately 5.3 km northeast of Richmond Nature Park⁸, which is the nearest Environment Canada climate station with a long term record. Richmond Nature Park is situated at an elevation of 3 m above mean sea level (a.s.l.).

The thirty-year span of records from 1981 to 2010 show a mean annual precipitation of 1262 mm, a daily average temperature of 11°C⁹, and 2244 effective growing (> 5°C) degree days.

According to the Climatic Capability for Agriculture in British Columbia map and report by Coligado, 1980, the majority of Lulu Island surrounding the property has a class 3A aridity limitation (specifically, class 3A(1)). Class 3 aridity limitations indicate drought or aridity between May 1 and September 30 resulting in moisture deficits, which are limiting to plant growth and could require moderately intensive management. This will dictate that certain crops will require irrigation for dry periods in mid-summer to early fall.

2.5 Landscape and Topography

The property is situated on the Fraser River floodplain. I reviewed the City of Richmond "Flood plain designation and protection Bylaw No. 8204"¹⁰ maps and found that the Property is designated as floodplain by the CoR. The Flood Construction Level (FCL) is defined by Engineers and Geoscientist British Columbia (EGBC) in the Professional Practice Guidelines¹¹ as:

"...the Design Flood level plus an allowance for Freeboard. In BC, the standard Design Flood for flood protection purposes is the flood with a 0.5% chance of being exceeded in any given year (the 200-year flood). Some local jurisdictions may specify a different (typically more conservative) Design Flood condition. Examples of this include the Fraser River, where the Design Flood is the 1894 flood of record, and other areas where geohazards (debris flows or

⁸ http://climate.weather.gc.ca/climate_normals/index_e.html Richmond Nature Park climate station. Accessed January 13, 2020

⁹ This is the highest daily average temperature in Canada.

¹⁰ https://www.richmond.ca/_shared/assets/Bylaw_8204_0410201225280.pdf City of Richmond "Flood plain designation and protection Bylaw No. 8204. Accessed January 13, 2020

¹¹ <https://www.egbc.ca/getmedia/f5c2d7e9-26ad-4cb3-b528-940b3aaa9069/Legislated-Flood-Assessments-in-BC.pdf> Legislated Flood Assessments In A Changing Climate In Bc. August 2018. Engineers and Geoscientists British Columbia. Accessed January 13, 2020

debris floods) coexist with clear-water Flood Hazards. The minimum allowance for Freeboard is typically 0.3 m above the instantaneous Design Flood level or 0.6 m above the daily average Design Flood level, whichever results in the higher FCL. However, for many BC rivers, Freeboard has been set higher than these minimum values to account for sediment deposition, debris jams, and other factors. Where the Design Flood level cannot be determined or cannot be reasonably used to set flood protection standards, an assessed height above the natural boundary of the water body or above the natural ground elevation may be used.”

The FCL (for structures) for both properties is 3.1m Geodetic Survey of Canada (GSC) ¹². River Road is a standard dyke constructed by the CoR – it is part of the North Dyke. The elevation of the dyke in the property area is unknown but is presumed to be over 3 m according to the City of Richmond River and Freeboard Levels Map. ¹³ The Dyke elevation is 3.23 m at Bath Slough (which is approximately 3.4 km downstream to the west) and 3.77 m at Queensborough (which is approximately 7.4 km downstream to the east) ¹⁴.

A preliminary geotechnical investigation was undertaken by Geopacific consulting engineers (Geopacific) in August of 2019. The report has been supplied to Madrone. The investigation included five test holes dug by auger. All five holes were advanced to a depth of 9.1 m below ground surface (bgs). The test hole logs show that there is approximately 0.6 m of “topsoil”, followed by peat to a depth of between 1.5 m and 2.1 m bgs. Below the peat, there is a silt that extends to 7 to 7.6 m bgs. This is underlain by compact sand. The water table (in late August, the driest time of the year typically for Richmond) was recorded at 1.0 to 1.2 m.

Mr. Sahota had a topographic survey commissioned by Target Land Surveying for the Property (excluding 17260 River Road) in December of 2019 (**Figure 2**). The land survey shows that elevations on the Property range from a low of 0.77 m Geodetic at the centre-west property line) to 1.29 m at the centre-south property line. The total elevation difference over the Property is therefore 0.52 m.

According to the topographic survey, the gravel driveway sits higher than the surrounding land – elevations of the driveway approach 1.52 m at the northeast property line. As

¹² <http://maps.richmond.ca/rim/> City of Richmond Interactive Map Program – Flood Construction Levels. Accessed January 13, 2020

¹³ <https://www.richmond.ca/scadamaps/riverlevelmap.jpg> River Level Map. City of Richmond. Accessed January 13, 2020

¹⁴ https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/integrated-flood-hazard-mgmt/as-built-dike-drawings-and-reports/dike-inventory/richmond_3.pdf Richmond Dyke Drawings. Accessed January 13, 2020

mentioned, the gravel driveway runs from the entrance at 17260 River Road through the right-of-way and into the Property. It is less than one year old and may be subject to settlement due to the compression of the underlying peat.

The surficial geology of this area was mapped by Armstrong (1980) as post-glacial Salish Sediments, specifically, lowland peat up to 8 m thick overlying Fraser River deposits (overbank sandy to silt loam up to 2 m thick overlying 15 m or more of channel fill or tidal flat deposits).

According to the City of Richmond Interactive Map program, the entirety of the Property is designated as an Environmentally-Sensitive Area (ESA), specifically, Upland Forest¹⁵. The property has been cleared of forest in 2019; there is a small group of trees clustered at the centre of the south property line and along the east and western property lines (south and east property lines are fenced). The felled trees and branches (wood waste) have been stockpiled on the property but have not been removed or burned at this time.

2.6 Hydrology

Based on my observations and review of imagery and maps for the area, there are no watercourses located on the subject property. A review of GeoBC data also does not return any watercourses for the subject property.

In the 1951 airphotos, I observed what observed to be a connected waterbody (ponded water) between the Property and the neighbouring property to the west. This connectivity no longer exists – the west property was filled with soil sometime after 1991 and by 1997. Essentially, the property was cut off from the larger bog to the south by the construction of the CN railway.

Currently, there is only one ditch bordering the Property to the south, between the property line (fenced) and the CN railway. As the ditch is on what appears to be the CN railway property (right of way), I did not bypass the fence to inspect this ditch (as this is private CN railway property) but recorded observations from a distance. The ditch appears to be at least 1 to 1.5 m wide and contained water however, I could not verify the depth from a distance.

¹⁵ <http://rim.richmond.ca/rim/docs/ESAdefinitions.pdf> City of Richmond ESA Definitions. Accessed January 13, 2020

2.7 Published Soils and Land Capability Data

Prior to my field assessment, I reviewed soil survey information for this area, in addition to the Land Capability for Agriculture (LCA) ratings for the property. The soils in this area were mapped by Luttmending¹⁶ in the 1980's for the Ministry of Environment. The surveys were printed at a scale of 1:50,000 and are based on airphoto interpretation and field surveys. I provide a site-specific assessment of the soils and agricultural capability of the property in Section 3, below.

LCA ratings describe the general suitability of the land for agriculture as seven classes for mineral soil and seven classes for organic soil. The capability classes are modified into subclasses when limitations to agriculture exist. There are twelve subclasses for mineral soils and nine subclasses for organic soils. A detailed description of LCA rating classes and subclasses is provided in Appendix III.

Soil surveys show that approximately two-thirds of the property is mapped as the Blundell (60%) and Delta (40%) soil series. The remaining southern one-third of the property is mapped as the Lulu, Richmond, and Lumbum soil series. The properties of the mapped soils are summarized in Table 3, below.

¹⁶ http://www.env.gov.bc.ca/esd/distdata/ecosystems/Soils_Reports/bc15_report.pdf
Soils of the Langley-Vancouver Map Area. B.C. Ministry of Environment. 1981.
January 13, 2020

TABLE 3: SUMMARY OF MAPPED (PRE-ASSESSMENT) SOIL PROPERTIES

| Soil Series | Parent Material | Texture | Drainage | Classification |
|-------------|--|---|---|----------------------|
| Blundell | 10 – 40 cm organic material over medium-textured deltaic deposits | Poorly decomposed organic surface with medium grained sandy silt loam under layering. Saline and peaty conditions present. | Poor to very poor; high groundwater table | Rego Gleysol |
| Delta | Medium to moderately fine-textured deltaic deposits | Silt loam or silty clay loam grading to silty clay loam or silty clay. Saline conditions present. | Poor; high groundwater table | Orthic Humic Gleysol |
| Lulu | Partially decomposed organic deposits (40 cm – 1.6 m), overlying deltaic sediments | Organics: mesic Deltaic sediments: moderately-fine to fine silty clay to silty clay loam. | Very poorly drained | Terric Mesisol |
| Richmond | Well-decomposed organic deposits (40 cm – 1.6 m) overlying deltaic sediments | Organics: humic Deltaic sediments: fine to medium-textured silt loam to silty clay loam. | Very poorly drained | Terric Humisol |
| Lumbum | Deep, partially-decomposed, organic deposits at least 160 cm thick. | Organics: fibric to humic Deltaic sediments: either clayey deltaic, silty floodplain or clayey glaciomarine deposits | Very poorly drained | Typic Mesisol |

According to the Province of B.C. Soil Information Finder Tool (SIFT)¹⁷ which is based on data collected from Provincial Soil Surveys (including the Soils of the Langley-Vancouver map area), the assessed capability of land for agriculture for the Delta and Blundell soil complex is Class 4W.

The subcategory, W, indicates excess free water present during the growing season that potentially inhibit plant growth or damage crops (Coligado, 1980). Soils with a Class 4W limitation are amenable to improvement through drainage or well-draining fill. This however, assumes that there is sufficient freeboard to accomplish the necessary drainage. There is not sufficient freeboard in this area based on my field observations and little elevation differences over the Site. The topographic survey shows that the total elevation change over the property is on the order of 0.52 m. Improvement of the Class 4W limitation on this specific Site is therefore limited.

¹⁷ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil/soil-information-finder> Soil Information Finder Tool. Accessed January 14, 2020

Other SIFT-reported limitations for the Blundell and Delta soils include:

- salinity (N, due to tidal environment of the deeper horizons) and;
- undesirable soil structure (D, due to firm and clay-enriched subsoils with low perviousness) .

In the Soil Management Handbook for the Lower Fraser Valley¹⁸, the Blundell soil management group dominant soil limitations are described as follows:

- *The shallowness of the organic layer, over mineral subsoil, limits the rooting zone and water movement.*
- *Variable depth to underlying mineral soil results in some uneven crop growth and makes these soils difficult to drain.*
- *If left in a bare and pulverized condition, soils are subject to water erosion during periods of heavy precipitation and to wind erosion when the surface dries.*

Furthermore, the Canadian Soil Information Service (CanSIS)¹⁹ describes the Blundell soil series (the predominantly-mapped unit here) as poorly drained:

"Water is removed so slowly in relation to supply that the soil remains wet for a comparatively large part of the time the soil is not frozen. Excess water is evident in the soil for a large part of the time. Subsurface flow or groundwater flow, or both, in addition to precipitation are the main water sources; there may also be a perched water table, with precipitation exceeding evapotranspiration. Soils have a wide range in available water storage capacity, texture, and depth, and are gleyed subgroups, Gleysols, and Organic soils."

¹⁸ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley. Page 10. Accessed January 14, 2020

¹⁹ <http://sis.agr.gc.ca/cansis/soils/bc/BNL/psad~/A/description.html> CanSIS. Blundell Soil Series description. Accessed January 14, 2020

3 Soils and Land Capability for Agriculture Assessment

I (Jessica Stewart, P.Ag.) visited the property on January 7, 2020 to carry out an assessment of the site soils during a period of moderate to heavy rainfall. I was met on site by Mr. Sahota, who brought an excavator on site for our soil investigation.

On the day of our assessment, there was standing water located throughout the Site, in particular near the residence of the 17260 property (Photo 2, above) and in the southwest corner of the proposed placement area. According to the land survey, the southwest side of the property is a topographic low. The lowest site elevations are recorded here, at 0.77 m GSC.



PHOTO 4: STANDING WATER IN THE SOUTHWEST CORNER OF THE PROPERTY.



PHOTO 5: FACING DUE WEST ON THE PROPERTY. THIS STANDING WATER IS OVER 0.3 M DEEP.

We excavated four soil pits on the property – the sites were chosen randomly in the cleared field, which still contains stockpiled branches and tree stumps.

I marked the location of these pits with a GPS in the field; these are shown on **Figure 3** (Soil Mapping and Land Capability) in Appendix I. These are indicated as Pit 1, Pit 2 ect. During my soil assessment, I recorded soil properties such as soil texture, drainage, consistency, structure, colour, horizon classification and thickness, root restricting

horizons, and evidence of gleying or mottling were noted during my assessment. Soil Pit Descriptions and pit photos are in Appendix II. **No soil testing (i.e. nutrients, pH, salinity) was performed for this project.**

I also traversed the property and recorded my observations of slopes, vegetation, and the presence of ditches in the southern end of the Property and at River Road (the 17260 River Road property).

The property was a former upland bog forest. The airphotos show that the property was essentially severed from the larger former bog to the south by the CN railway construction. There are still paper birch trees clustered along the southern, west, and east property lines however, the majority of the trees have been removed as of mid-2019. There are still native shrubs, grasses, and invasive Himalayan blackberry. The neighbouring property to the west (no civic address – it is confined between the railway and River Road lots to the north) has dense blackberry growth that is several metres tall. It is in fact, spreading onto the property, as seen in Photo 4, above.



PHOTO 6: LOOKING ACROSS THE SOUTHERN END OF THE PROPERTY, FACING WEST. THE TREES ON THE LEFT SIDE OF THE PHOTO REMAIN ON SITE (PAPER BIRCH). THE TRAINS ON THE LEFT ARE ON THE CN RAILWAY.

3.1 Soils – Determined from Assessment

My excavated soil pits on the property yielded a black to reddish brown, predominantly humic peat that overlies a grey to blue (gleyed) grey silt loam horizon called the Cg (less common: silty clay loam). These are fluvial deposits from the Fraser River. In two of the

four pits, the Cg horizon contains partly decomposed plant material. It is also firm to very firm in consistency.

The thickness of the peat horizon (in my soil pits) ranged from 35 cm to 80 cm however, the geotechnical test pits excavated by Geopacific during drier summer 2019 conditions (which enabled deeper excavations into wet areas of peat that I could not excavate during my assessment in January) yielded peat depths between 0.6 m and 1.8 m (maximum). A review of Geopacific's test pit locations in their report shows that none of our pits overlap exactly therefore, peat depths are highly variable over very short distances on the property.



PHOTO 7: SILT LOAM (LESS COMMONLY, SILTY CLAY LOAM) FOUND IN THE CG HORIZON. NOTE DECOMPOSED PLANT MATERIAL PRESENT IN THIS SAMPLE.



PHOTO 8: MESIC PEAT FROM SOIL PIT 3. THIS IS THE ONLY PIT WITH A MESIC PEAT BELOW A HUMIC PEAT.

Based on my soil profile descriptions, I correlated site soils to soils described in the Soils of the Langley-Vancouver Map Area, MoE Technical Report 15 (Luttmerding, 1981). From my soil assessment, I identified one main soil type on the property that I classified as a Rego Gleysol, which corresponds well with the Blundell soil series.

Based on my soil survey, I found the soil limitations to be excess water (4W) due to poorly drained soils. There is excess free water from early fall to late spring; high watertables

persist until the summer months. Class 4W limitations result in moderate crop damage and occasional crop loss. Wetness subclass information can be found in Appendix C.

All soil pits feature gleying in the Cg horizon; gleying (and mottling) are indicative of water saturation and periodic anaerobic conditions due to fluctuating water tables in the subsoil. Coupled with strongly acidic soil conditions that are characteristic of peat soils, this would result in some reduced nutrient availability – with potassium and phosphorous being limited macronutrients alongside limited mobilization of high valence micronutrients (e.g. Cu, Ca, etc.) from the organic matter under anaerobic and acidic conditions. Mottling starts as shallow as 30 cm in Pit 1 and as deep as 80 cm in Pit 3 – mottling would not be present in the organic horizon (peat, Op or Oh).



PHOTO 9: AIRPHOTO FROM 1997 SHOWING ACTIVE SOIL FILLING TO THE WEST (RED ARROW). THIS MATERIAL WAS PLACED SEVERAL METRES HIGH AND IS NOW OVERGROWN WITH BLACKBERRY. MR. SAHOTA'S PROPERTIES (BOTH THE SITE AND 17260 RIVER ROAD) ARE OUTLINED IN ORANGE.

There is a less serious limitation presented by dense subsoils that result in a root restricting layer and low perviousness within 50 cm from the surface. This is a Class 3D limitation and it is introduced by the firm Cg horizon.

To summarize, the native soil on the property is agriculturally limited by both 1) excess free water and 2) dense subsoils/undesirable soil structure in the Cg horizon.

There is a third soil limitation reported for the Blundell soils – the Canadian Soil Information Service (CanSIS) describes the Blundell as having high to very high salt content²⁰. The conductivity is reported to be greater than 4 dS/m however, it does not state if this is in the upper 50 cm (which would correlate to a Class 4N limitation due to salinity), or below 50 cm, which would correlate to a Class 3N salinity limitation.

No laboratory testing was performed for this assessment as we focused on the primary observed limitations that are excess water due to poorly drained soils and high water tables. The salinity limitations may be improved through irrigation to flush out the excess salt but it is difficult to determine the level of improvement that may be reached through this method. Improving the salinity through pumping also again, depends on whether the nearby ditches can accommodate such increases in water volume. For this site, there is only one ditch bordering the south of the Property.

4 Soil Placement Proposal

4.1 Rationale for Proposal

4.1.1 Site Characteristics and Local Land Changes

My site assessment shows that the Property has poorly drained soils, specifically, Rego Gleysols that have humic (with one pit exhibiting a mesic horizon between silt loam and humic peat) peat soils overlying fine-textured fluvial (floodplain) deposits from the Fraser River. The excess water limitation to agriculture (4W) results from high local groundwater conditions and poor regional conveyance of water within drainage infrastructure due to the low-lying nature of the floodplain. As demonstrated by the topographic survey, the property is as low as 0.77 m above sea level. The total elevation difference over the property is 0.52 m.

The historical aerial photo review demonstrates that the southern half of the Property and the surrounding area to the south of the railway was a forested peat bog. Standing water was present throughout the bog and on the property in the airphotos ranging from 1938 to 1973. After 1973, vegetation on the southern portion of the property increases and it becomes difficult to see standing water in this area. The bog to the south of the railway was intensely developed with farms and drainage infrastructure apparent by 1982. Most farms appear to

²⁰ <http://sis.agr.gc.ca/cansis/soils/bc/BNL/psad~/A/description.html> CanSIS Blundell Soils. Accessed February 2, 2020.

be cranberries and blueberries, however there are dairy farms and forage crops apparent, particularly along No. 7 and No. 8 Road.

From my review of historic aerial imagery, it is apparent that the Property has been subject to excess water conditions, even having a surface water connectivity with the adjacent and now filled property to the west (refer to Photo 1, the 1951 airphoto). Photos do show that the 17260 property appears to have been cultivated as a hay/forage crop but no such agriculture extended into the subject Property.

It is my opinion that the excess wetness experienced on the property may be now artificially exacerbated due its confinement between purposely raised land to the north (River Road dyke), south (CN Railway grade), and to the west (soil placement, up to several metres in elevation by visual inspection from Mr. Sahota's Site – this property has no civic address). There does not appear to be soil placement on the lands to the east (17360 and 17340 River Road). The River Road dyke and the CN railway were in place by the earliest airphoto data I reviewed (1938) however, filling of the property to the west began sometime between 1991 and 1997. Vegetation was re-established by 2004.

4.1.2 Drainage Options

According to the Soil Management Handbook²¹, the shallowness of the organic layer over mineral subsoil in the Blundell soils limits water movement and the depth of rooting. Furthermore, the variable depth to the mineral horizon (the Cg, or silt loam) can result in uneven crop growth and difficulty in draining these soils. When left bare (following crop harvest and tilling, for example), erosion of these soils can result from both precipitation and wind. Erosion can be mitigated by planting cover crops in the fall. This can also improve water management. The management handbook states that even with drainage installed, soils will have excess water than can result in unsuccessful crop growth, particularly of nursery trees, tree fruits, and strawberries.

Improvement of the 4W limitation via installing drainage (such as drain tiles) may have limited effectiveness. Installation of subsurface drainage entails placing perforated pipes, often within a fabric filter 'sock' to prevent mobilization of fine-grain silt/clay particles at depth to collect and convey subsurface water to ditching along a 1 – 2% gradient.

²¹ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley. Page 10. Accessed January 14, 2020

Drainage tile functions entirely through subsurface conveyance of water to the perforated pipe, and subsequent gravity-driven drainage to ditching. The spacing of drainage tile is adjusted based on the soil texture, while the depth is varied depending on local water table elevation and intended crop type. Drainage tile does not function when the water level in the receiving drainage ditch is higher than the drainage pipe.

The issue here is 'freeboard', which is the elevational difference between water in the ditches (in this instance, the ditch to the south) and the water table of the property. Underground drainage pipes must at least 30 cm (some references suggest up to 50 cm) and preferably 60 cm deep, meaning that the freeboard must be 50 cm at a minimum. In Richmond, the freeboard in the winter is often less than this. If this is too small, then subsurface drainage will not work without pumping.

As described in Section 2.6, there is a ditch situated at the south property line and on the north side of the railway grade. Water levels were below the crest of the ditch at the edge of the property near the fence but the ditch was not completely full. The elevations of this ditch relative to the property is unknown as the land survey does not extend into private railway property. The ditch collects drainage from the property as well as the railway right of way. My initial observation is that water levels in the ditch are not significantly lower than that of the property, perhaps on the order of less than 0.5 m. Confirming ditch elevations would require taking topographic points (land surveyor), however, it is noted that this ditch appears to be on CN railway property, as it is situated outside the property fence.



PHOTO 10: DITCH SITUATED BETWEEN THE CN RAILWAY AND THE PROPERTY, WHICH IS THE FENCE IN THE FOREGROUND. THE WATER LEVELS ARE INDICATED BY A BLUE ARROW.

There is a ditch along the northern property line of 17260 River Road. The water levels in this ditch were observed to be quite high. Connecting perforated pipes to this ditch from the Property would require piping the water between 40 (from northeast corner to River Road ditch) and 180 m (southeast corner to River Road ditch).

There is no topographic data for the 17260 property (the survey did not extend this far), however, there is no discernible elevation difference between the lands to facilitate drainage in this direction. Even if the land was built up on the Property to facilitate a 1-2% pipe gradient²² northwards, the pipe would need elevation difference between the ditch at River Road and the Property (freeboard), as well as ditch water elevations below that of the Property. As shown in Photo 11, water levels in the River Road ditch are fairly high – they were approximately 0.3 m from the top of the bank on the south side, which is the level land surface of 17260 (this is approximately the length of a standard school ruler).

²² Lower gradients (i.e. 0.6%) can work for drainage systems however, below this, there is a tendency for the pipe to clog with sediment.



PHOTO 11: DITCH LOCATED AT 17260 RIVER ROAD - NOTE WATER LEVELS ARE QUITE HIGH. THIS PHOTO WAS TAKEN JANUARY 7, 2020

4.1.3 Anticipated Challenges without improvements

The property, in its current state with peat soils (which are generally highly acidic – the pH was not tested on Site), is not suitable for growing forage crops, legumes, or cool-season vegetables as they would require more alkaline soil conditions for optimal plant growth. This can only be achieved through judicious and continuous lime amendments to increase the pH to 6.0-7.5. Additionally, vegetables would require raised beds if no drainage improvements are conducted. Raised beds are a necessary condition for vegetable production on floodplains, but then would require substantial labour inputs (cultivation, weed control, pesticide application, sprinkler installation etc.) throughout the growing season. Forage crops, alternatively, only require machinery twice a year – at seeding (annual crops such as corn) and harvesting.

Furthermore, without drainage improvements, the current drainage class restricts the time during which farm machinery (used to till, plow, seed, or harvest crops if not done by hand farm labour) can operate on soils. Machine access will likely be limited between October and April and in some years with higher than average precipitation, until June. Year to year variability in accessibility can pose planning difficulties to farmers. There is also a very short time window to work the soil and plant or harvest crops.

It is thus a legitimate concern that the timely and costly establishment of a farm on the Site without prior soil placement or drainage system will lead to poor-yielding crops. In addition, establishing crops in waterlogged soils poses a risk of root disease.

4.1.4 Suggested Improvement Method – Soil Placement

The importation of good-quality and well-draining (loam, sandy loam, loamy sand) soil is thus considered a viable option to resolve the agricultural limitations of the poorly drained native peat soils, which are excess wetness at Class 4W. Raising the land will also improve the undesirable soil structure encountered in the Cg horizon, as this will now be located much deeper from plant roots (greater than 1 m – undesirable soil structure does not take into account depths below 1 m). This dense, impervious layer has a Class 3D limitation for agriculture.

4.2 Methodology to Calculate Soil Depth and Volume

In determining the ideal depth and ultimately, the volume of soil required to raise the land to improve wetness limitations, I considered:

- 1 The natural topography of the Site (as determined from the topographic survey, **Figure 2**).
- 2 The drainage (ditches, natural slopes), as well as areas of ponded water.
- 3 The area to be cultivated (in ha).
- 4 Any features, including city infrastructure or private infrastructure that may require setbacks.
- 5 The proposed farm use following soil deposition, which according to Mr. Sahota is open field farming with an access road (unpaved) along the western perimeter of the property.

The average elevation of the property, as taken from the land survey, is approximately 0.9 m. As described above in Section 2.5, the elevations on the property range from 0.77 m to a topographic high of 1.29 m. Raising the land by 0.5 m, for example, may be insufficient, as there will be settling of placed soils and decomposition of the peat once it is disturbed.

Therefore, I considered that raising the average elevation of the property (which is approximately 0.9 m) by 1.0 m yields 1.9 m. Therefore, the depth of soil required to bring the property uniformly to 1.9 m, which will still be below the grade of the River Road dyke,

the CN railway, and the property to the west (no civic address, shown in Photo 9 for reference), will range from 0.61 m (adding 0.61 m to the 1.29 m topographic high) to 1.13 m (adding 1.13 m to the 0.77 m topographic low) deep.

As shown on **Figure 4**, the microtopography of the property is in fact, quite undulating. These figures were prepared by generating cross-sections from the supplied topographic data points contained in the survey. Calculating the soil volume from cross-sections with highly undulating topography is difficult and subject to significant error than if the land was near uniformly level.

As such, I have engaged Madrone's GIS team to use a tool called Spatial Analyst in ArcGIS (ArcMap 10.3). This tool calculates the volume change between two surfaces. It is typically used for cut and fill operations²³.

²³ <https://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/cut-fill.htm> ArcGIS Cut Fill tool. Accessed February 5, 2020

Illustration



OutRas = CutFill(Before_Ras, After_Ras)

Attribute table: (note: cellsize of input is 10)

| Rowid | VALUE* | COUNT | VOLUME | AREA |
|-------|--------|-------|--------|------|
| 0 | 1 | 13 | 0 | 1300 |
| 1 | 2 | 1 | -500 | 100 |
| 2 | 3 | 2 | 400 | 200 |

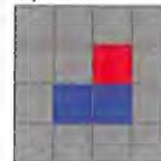
Volume field:

| | | | |
|---|-----|------|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | -500 | 0 |
| 0 | 400 | 400 | 0 |
| 0 | 0 | 0 | 0 |

Area field:

| | | | |
|------|------|------|------|
| 1300 | 1300 | 1300 | 1300 |
| 1300 | 1300 | 100 | 1300 |
| 1300 | 200 | 200 | 1300 |
| 1300 | 1300 | 1300 | 1300 |

Layer:



☒ OutRas
VOLUME
Net Gain
Unchanged
Net Loss

DRAWING 1: THIS IS AN ILLUSTRATION OF WHAT THE CUT FILL TOOL LOOKS LIKE IN ARCGIS. IN THIS METHOD, ALL AREAS IMPORTED AS THE SURFACE AREA GAINING SOIL TO REACH A FINAL ELEVATION. THE FINAL VOLUME CAN BE CALCULATED FROM THE ATTRIBUTE TABLE FROM:

<https://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/cut-fill.htm>

Essentially, the method requires two surfaces, and then it could calculate the volume between the two. The first surface is the actual elevations of the land taken from the topographic survey. These elevations were imported into ArcGIS. The second surface is the final elevation chosen for the Site, which is a relatively flat 1.9 m. The area of the surface(s) is the entire property boundary, which is known from the imported legal survey.

Using this methodology, all areas are gaining soil but at different depths. We have determined that approximately 11,650 m³ of soil is required to create a level surface with a final elevation of 1.9 m, or approximately 1.0 m above the current average grade of 0.9 m. The maximum depth is 1.13 m in the southwest corner where the topographic low occurs. For simplicity, I have rounded this up to 12,000 m³. The final surface, at 1.9 m, is shown on **Figure 5**. Please note that there is no output figure produced by running this tool – it returns the volume only.

Although not accounted for in the volume calculation (as the tool cannot accommodate a change in elevation within a single raster cell, or elevation point), the final soil deposit will

have maximum slopes of 1:3 (33%) on all sides. This is to reduce the effect of rill and gully erosion, as well as the potential for instability (slumping) if the slopes of the soil placement area are graded too steeply.

4.3 Peat Stripping & Topsoil Management

The imported soil will not be placed over the peat topsoil. Rather, the peat topsoil will be stripped to the surface of the mineral horizon (which is the distinctly grey silt loam horizon), stockpiled, and the imported mineral soil will be placed at the top of the silt loam (Cg). The peat will then be spread on top in an even layer. The volume calculation still stands, as we are simply 'swapping' another soil layer between the existing peat (Oh) and silt loam (Cg) horizons. The volume of soil does not change whether it is placed on top or 'in the middle'. The net elevation increase is the same.

There are several reasons why peat stripping should be done for this project.

- 1 Covering the peat with a mineral soil will constitute a loss of a valuable topsoil resource. In the interests of preserving the good-quality topsoil, stripping should be done before soil deposition over the area. From my soil investigation (detailed in the Land Capability Assessment) the first soil horizon (Oh) is a black to reddish brown, humic peat layer that is between 35 cm and 80 cm thick. The geotechnical test pits were done at different locations on the property and recorded peat between 0.6 m and 1.8 m thick. The geotechnical test pits were done in the summer when site conditions were drier and enabled augering into portions of the property where peat is deeper. During my assessment, I could only excavate in sparse dry areas. Despite this, my soil pits all filled with water however at different rates.
- 2 The peat is subject to settlement if loaded by placed soils.

According to Zanello *et al* (2011),

*"In drained peatlands the subsidence rate strongly depends on a number of factors, including type of peat, density of the organic material, drainage depth, climate, and cultivation practices. The overall settlement of the peatland surface is the sum of several components [Wösten *et al.*, 1997; Deverel and Leighton, 2010]: (i) consolidation of the saturated porous medium due to the effective stress increase following the lowering of the water table; (ii) volume reduction of peat due to organic matter oxidation; (iii) swelling/shrinking of the shallow*

*unsaturated peat layer due to seasonal wetting/ drying cycles; (iv) wind erosion; and (v) burning."*²⁴.

4.4 Soil Deposition - Methods

During soil placement, all regulations contained in the CoR Soil Removal and Soil Deposit Regulation Bylaw No. 8094²⁵ must be adhered to. The CoR may require review of this regulation prior to permit issuance to ensure compliance. If you have questions regarding the regulations, these should be brought to the Soil Bylaw Officer at the city prior to commencing activities.

The exact method of placement is at the direction of the earthworks operator and Mr. Sahota, so long as the methodology does not result in a breach of city bylaws. I do however recommend that stripping is done in 'cells' such that areas of the peat topsoil are stripped and stockpiled adjacent to the stripped area, then filled with the sourced mineral soil in a sequential fashion.

Cells that experience high water tables (water ponding) may need to be left to drain and placement done during drier conditions. This will greatly depend how quickly soil can be procured, when the project is started, and the weather conditions experienced at the Site during placement activities. A particularly wet summer, for example, may greatly delay placement efforts. Soil placement can be attempted during the winter however, stoppage may become frequent if high water tables impede work. Machines cannot work on overly wet soils as these will not be load bearing. This is also a poor reclamation practice.

As described in Section 4.2, the slopes of the soil will have a maximum gradient of 1:3 (33%) along all sides along the edges of the placed soil. This will ensure that slumping and erosion are minimized. Soil that slopes too steeply (i.e. over 50%) will likely slump and could present a nuisance to the east and south neighbouring properties, which are level with the Property. Note that the City of Richmond Soil Removal and Fill Deposit Regulation Bylaw No. 8094 states that no removal or deposit shall be undertaken on a statutory right-of-way or easement without obtaining the permission writing of the City or other authority having jurisdiction over such statutory right-of-way²⁶. The right-of-way appears to be under the

²⁴ <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2011JF002010> Long term peatland subsidence: Experimental study and modeling scenarios in the Venice coastland. JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 116.

²⁵ https://www.richmond.ca/_shared/assets/bylaw_809418755.pdf Accessed March 2, 2016

²⁶ https://www.richmond.ca/_shared/assets/BL809447443.pdf City of Richmond Soil Removal and Fill Deposit Regulation Bylaw No. 8094 Accessed February 2, 2020

jurisdiction of the CoR. That stated, the applicant, Mr. Sahota, does not wish to place soil on the easement.

Following replacement of the peat topsoil, the best option would be to slope the final deposit to the south where the existing ditch is located. There are no other ditches located around the Property. A drainage plan, including run-off and storm run-off calculations, may be required as part of a complete soil placement plan. This must be prepared by a professional engineer with training in civil engineering and/or water resources engineering.

After soil placement, Mr. Sahota wishes to grow a variety of crops such as garlic and potentially nursery trees in an open field.

The replaced peat topsoil is often recommended to be planted with a rotational nitrogen-fixing cover-crop under no-till conditions for a period of 1 to 3 years in order to re-establish soil structure and function. After which, assessment of drainage conditions and soil structure will guide any further requirement for water management infrastructure, such as installation of drainage tile.

4.5 Imported Soil Requirements

For this project, the sourced soil should be medium to coarse-textured, preferably sandy loam or loamy sand, to promote subsurface drainage. Loams and fine sandy loam are acceptable secondary textures (i.e. not the most commonly imported texture). This will exclude most Richmond soils, which tend to be organics overlying silt loams to silty clay loams and in some cases, clay loams, as in areas along Blundell Road and No. 6 Road.

An agrologist can assist with reviewing source sites to confirm that the soil is suitable for agricultural land and is of the ideal texture for this specific project.

All imported soil must be suitable for agricultural land. The Agricultural Land Reserve Use Regulation (updated in 2019) states that the following must **not** be used as fill on agricultural land²⁷:

- 1 construction or demolition waste, including masonry rubble, concrete, cement, rebar, drywall and wood waste;

²⁷ http://www.bclaws.ca/civix/document/id/complete/statreg/30_2019#part5 Agricultural Land Commission Act - AGRICULTURAL LAND RESERVE USE REGULATION. Accessed January 13, 2020

- 2 asphalt;
- 3 glass;
- 4 synthetic polymers;
- 5 treated wood; and
- 6 unchipped lumber.

All imported soils will meet the BC Contaminated Site Regulations (BCCSR) – Schedule 3.1, Column 4 applicable agricultural land standards for the site²⁸. Contaminated soil, or soil that is suspected to be contaminated, must not be used. Soil sampling will be required to test for contaminants (a soil cannot be verified as being contaminant-free without laboratory testing). This would be part of a Phase 2 Environmental Site Assessment (ESA). Large sites such as condo construction projects, typically have available ESA reports and are therefore ideal sites to source soil from. **Small source sites (i.e. <10,000 m³) typically do not have this information. Soil sampling in these instances would therefore be at the expense of the soil supplier/earthworks contractor.**

The soil material should be inspected to ensure that it is acceptable for agricultural use. This forms part of the screening process required by the City of Richmond as part of the conditions of a soil permit. The screening process must be conducted by a qualified environmental professional (called a QEP, a recognized term by the CoR and the ALC) such as a Professional Agrologist (P.Ag.)

In addition to being free of contaminants (as confirmed by a Phase 1 ESA, or Phase 2 ESA if Potential Contaminants of Concern are suspected by the professional assessing the Source Site) and prohibited materials (as confirmed by a P.Ag. during Source Site screening), source soils with the following attributes should be **rejected**:

- 1 High clay content (generally glaciomarine, glaciolacustrine in origin), i.e. greater than 30% clay, including silty clay loams, clay loams (clay soil has never been observed by Madrone in the field in Richmond);
- 2 High organic content (peat soils such as Humisols, Mesisols, or Fibrisols, which are found in abundance in Richmond, are at or near 100% organic matter);

²⁸http://www.bclaws.ca/civix/document/id/complete/statreg/375_96_07#Schedule3.

¹ Environmental Management Act - CONTAMINATED SITES REGULATION.
Schedule 3.1 Accessed January 13, 2020

- 3 Excessive (i.e. >20% by total volume) quantities of coarse fragments (sized 2.5 cm or greater) – coarse gravels should comprise less than 10% by volume if placed in the upper 0.5 m of the deposit²⁹. Cobbles (7.5 – 25 cm) and stones (>25 cm) should comprise less than 1% to meet a Class 2P limitation for stoniness. If stony soils are unintentionally brought onto the site, the soils should be raked or sorted to remove the stones; and
- 4 Excessively sandy material that is more than 80% sand is also not ideal. This pure sand material is sourced from sites that are pre-loading (alternatively, this can be referred to as pre-load – it is sand sourced from the Fraser River).

The QEP overseeing the project should be knowledgeable in the fields of contaminated sites and invasive species management. Additionally, each shipment origin, truckload, volume and end location should be tracked and available upon request.

According to the CoR³⁰:

"A soil permit is a Site Profile triggering permit. The process is shown on the contaminated sites Richmond Website. The applicant [Mr. Sahota] will need to provide either:

o A City of Richmond Site Profile Exemption Declaration Form confirming that there is no history of Schedule 2 activities on the site that a valid BC ENV exemption applies or

o A completed BC ENV Site Profile"³¹

Madrone can assist with these requirements if requested by Mr. Sahota. This step would be required prior to issuance of the city permit.

The supplier of the soil material should warrant that the source soil is free from contaminants. I recommend that Mr. Sahota signs a soil acceptance agreement (legal document) with the parties responsible for supplying and transporting soils. If contaminated

²⁹ The Land Capability Classification for Agriculture in B.C. MOE Manual defines stoniness as the sieved portion of coarse fragments in the upper 25 cm. We have expanded this to the upper 50 cm of the horizon, which is beyond the current criteria by 25 cm.
https://www.alc.gov.bc.ca/assets/alc/assets/library/agricultural-capability/land_capability_classification_for_agriculture_in_bc_1983.pdf

³⁰ Pers. Comm. with the City of Richmond Soil Bylaw Officer.

³¹ <https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/site-profiles> Site Profiles. Accessed January 14, 2020

soil material is brought onto the site, Mr. Sahota will assume liability for remediating the site and/or removing the contaminated material. Soil sourced in areas that have a history, or suspected history, of industrial or commercial use must be tested prior to transportation.

4.6 Erosion and Sediment Control

The Soil Management Handbook for the Lower Fraser Valley³² describes the Blundell soils as being "subject to water erosion during periods of heavy precipitation and to wind erosion when the surface dries", if left in a 'bare and pulverized condition'. Furthermore, earthworks to strip peat will certainly result in widespread disturbance to the soils and the requirement for erosion and sediment control measures during the entirety of earthworks, until the soil has been properly seeded with a cover crop.

Furthermore, the City of Richmond Soil Deposit and Fill Deposit Regulation Bylaw No. 8094³³ requires that every application for a soil permit must contain:

"documents, plans, and information relating to the proposed removal and deposit operation [including]..."

- The methods proposed to control the erosion of the banks of a removal or deposit;*
- During and upon completion of every removal and deposit operation, the boundaries of all adjacent parcels, highways, rights-of-way and easements shall be protected from erosion or collapse and from run-off of water or mud"*
- All stockpiles of soil or fill shall be confined to the locations prescribed in the permit and shall be maintained so that they do not adversely affect or damage adjacent parcels or cause a nuisance to any person"*

A detailed Erosion and Sediment Control (ESC) plan is outside of the scope of this report. Any ESC plan should be reviewed by the CoR prior to permit issuance to ensure that all city requirements have been met. I can provide some basic recommendations for ESC that should be considered, based on the observations I made of the Site in January of 2020.

³² https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley. Page 10, Accessed January 14, 2020

³³ <https://www.richmond.ca/shared/assets/BL809447443.pdf> City of Richmond Soil Deposit and Fill Deposit Regulation Bylaw No. 8094. Accessed January 14, 2020

- 1 I recommend that silt fencing is placed around the perimeter of the soil placement area. This will ensure that sediment-laden water does not transported to adjacent properties to the west, south, or east. The easement, which is situated between the Property at 17260 River Road, does not contain any infrastructure of any kind but it is considered outside of the boundaries of both of Mr. Sahota's access. As such, silt fencing should also be installed to keep sediment off of the easement.
- 2 Prior to stripping peat, all ESC measures should be implemented and inspected by an ESC monitor or qualified individual with experience in ESC implementation.
- 3 Following stripping of peat, any stockpiles should be covered by erosional tarps or seeded to protect from erosion. Stockpiles should not be left to linger for long periods of time (i.e. more than 1 year), as there will be degradation of the topsoil due to organic matter degradation.
- 4 Consider implementing a wheel wash if the gravel driveway that is currently installed is not sufficient in cleaning truck tires. The wheel wash may require regular cleaning by a vacuum truck. Currently, the driveway is 85 m long. Additional gravel, if required, should be at least 75 mm.
- 5 A rainfall shutdown should be implemented prior to commencing any earthworks. This is at the direction of the earthworks contractor. I recommend implementing a shutdown of 50 mm of precipitation in 24 hours. The contractor may want to lower the shutdown if there is significant snow on the ground (rain-on-snow event) as higher volumes of water can be expected due to snow melt.

There is a ditch situated on the south side of River Road (therefore, along the northern property line of the 17260 River Road property). This ditch is treated as a watercourse and riparian management area (RMA) by the City of Richmond. There is a 15 m riparian area regulation (RAR) setback established by the CoR. **As the 17260 River Road lot will not be developed, the setback will not be infringed by the proposed soil placement.** The crossing over this ditch has been upgraded by Mr. Sahota, as seen in the photo below.



PHOTO 12: LOOKING DUE SOUTH ACROSS THE ENTRANCE OF 17260 RIVER ROAD. THE SOIL PLACEMENT AREA IS LOCATED IN THE TOP LEFT CORNER OF THE PHOTO. THIS CROSSING WAS UPGRADED IN 2019 - THE OLD CROSSING WAS SITUATED TO THE RIGHT OF THIS PHOTO.

5 Post-Soil Improvement to Land Capability for Agriculture

Adding soil will elevate the topography over the whole area and will improve drainage in the subsurface. Following construction of the final soil profile, the Land Capability for Agriculture for the property will improve from Class 4W with excess water limitations to a Class 2W with only short periods of excess water, primarily during late fall to late winter when precipitation is heaviest.

Placement of a well-draining mineral horizon (the imported soil, which will be sandy loam or loamy sand) will improve growing conditions and enable the planting of more diverse crops over the property. Currently, there are no **well-suited** crops for Blundell Soils³⁴ – suited crops for the property in its current state include blueberries, cereals, corn, perennial forage crops, and shallow rooted annual vegetables.

The existing Class 3D limitation due to undesirable soil structure in the Cg horizon will be completely improved to no limitation (Class 1) by raising the growing medium (the replaced organic topsoil) above the Cg horizon by 1 m.

6 Monitoring and Reporting

The ALC requires that soil permit holders retain a professional agrologist (the QEP) to conduct inspections of the site and materials and to provide monitoring reports to ensure that the project is completed as per the submitted application. The ALC may have site-specific conditions – these are outlined in the soil permit decision, should the project be approved. The CoR will have similar requirements to conduct inspections of the Site and provide status updates. The CoR will also require screening of all sourced soil by a professional agrologist.

The ALC requires that soil importation projects are completed with 2 years from the date of the decision. Extensions may be granted upon receipt of a written request however, the reasons for extension must be detailed by the agrologist and the status of the project must be reported.

³⁴ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley. Page 10. Accessed January 14, 2020

The total volume of soil proposed for the project is 12,000 m³. This equates to approximately 500 m³ per month, if soil is brought at relatively equal rates. There may be periods when soil cannot be sourced (which would result in delays) or site work is delayed due to adverse weather conditions resulting in overly wet soils.

The ALC may devise its own monitoring schedule (i.e. every month or every 3000 m³, whichever comes first) and therefore, I will defer recommending implementing an exact schedule at this time. However, I strongly recommend that the project QEP should conduct site inspections during the following important project milestones:

- 1 Prior to any excavations, to ensure proper placement of the planned ESC measures, as required by the CoR and the retained earthworks contractor.
- 2 After stripping of the peat topsoil, whether this is done completely in one phase, or at different phases. This is to ensure that the entirety of the peat is stripped to the silt loam horizon, and that the peat topsoil is being managed appropriately such that degradation or erosion and sediment transport is minimized. This may also be supervised by a geotechnical engineer.
- 3 After heavy rainfall or rain-on-snow events, to ensure that ESC measure are effective and that adverse erosion (including rill and gully erosion) of stockpiled topsoil or placed mineral soils (edge of placement area) is not occurring.
- 4 Prior to topsoil placement to ensure that the placed soil has been raked and decompacted – this is ensure that large coarse fragments (cobbles, stones) have been removed and that the placed soil is not compacted, which would impede infiltration of rainwater and reduce soil tilth. Again, this may be done in phases, depending on whether you wish to place all soil at once, or place it in sequence, filling individual cells at different time periods and completing the cell by topsoil replacement.
- 5 At the end of the project once 12,000 m³ is reached. A closure report will be required once the project is complete. The final report should include an assessment of the final land capability for agriculture ratings and a comparison between the initial and final land capability for agriculture (LCA) ratings. It should contain an estimate of the volume of soil placed and details about the soil source site(s).

In order to complete the closure report, I recommend that accurate and complete written or electronic records be kept of all soil brought to the site.

Records must contain, at a minimum, the location of the soil source site(s)³⁵, the volume and number of loads with date and time of delivery, and the name of the trucking company. Without this information, the closure report cannot be completed, and any security deposits with the ALC and the CoR will be forfeited.

7

Conclusions

The agricultural use of the land is limited by excess free water and poorly drained soils (Rego Gleysols). Drainage is limited by high water tables, and limited freeboard in ditches located to the south and in the adjacent land (17260 River Road) at the River Road dyke. Airphotos show that the Property, until 2019, has been a forested wetland (typical trees in this area include paper birch, red alder, and black cottonwood with understorey vegetation comprised of native shrubs, ferns, forbs, and mosses)³⁶.

The removal of topsoil, placement of soil with suitable physical attributes for agricultural purposes (as described in Section 4.5 – Imported Soil Requirements), and replacement of salvaged topsoil (the 'growing medium', now elevated) generally increases the land level above the regional water table. It is critical to recognize that placement of quality soil is a solution to excess water conditions resulting from a high local water table that permanently addresses the agricultural limitation. Further, Soil Placement – when Climate Change is accounted for by the QP Agrologist making recommendations on depth of placed soil – is a method of Climate Adaptation that does not require continual input beyond initial establishment.

Placing an estimated 12,000 m³ of pre-screened soil on 1.39 ha of the property will allow Mr. Sahota to utilize the improved land for open field garlic farming. If my recommendations are followed, the capability of the land for agricultural use will be significantly improved, from 4W to Class 2W.

³⁵ These will have been pre-screened by the project QEP prior to importation.

³⁶ https://www.richmond.ca/shared/assets/OCP_9000_guidelines34178.pdf City of Richmond OCP Section 14.7.4 Upland Forest ESA Description. Accessed February 2, 2020

Lastly, Mr. Sahota has expressed his intent to obtain the soil for his project from within the City of Richmond municipal boundaries.

Sincerely yours,

MADRONE ENVIRONMENTAL SERVICES LTD.

Prepared by:

**This is a digitally signed duplicate of the official manually signed and sealed document.*



Jessica Stewart, P.Ag., P.Geo.

Peer-reviewed by:

**This is a digitally signed duplicate of the official manually signed and sealed document.*



Gordon Butt

8**References**

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9 Limitations

The evaluations contained in this report are based on professional judgment, calculations, and experience. They are inherently imprecise. Soil, agricultural, hydrological, and drainage conditions other than those indicated above may exist on the site. If such conditions are observed, Madrone should be contacted so that this report may be reviewed and amended Accordingly.

The recommendations contained in this report pertain only to the site conditions observed by Madrone at the time of the inspection. This report was prepared considering circumstances applying specifically to the client. It is intended only for internal use by the client for the purposes for which it was commissioned and for use by government agencies regulating the specific activities to which it pertains. It is not reasonable for other parties to rely on the observations or conclusions contained herein.

Madrone completed the field survey and prepared the report in a manner consistent with current provincial standards and on par or better than the level of care normally exercised by Professional Agrologist's currently practicing in the area under similar conditions and budgetary constraints. Madrone offers no other warranties, either express or implied.



APPENDIX I

Figures

**TOPOGRAPHIC SITE PLAN OVER LOT 3 EXCEPT
FIRSTLY: PART ON PLAN 4720;
SECONDLY: PART LYING SOUTH OF CANADIAN
NATIONAL RAILWAY ON PLAN 4720;
THIRDLY: PART ON SRW PLAN 71683;
SECTION 24 BLOCK 5 NORTH RANGE 5 WEST
NEW WESTMINSTER DISTRICT PLAN 4212**

CIVIC ADDRESS:

*No Access Property (17260 River Road), Richmond
PID: 005-480-663

SCALE 1 : 750

5 0 10 20 30
ALL DISTANCES ARE IN METRES

The intended plot size of this plan is 280mm
in width and 432mm in height (B size)
when plotted at a scale of 1:750.



Rem. 17
PLAN 65002

LOT AREA =
12,268 m²

Rem. 3
PLAN 4212
PP EPP87640

Rem. A
PLAN 4212
(Ex. PLAN 6946)

LEGEND

- ⊙ DENOTES TREE AND CANOPY EXTENT
- ×### DENOTES GROUND ELEVATION
- PP DENOTES POSTING PLAN
- m² DENOTES SQUARE METRES

NOTES:

Lot dimensions are derived from Field Survey.

Elevations are Geodetic (CVD28 GVRD-2018 - IN METERS)
Derived from HPN Control Monument 78H8458
located at the center of No. 7 Road
opposite House #2100. Elevation = 1.54m.

If this plan is used in digital form, Target Land Surveying (NW) Ltd
will only assume responsibility for information content
shown on original unaltered drawing.

Tree diameters are taken at 1.4m above grade and
are shown in cm. Tree and stump symbols are not drawn to scale.

This Plan was prepared for architectural design and
site servicing purposes, and is for the exclusive use
of our client. The signatory accepts no responsibility
or liability for any damages that may be suffered by a
third party as a result of reproduction, transmission or
alteration to this document without consent of the signatory.

The Parcel described above contains the following legal notations on Title:
Certificate of Title may be affected by th Land Commission Act
see Agricultural Land Reserve Plan No.1 deposited July 30, 1974.

Zoning: AG1

CERTIFIED CORRECT
DATED THIS 13TH DAY OF DECEMBER, 2019

TARGET
LAND SURVEYING
www.targetlandsurveying.ca
FILE: N3727-REM3-TOPO

Michael Rinsma, BCLS 975 B.C.L.S.

THIS DOCUMENT IS NOT VALID UNLESS ORIGINALLY SIGNED AND SEALED
BUILDING OFFSETS SHOWN ON THIS PLAN ARE NOT TO BE USED TO RE-ESTABLISH PROPERTY LINES OR CORNERS
GNCL-300



PROJECT:
Soil Deposit Assessment : PID 005 - 480 - 663

CLIENT:
Harinder Sahota

DOSSIER:
19.0469

ASSESSED BY:
Jessica Stewart, P.Geo, P.Ag.

FIELD VISIT:
January 7, 2020

LOCATION:
Richmond, BC

MAP SCALE:
1:1,000

MAPPING DATE:
January 30, 2020

DRAWN BY:
Jessi Yellowlees



FIGURE 3: Soil & Land Capability for Agriculture

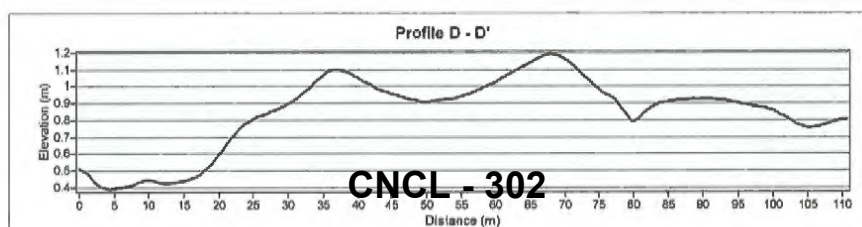
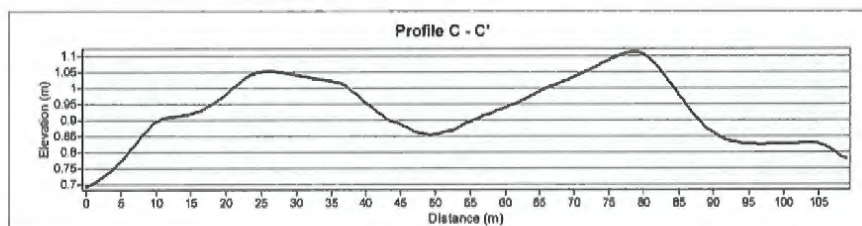
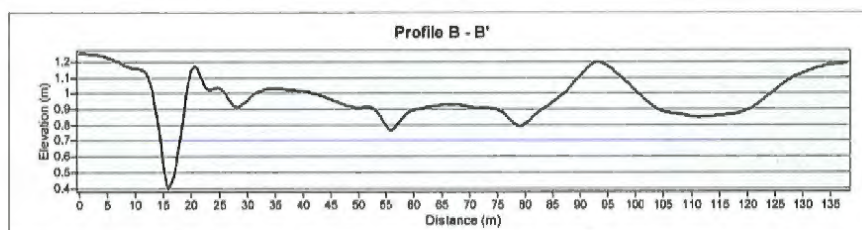
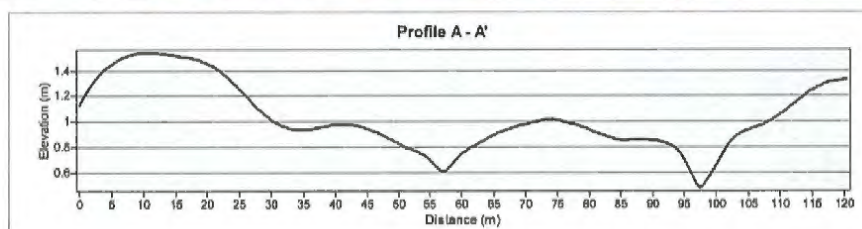
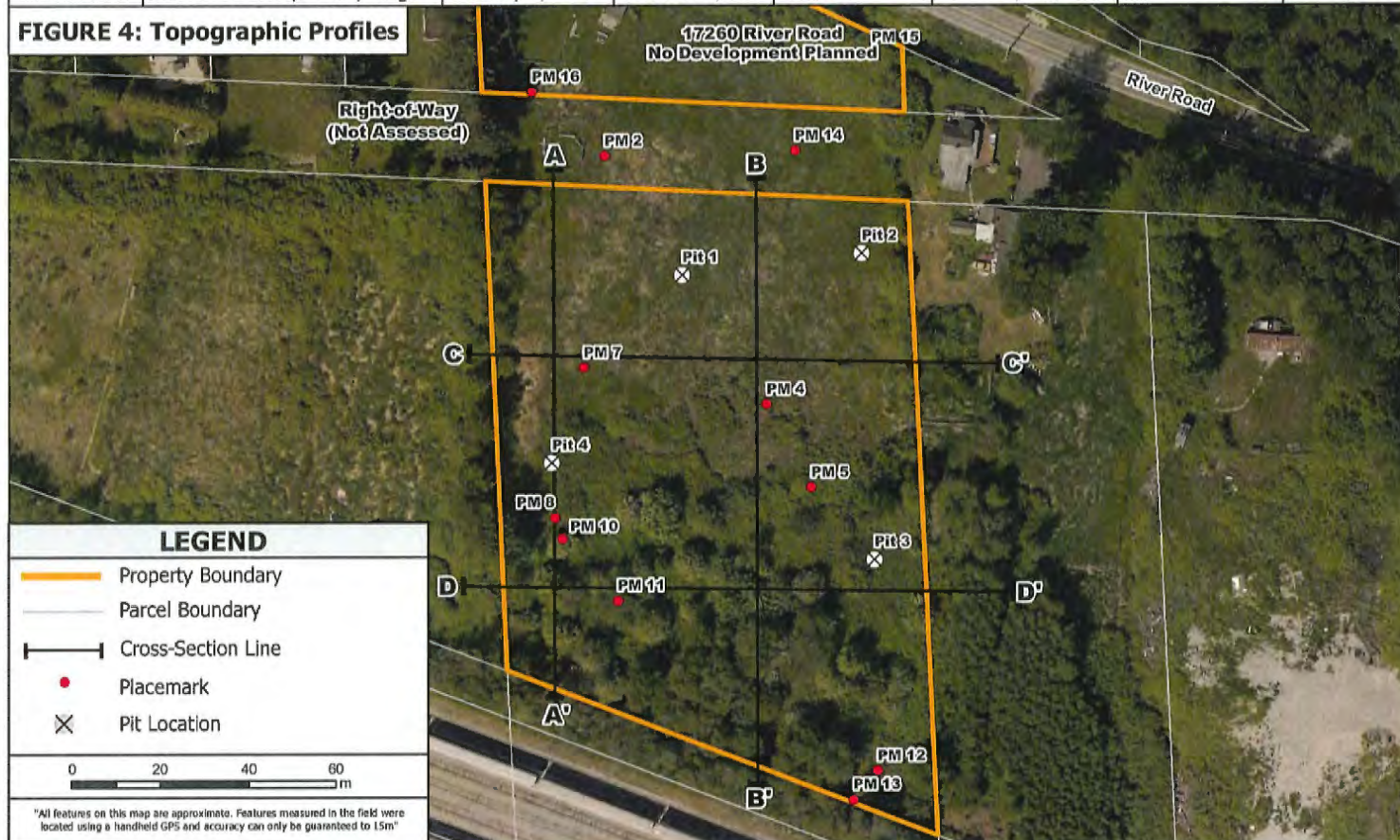




| | | | | | |
|--|--|-----------------------------------|------------------------------|---|--------------------------------------|
| PROJECT: Soil Deposit Assessment : PID 005 - 480 - 663 | | CLIENT: Harinder Sahota | | DOSSIER: 19.0469 | |
| ASSESSED BY: Jessica Stewart, P.Geo, P.Ag. | FIELD VISIT: January 7, 2020 | LOCATION: Richmond, BC | MAP SCALE: 1:1,561 | MAPPING DATE: February 10, 2020 | DRAWN BY: Jessi Yellowlees |



FIGURE 4: Topographic Profiles



CNCL - 302



| | | | | | |
|--|--|----------------------------------|-----------------------------------|---|--------------------------------------|
| PROJECT: Soil Deposit Assessment : PID 005 - 480 - 663 | | | CLIENT: Harinder Sahota | | DOSSIER: 19.0469 |
| ASSESSED BY: Jessica Stewart, P.Geo, P.Ag. | FIELD VISIT: January 7, 2020 | LOCATION: Richmond, BC | MAP SCALE: 1:1,174 | MAPPING DATE: February 10, 2020 | DRAWN BY: Jessi Yellowlees |



FIGURE 5: Soil Volume

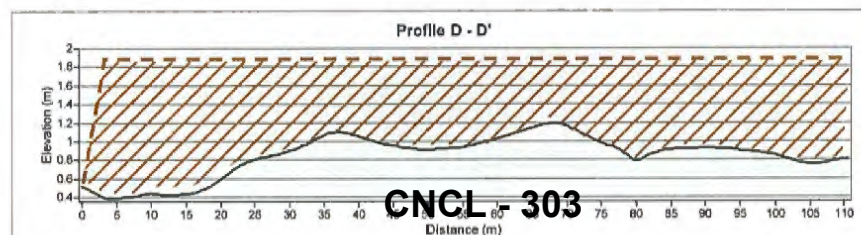
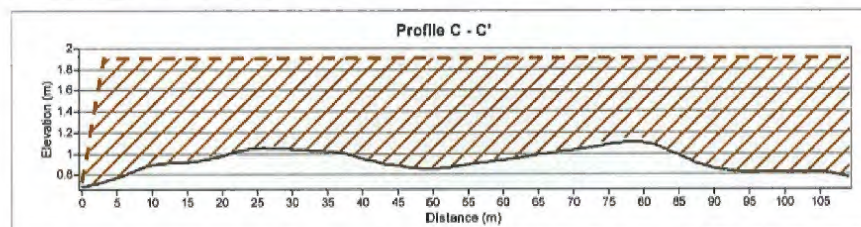
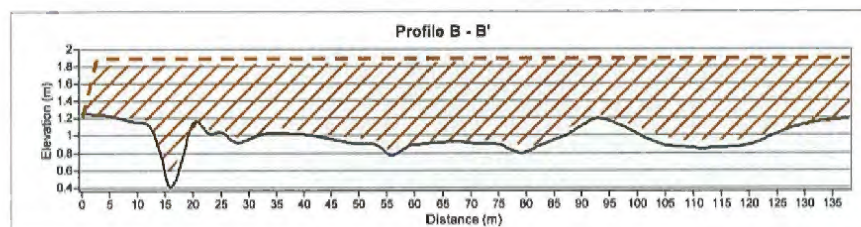
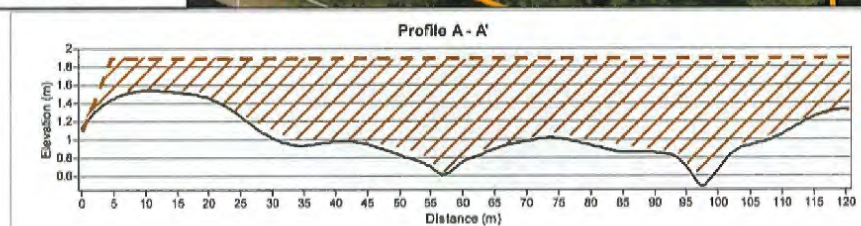


LEGEND

- Property Boundary
- Parcel Boundary
- Cross-Section Line
- Placemark
- Pit Location

0 20 40 60 m

All features on this map are approximate. Features measured in the field were located using a handheld GPS and accuracy can only be guaranteed to 15m



CNCL - 303

LEGEND

- Fill
- Existing Topography



APPENDIX II

Soil Pit Descriptions & Photos

PIT 1 - SOIL PROFILE DESCRIPTION

| Horizon | Depth (cm) | Description |
|---------|------------|--|
| Op | 0 - 35 | Dark, reddish brown to black, humic (von Post class 7), plentiful fine roots. Cultivated (p) in the past. Wavy, uneven contact with Cg1 horizon (as seen in photo) |
| Cg1 | 35 - 70 | Light blue-grey, silt loam, firm, moist, no roots, no coarse fragments. Common, medium prominent orange mottles. |
| Cg2 | 70 - 130+ | Light blue-grey, silty clay loam, firm, no roots, no coarse fragments. Many, prominent, medium orange mottles. Increased mottling with depth. |

**Comments:**

- Located in the centre-north property boundary.
- Water encountered at bottom and sides of pit (seeping in quickly) - 1.3 m deep.
- Soil classification: Rego Gleysol

PIT 2 - SOIL PROFILE DESCRIPTION

| Horizon | Depth (cm) | Description |
|---------|------------|--|
| Op | 0 - 50 | Dark brown to black, humic (von Post class 7), plentiful fine roots. Cultivated (p) in the past. Uneven boundary with Cg 1 horizon. |
| Cg | 50 - 110+ | Grey to blue grey, silt loam to silty clay loam (variable), very firm, moist, no roots, no coarse fragments. Common to many, medium prominent orange to yellow mottles. Increased mottling with depth. Did not encounter Cg2 horizon due to water table/seepage. |

**Comments:**

- Located in the northeast corner of the Property.
- Pit excavated to 1.1 m before hitting water table. Water seeped from bottom and sides quickly (see photo above). Groundwater piping evident from sides of pit. Completely filled in less than 5 minutes.
- Soil classification: Rego Gleysol

PIT 3 - SOIL PROFILE DESCRIPTION

| Horizon | Depth (cm) | Description |
|---------|------------|---|
| Oh1 | 0 - 50 | Black to reddish black, humic (von Post class 7-8), plentiful fine to large roots. Very wet. Uncultivated area that has recently been cleared. |
| Oh2 | 50 - 80 | Dark brown to reddish brown (lower), mesic, (von Post class 5-6), plentiful fine to large roots. Very wet. This is distinctly lighter than the upper organic horizon and less decomposed. |
| Cg | 80 - 120+ | Light grey, silty clay loam, firm, no roots, no coarse fragments. Many, prominent, medium orange mottles, contains decomposed plant remains. |

**Comments:**

- Located in southeast corner of the property near the fence line. Originally upland forest bog – has been recently cleared. This area does not appear in historical imagery to have ever been cultivated for agriculture. Organic horizons are deeper than in Pits 1 and 2 here.
- Pit excavated to 1.2 m before encountering water table. Pit filled with water in less than 10 minutes.
- Soil classification: Rego Gleysol

PIT 4 - SOIL PROFILE DESCRIPTION

| Horizon | Depth (cm) | Description |
|---------|------------|---|
| Oh | 0 - 40 | Dark brown to black, humic (von Post class 7 to 8), plentiful fine roots. Does not appear to have been cultivated - formerly an upland forest bog area. Very wet. |
| Cg | 40 - 110+ | Grey, silt loam, firm, no roots, no coarse fragments. Many, prominent, medium orange mottles. Decomposed plant material (woody plant, sedges etc). Wet. |

**Comments:**

- Located in the southwest corner of the property – this area was forested until 2019. Surrounding land is wet – ponded water over 0.3 m deep throughout.
- Excavated an area without ponded water but encountered water table at 1.1 m deep. Filled with water during assessment but did not completely fill.
- Soil classification: Rego Gleysol

APPENDIX III

**Land Capability for Agriculture
Overview**

Land Capability for Agriculture (LCA) in BC is a classification system that groups agricultural land into classes that reflect potential and limitations to agriculture. The classes are differentiated based on soil properties, landscape, and climate conditions. The system considers the range of possible crops and the type and intensity of management practices required to maintain soil resources, but it does not consider suitability of land for specific crops, crop productivity, specific management inputs or the feasibility of implementing improvements.

There are two land capability hierarchies, one for mineral soils and one for organic soils. Each hierarchy groups the land into seven classes that describe the range of suited crops and required management inputs. The range of suited crops decreases from Class 1 to Class 7 (Class O1 and O7 for Organic soils) and/or the management inputs increase from Class 1 to Class 7. For example, Class 1 lands can support the broadest range of crops with minimal management units.

Lands in Classes 1 to 4 are considered capable of sustained agricultural production of common crops. Class 5 lands are considered good for perennial forage or specially-adapted crops. Class 6 lands are good for grazing livestock and Class 7 lands are not considered capable of supporting agricultural production.

LCA Classes are subdivided into subclasses based on the degree and kind of limitation to agriculture. Subclasses indicate the type and intensity of management input required to maintain sustained agricultural production and specify the limitation. For example, lands rated Class 2W have an excess water limitation that can be improved by managing water on the site.

Most lands are rated for unimproved and improved conditions. Unimproved ratings are calculated based on site conditions at the time of the assessments, without irrigation. Past improvements are assessed as part of the unimproved rating. Forested lands are assessed assuming they are cleared. Improved ratings are assigned assuming that existing limitations have been alleviated. Generally, improvement practices taken into account are drainage, irrigation, diking, stone removal, salinity alleviation, subsoiling, intensive fertilization and adding soil amendments.

LCA Classes

Table A describes the characteristics of each mineral and organic soil class. Mineral soil classes are 1–7 and organic soil classes are O1–O7.

TABLE A. LCA CLASSES

| Class | Description | Characteristics |
|--------------|--|---|
| 1 01 | No or very slight limitations that restrict agricultural use | Level or nearly level. Deep soils are well to imperfectly drained and hold moisture well. Managed and cropped easily. Productive. |
| 2 02 | Minor limitations that require ongoing management or slightly restrict the range of crops, or both | Require minor continuous management. Have lower crop yields or support a slightly smaller range of crops than class 1 lands. Deep soils that hold moisture well. Managed and cropped easily. |
| 3 03 | Limitations that require moderately intensive management practices or moderately restrict the range of crops, or both | More severe limitations than Class 2 land. Management practices more difficult to apply and maintain. Limitations may: Restrict choice of suitable crops. Affect timing and ease of tilling, planting or harvesting. Affect methods of soil conservation. |
| 4 04 | Limitations that require special management practices or severely restrict the range of crops, or both | May be suitable for only a few crops or may have low yield or a high risk of crop failure. Soil conditions are such that special development and management conditions are required. Limitations may: Affect timing and ease of tilling, planting or harvesting. Affect methods of soil conservation. |
| 5 05 | Limitations that restrict capability to producing perennial forage crops or other specially adapted crops (e.g. Cranberries) | Can be cultivated, provided intensive management is employed or crop is adapted to particular conditions of the land. Cultivated crops may be grown where adverse climate is the main limitation, crop failure can be expected under average conditions. |
| 6 06 | Not arable, but capable of producing native and/or uncultivated perennial forage crops | Provides sustained natural grazing for domestic livestock. Not arable in present condition. Limitations include severe climate, unsuitable terrain or poor soil. Difficult to improve, although draining, dyking and/or irrigation can remove some limitations. |
| 7 07 | No capability for arable culture or sustained natural grazing | All lands not in class 1 to 6. Includes rockland, non-soil areas, small water-bodies. |

LCA Subclasses for Mineral Soil

LCA Classes, except Class 1 which has no limitations, can be divided into subclasses depending upon the type and degree of limitation to agricultural use. There are twelve LCA subclasses to describe mineral soils (Table B). Mineral soils contain less than 17% organic carbon; except for an organic surface layer (SCWG, 1998).

TABLE B. LCA SUBCLASSES FOR MINERAL SOIL

| LCA Subclass | Map Symbol | Description | Improvement |
|--|------------|---|--|
| Soil moisture deficiency | A | Used where crops are adversely affected by droughtiness, either through insufficient precipitation or low water holding capacity of the soil. | Irrigation |
| Adverse climate | C | Used on a subregional or local basis, from climate maps, to indicate thermal limitations including freezing, insufficient heat units and/or extreme winter temperatures. | N/A |
| Undesirable soil structure and/or low perviousness | D | Used for soils that are difficult to till, requiring special management for seedbed preparation and soils with trafficability problems. Includes soils with insufficient aeration, slow perviousness or have a root restriction not caused by bedrock, permafrost or a high watertable. | Amelioration of soil texture, deep ploughing or blading to break up root restrictions. Cemented horizons cannot be improved. |
| Erosion | E | Includes soils on which past damage from erosion limits erosion (e.g. Gullies, lost productivity). | N/A |
| Fertility | F | Limited by lack of available nutrients, low cation exchange capacity or nutrient holding ability, high or low Ph, high amount of carbonates, presence of toxic elements or high fixation of plant nutrients. | Constant and careful use of fertilizers and/or other soil amendments. |
| Inundation | I | Includes soils where flooding damages crops or restricts agricultural use. | Diking |
| Salinity | N | Includes soils adversely affected by soluble salts that restrict crop growth or the range of crops. | Specific to site and soil conditions. |
| Stoniness | P | Applies to soils with sufficient coarse fragments, 2.5 cm diameter or larger, to significantly hinder tillage, planting and/or harvesting. | Remove cobbles and stones. |
| Depth to solid bedrock and/or rockiness | R | Used for soils in which bedrock near the surface restricts rooting depth and tillage and/or the presence of rock outcrops restricts agricultural use. | N/A |
| Topography | T | Applies to soils where topography limits agricultural use, by slope steepness and/or complexity. | N/A |
| Excess Water | W | Applies to soils for which excess free water limits agricultural use. | Ditching, tilling, draining. |
| Permafrost | Z | Applies to soils that have a cryic (permanently frozen) layer. | N/A |

LCA Subclasses for Organic Soil

Organic soils are composed of organic materials such as peat and are generally saturated with water (SCWG, 1998). Subclasses for organic soils (Table C) are based on the type and degree of limitation for agricultural use an organic soil exhibits. There are three subclasses specific to organic soils. Climate (C), fertility (F), inundation (I), salinity (N), excess water (W) and permafrost (Z) limitations for organic soil are the same as defined for mineral soil.

TABLE C. LCA SUBCLASSES FOR ORGANIC SOIL.

| LCA Subclass | Map Symbol | Description | Improvement |
|---|------------|---|-------------|
| Wood in the profile | B | Applies to organic soils that have wood within the profile | Removal |
| Depth of organic soil over bedrock and/or rockiness | H | Includes organic soils where the presence of bedrock near the surface restricts rooting depth or drainage and/or the presence of rock outcrops restricts agricultural use | N/A |
| Degree of decomposition or permeability | L | Applies to organic soils that are susceptible to organic matter decomposition through drainage | N/A |



1081 Canada Ave
Duncan, BC V9L 1V2
p. 250.746.5545
f. 250.746.5850

Attachment 2
#202 – 2790 Gladwin Road
Abbotsford, BC V2T 4S7
p. 604.504.1972
f. 604.504.1912

info@madrone.ca
www.madrone.ca

July 17, 2020

Mr. Mike Morin
City of Richmond

RE: Summary of Soil Placement Plan and Garlic Farm Plan Proposal for PID: 005-480-663, River Road, Richmond (No Civic Address) – Intended for Policy Planning and Food Security and Agricultural Advisory Committee (FSAAC) Review

Introduction

The City of Richmond (the 'CoR') Policy Planning has requested a summary of the Soil Placement Plan previously submitted to the City of Richmond and the Agricultural Land Commission (the 'ALC') as part of a soil deposit application for the property identified as PID: 005-480-663, located adjacent to (south of) 17260 River Road, Richmond. The CoR further requested that the summary include an itemized Proposed Agricultural Plan.

We (the applicant and agrologist) understand that the summary will be submitted to the CoR Food Security and Agricultural Advisory Committee (FSAAC) for their review when considering the proposed project, which entails raising the low-lying peat lands by an average¹ of 1.0 m by placing well-draining, sandy soil (screened by a P.Ag. for textural suitability and agricultural suitability² prior to importation) on the property.

The total volume for this proposed project is 12,000 m³, covering approximately 1.39 ha (the entirety of the property). To clarify, this proposal pertains only to the property identified as PID: 005-480-663; it does not include the 17260 River Road property or right-of-way that runs between the two properties. This right-of-way was a formerly proposed city road that ultimately was not constructed.

¹ A topographic survey completed for the site shows undulating microtopography and an elevation range of 0.52 m over the property. Elevations range from 0.77 to 1.29 m according to the topographic land survey commissioned by the applicant. The 1m elevation increase is therefore an average.

² Contains no prohibited materials or excess coarse fragments, and is not overly sandy or clay rich.

This summary has been prepared by Jessica Stewart, P.Geo, P.Ag., who prepared the Soil Placement Plan that accompanies the ALC and city application on behalf of Mr. Harinder (Harry) Sahota, the landowner and applicant. Mr. Sahota also owns the adjacent property 17260 River Road, from which access is facilitated.

This letter summarizes the following information for the Property, as requested by the CoR:

- a. A Site Plan
- b. A Site Description
- c. Legal Description
- d. Zoning and Current Land Use
- e. Soils Description and Unimproved Agricultural Capability
- f. Soil Management Rationale/Improved Agricultural Capability
- g. Recommended Agricultural Uses and Suitable Crops
- h. Proposed Agricultural Plan including
 1. Drainage Requirements/Rationale
 2. Irrigation Requirements/Rationale and Water Sources
 3. Proposed Agricultural Operator
 4. Proposed Planting Plan with a site plan
 5. Agricultural Improvement Cost Estimate (including material costs, drainage costs, irrigation costs and installation costs)
 6. Projected Income Statement (5-10 years)

Item a – Site Plan

Please see **Figure 1** in Appendix A.

Item b – Site Description

According to B.C. Assessment data³, the Property is 1.39 hectares (3.44 acres). The Property subject to this proposed development is situated approximately 8.1 km northeast of downtown Richmond.

It is bound to the east and west by residential lots (agricultural) and to the south by the Canadian National (CN) railway line. It is bound to the north by a right-of-way that I understand was to be a built road (not constructed). It is not identified as a utility right-of-way or as an “undeveloped street” on the City of Richmond Interactive Map program. This right-of-way separates the Property from 17260 River Road (not physically but as a legal boundary). There are no field markings (i.e. fence, stakes) that indicate this

³ <https://www.bccassessment.ca/Property/Info/QTAWMDA1VzdDRQ==> B.C. Assessment property data. Accessed June 26, 2020

right-of-way in the field. The raised gravel driveway built from River Road runs through the right-of-way to access the Property that is intended to be developed under this proposal.

The property is situated on the Fraser River floodplain. Mr. Sahota had a topographic survey (**Attachment 1**) commissioned by Target Land Surveying for the Property (excluding 17260 River Road) in December of 2019. The land survey shows that elevations on the Property range from a low of 0.77 m Geodetic at the centre-west property line to 1.29 m at the centre-south property line.

Item c - Legal Description

The legal description of the property is:

Lot 3 Block 5N Plan NWP4212 Section 24 Range 5W Land District 36 Except Plan 4720 & PT LYING SOUTH OF CNR 4720, SRW 71683

The property ID is 005-480-663. There is no civic address as the property has no frontage (with River Road). It is unofficially but commonly referred to by the CoR as a 'backland' property within the Agricultural Land Reserve (ALR).

Item d - Zoning and Current Land Use

The property is zoned AG1 (Agricultural) according to the Richmond Zoning Bylaw 2011 and the property is within the Agricultural Land Reserve (ALR).

The property was cleared of the majority of its trees in 2019. As mentioned above, there is a single residence on the 17260 property that was re-built following a fire. Otherwise, there are no other land uses. The subject property is not farmed.

Mr. Sahota recently (also in 2019) replaced the driveway crossing (that spans the large ditch on the south side of River Road) that was in the northwest corner of 17260 River Road with a new crossing that is approximately 40 m east-southeast. The old crossing was removed.

The surrounding area is actively farmed for cranberries, blueberries, eggs, and forage crops. There are also several dairy farms in the area. River Road is a heavy industrial area with trucking and manufacturing businesses, shipyards, and railways.

Item e - Soils Description and Unimproved Agricultural Capability

From the Soil Placement Plan prepared by Madrone and dated February 27, 2020 (**Attachment 2**):

My excavated soil pits on the property yielded a black to reddish brown, predominantly humic peat that overlies a grey to blue-grey silt loam horizon called the Cg (less common: silty clay loam). These are fluvial deposits from the Fraser River. In two of the four pits, the Cg horizon contains partly decomposed plant material. It is also firm to very firm in consistency.

The soil type on the property is classified as a Rego Gleysol, which corresponds well with the Blundell soil series described in the Soils of the Langley-Vancouver Map Area, MoE Technical Report 15 (Luttmerding, 1981).

Based on my soil survey, I found the primary **unimproved** agricultural limitation to be excess water (4W) due to poorly drained soils. There is excess free water from early fall to late spring; high watertables persist until the summer months. Class 4W limitations result in moderate crop damage and occasional crop loss.

There is a less serious limitation presented by dense subsoils that result in a root restricting layer and low perviousness within 50 cm from the surface. This is a Class 3D limitation and it is introduced by the firm Cg horizon.

To summarize, the native soil on the property is agriculturally limited by both 1) excess free water and 2) dense subsoils/undesirable soil structure in the Cg horizon.

Item f - Soil Management Rationale/Improved Agricultural Capability

Rationale for soil placement – 1) low-lying topography with poorly drained soils, airphoto history showing wet site conditions through time 2) exacerbated drainage conditions due to surrounding land-use and changes and 3) lack of improvement anticipated with attempting to install drains or pumps.

1. My site assessment shows that the Property has poorly drained soils, specifically, Rego Gleysols that have humic soils overlying fine-textured fluvial (floodplain) deposits from the Fraser River.

The excess water limitation to agriculture (4W) results from high local groundwater conditions and poor regional conveyance of water within drainage infrastructure due to the low-lying nature of the floodplain. As demonstrated by the topographic survey, the property is as low as 0.77 m above sea level. The total elevation difference over the property is 0.52 m.

The historical aerial photo review shows that the southern half of the Property and the surrounding area to the south of the railway was originally a forested peat bog. Standing water was present throughout the bog and on the property in the airphotos ranging from 1938 to 1973. After 1973, vegetation on the southern portion of the property increases and it becomes difficult to see standing water in this area. The bog to the south of the railway was intensely developed with farms and drainage infrastructure (large canals and ditches) is apparent by 1982.

From my review of historic aerial imagery, it is apparent that the Property has been subject to excess water conditions, even having a surface water connectivity with the adjacent and now filled property to the west (refer to Photo 1, the 1951 airphoto in **Attachment 2**).

2. It is my opinion that the excess wetness experienced on the property may be now artificially exacerbated due its confinement between purposely raised land to the north (River Road dyke), south (CN Railway grade), and to the west (soil placement, up to several metres in elevation by visual inspection from Mr. Sahota's Site – this property has no civic address. The purpose of this soil placement is not known as the property has not been evidently used for agriculture since it was placed).
3. The placement of underdrains or drain tiles may result in a limited improvement. There is only one ditch bordering the property that is situated to the south of the site at similar elevation, therefore, the Site lacks freeboard. Subsurface drainage⁴ does not function when the water level in the receiving drainage ditch (which in this case, is to the south) is higher than the drainage tile. Pumping water out of the property would require assurance that the ditch to the south can accommodate the volume of new water without impact to the railway or surrounding property owners. It would also entail running discharge pumps – these are costly and may not be reliable, which may result in losses to the farmer should they fail during a period of crop production.

I have proposed that the placement of soil will raise the growing medium above the water tables and would be a permanent solution to improve the agricultural limitations (excess water, dense subsoils) of the site.

⁴ A formerly used term for this is 'drainage tile'. The ALC uses the term drainage tile frequently. These are perforated pipes or 'PVC' placed under the surface – the exact spacing is subject to the soil texture and local drainage.

Adding soil will elevate the topography over the whole area and will improve drainage in the subsurface. Following construction of the final soil profile, **the Land Capability for Agriculture for the property will improve from Class 4W with excess water limitations to a Class 2W with only short periods of excess water, primarily during late fall to late winter when precipitation is heaviest.**

Placement of a well-draining mineral horizon (the imported soil, which will be sandy loam or loamy sand) will improve growing conditions and enable the planting of more diverse crops over the property. Currently, there are no **well-suited** crops for Blundell Soils⁵.

The existing Class 3D limitation due to undesirable soil structure in the Cg horizon will be completely improved to no limitation (Class 1) by raising the growing medium (the replaced organic topsoil) above the Cg horizon by 1 m.

Item g - Recommended Agricultural Uses and Suitable Crops

According to the Soil Management Handbook⁶, the shallowness of the organic layer over mineral subsoil in the Blundell soils limits water movement and the depth of rooting. Furthermore, the variable depth to the mineral horizon (the Cg, or silt loam) can result in uneven crop growth and difficulty in draining these soils.

When left bare (following crop harvest and tilling, for example), erosion of these soils can result from both precipitation and wind. Erosion can be mitigated by planting cover crops in the fall. This can also improve water management. The management handbook states that even with drainage installed, soils will have excess water than can result in unsuccessful crop growth, particularly of nursery trees, tree fruits, and strawberries (unsuitable crops).

For the native soils assessed on the property, suited crops are: annual legumes, blueberries, cereals, cole crops, corn, perennial forage crops, root crops (except carrots) and shallow rooted annual vegetables.

There are no **well-suited** crops for these soils.

The definitions in the Soil Management Handbook for the Lower Fraser Valley are as follows:

⁵ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley, Page 10. Accessed June 26, 2020

⁶ https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/agriculture-and-seafood/agricultural-land-and-environment/soil-nutrients/610000-1_soil_mgmt_handbook_fraservalley.pdf Soil Management Handbook for the Lower Fraser Valley, Page 10. Accessed June 26, 2020

Well suited crops: a low to moderate level of management inputs are required to achieve an acceptable level of production.

Suited crops: a moderate to high level of management inputs are required to achieve an acceptable level of production.

Item h - Proposed Agricultural Plan

Mr. Sahota has proposed farming garlic on the property following soil placement. This must be done in an open field environment as the CoR engineering department will not permit greenhouses on a backland property without dedicated road access (confirmed in June 2020).

1. Drainage Requirements/Rationale

The placed soil will be subtly graded (1-2% max) to drain into either the existing ditch to the south or drain into the existing north ditch (at River Road) via culvert through the City road allowance (also referred to as "the right of way" in this letter and the Soil Placement Plan) and through the 17260 River Road property (which the applicant owns). Draining south into the existing ditch at the property line is preferred and may require permission from CN, who shares the ditch.

A drainage study is pending from Geopacific Engineering.

2. Irrigation Requirements/Rationale and Water Sources

The property area is designated as 3A (1) in the Climatic Capability for Agriculture scheme of Coligado, 1980⁷. Class 3 aridity limitations indicate drought or aridity between May 1 and September 30 resulting in moisture deficits, which are limiting to plant growth and could require moderately intensive management.

Summer moisture deficits will initially have to be offset by irrigation; a new drip irrigation system can be employed (short intervals every day). For a farm of this size, hand watering by a pump is not practical. Basic research shows that drip irrigation costs approximately \$1 per metre⁸. Thus initial irrigation installation costs will be considerable. Mr. Sahota owns a contracting company and is experienced in land

⁷ https://www.alc.gov.bc.ca/assets/alc/assets/library/agricultural-capability/climatic_capability_for_agriculture_in_bc_1981.pdf Climatic Capability for Agriculture In BC. Coligado, 1981.

⁸ <http://www.irrigationdirect.ca/Drip-Irrigation-Kits-For-Row-Crops-Using-Drip-Tape/> Canadian drip irrigation sales - \$275 for 300 m installation kit.

preparation and installation of such infrastructure. Therefore, the cost of installing this is considered either under land preparation costs or under farm employee costs (detailed in the Project Income Statement section, below).

Garlic bulbs are shallow rooted and as a result are susceptible to moisture stress. A garlic bulb will require between 2.5 and 5.0 cm of water per week, with sandy soils requiring the upper limit of this estimate (the native soils on site would require the lower limit)⁹. The bulbs will not be irrigated in the last two weeks before harvesting.

Irrigation needs will need to be supplied via the municipal water supply. The property does not have an active well according to the landowner. The water supply connection may be facilitated through an existing municipal connection at 17260 River Road.

3. Proposed Agricultural Operator

The property owner and applicant, Mr. Harinder Sahota, will be the primary agricultural operator. He will hire an individual to farm the property on a day-to-day basis. The cost of this is accounted for in the project income statements, below.

4. Proposed Planting Plan with a site plan

Please see **Figure 2** in Appendix A.

Mr. Sahota proposes planting the majority of the property, which is 1.39 ha, with garlic. Two areas exempt from the planting plan are:

1. A farm access road (dirt road, no pavement or asphalt millings) that is up to 6 m wide to accommodate farm vehicles and access to planted fields.
2. A row break between planted fields that will allow access to the east side of the property and fields (no farm road).

Therefore, just over 1.0 ha of the 1.39 ha will be planted with garlic.

⁹ <https://www2.gov.bc.ca/gov/content/industry/agriservice-bc/production-guides/vegetables/garlic> BC Ministry of Agriculture Garlic Production Guide. Accessed July 2, 2020

Basic garlic planting plan:

1. Garlic is a perennial plant that requires a cold period to initiate growth. For cool climates such as that in coastal British Columbia, garlic is generally planted during the fall and harvested the following summer.
2. Garlic bulbs can be purchased by reputable garlic sellers throughout North America (i.e. Russian Red, Italian Purple, Spanish Roja, and Music varieties). The bulbs are separated (or cracked) by hand or by machine to obtain individual cloves that can then be propagated.
3. A single clove will produce an entire garlic bulb, but cloves must be planted every season in the interests of preserving genetic stock. The clove should be planted with the pointed end facing up at a depth of 3 to 5 cm – cloves placed in an incorrect orientation may develop but with misshapen bulbs and shoots.
4. Depending on weed control methods (such as tilling), rows can be planted as close as 20 cm, with garlic clove plant spacing of 7 to 12 cm within the row¹⁰. Garlic can be planted in single rows or in multi-row beds and the beds themselves may be raised or flat.
5. If two fields are planted (Field 1 – 85 m wide east-west and approximately 75 m long north-south, Field 2 – 85 m wide and approximately 50 m long. Irregularly-sized polygons due to lot shape), using the above plant-spacing parameters, this equates to approximately 375 rows of 700 plants in Field 1 and 250 rows of 700 plants in Field 2. This equates to 262,000 garlic cloves planted for Field 1 and 175,000 garlic cloves planted for Field 2.
6. Mr. Sahota may elect to plant one field in the first season and plant the second field in the next season if the first crop is successful (no issues with disease or pests, for example). Alternatively, he can plant the entire field in the first season (fall planting) for an early summer harvest in the second year.

5. Agricultural Improvement Cost Estimate (including material costs, drainage costs, irrigation costs and installation costs)

Mr. Sahota owns his own contracting company and has nearly 40 years of experience in land preparation and earthworks. His company is called Sahota Contractors and is based in Burnaby, B.C. He has a team of employees who can assist with land preparations.

According to Mr. Sahota, it is approximately \$10,000 per acre to prepare a site, install ditches, place soil ect. Therefore, for this site, approximately \$30,000 to \$40,000 is anticipated for site preparation (the property is 3.44 acres).

¹⁰ <https://www2.gov.bc.ca/gov/content/industry/agriservice-bc/production-guides/vegetables/garlic> BC Ministry of Agriculture Garlic Production Guide. Accessed July 2, 2020

6. Projected Income Statement (5-10 years)

The proposed farm operation is garlic farming, which Mr. Sahota has begun doing as a hobby at his Burnaby residence.



PHOTO 1. GARLIC PLANTED BY MR. SAHOTA AT HIS RESIDENCE HOBBY FARM IN BURNABY.

Estimating the projected income from garlic farming is largely speculative. It is estimated using current (2020) costs of garlic seed (cloves), machinery, farm wages, and fuel for example. Due to events beyond the applicants control, costs may significantly vary in 5 to 10 years. For instance, fuel costs may increase significantly due to geopolitical events. Garlic seed costs have remained relatively stable since 2016 from my preliminary research however, seed can be difficult to source due to increased popularity of this crop in Canada.

Costs of first planting:

Garlic is sold by the bulb (although this is called a “seed” by some suppliers). I have researched Canadian garlic “seed” sellers and found that garlic bulb prices vary between varieties and bulb sizes. The variation can be between \$1.85 per bulb for small bulb of common varieties such as Russian Red, to approximately \$4.85 for jumbo bulbs¹¹. I will use an average price of \$2.00 per bulb to account for a variety of garlic

¹¹ <https://garlicseed.ca/collections/all-varieties> John Boy Farms online garlic seed prices for 2018/2019. Manitoba, Canada.

types that may be grown on the property. The cost decreases if purchased as a large bulk order (i.e. 10 bulbs or more)¹².

The number of clove 'seeds' in each bulb differs greatly between garlic varieties – between 4 and 20 seeds in cases. A good average estimate is 10 cloves per bulb.

If Mr. Sahota plants one field (Field 1) in the first season (**therefore, Year 1 is defined as the first harvest year if planting is done the previous fall – the planting year is essentially Year 0**) with approximately 260,000 cloves, this would require approximately 26,000 bulbs. Field 2 would require approximately 17,500 bulbs, for a total of 43,500 bulbs for both fields.

Thus the initial bulb investment may be on the order of \$80,000 (if both fields are planted at \$2 per bulb). **It is important to note that garlic bulbils from the first harvest can be retained to propagate more garlic – this would negate the need to purchase new bulbs for the second season.**

Projected Income

According to 2019 annual market data from Agriculture and Agri-Food Canada¹³, organic garlic in Canada fetched \$78 to \$88 per 22 lb container (standard unit). This corresponds to \$3.5 to \$3.90 per lb. According to a 2017 article on Canadian garlic farming in the Western Producer¹⁴, prices for locally produced garlic in Ontario fetch \$5 per pound for wholesale and up to \$8 per lb sold 'on the farm'.

An initial crop of 260,000 plants (bulbs) would yield approximately 28,000 lbs of garlic (an average bulb is approximately 50 grams). If only half of this crop is sold, this corresponds to 16,000 lbs with a wholesale price (using the lowest quoted price of \$3.50 per lb in 2019 market data) of approximately \$56,000. **If the entire crop is sold wholesale, it would yield a sales income of \$112,000.**

If both fields are planted, approximately 48,000 lbs of garlic could be produced, yielding \$168,000 if sold wholesale (using \$3.50 per lb). It is unrealistic that all bulbs will be sold – some bulbs may not sold due to poor growth characteristics or disease and some bulbs must be retained for re-planting and

¹² <http://www.rasacreekfarm.com/garlic-store/current-inventory-levels> Rasa Creek Farms in Lumby, B.C. will be charging \$2 per bulb in summer 2020 for non-organic garlic.

¹³ <https://infohort.agr.gc.ca/IH5/Reports/cognosSubmitter.xhtml> Annual Summary of Daily Wholesale to Retail Market Prices – Garlic, Prices for Toronto, Ontario.

¹⁴ <https://www.producer.com/2017/04/garlic-growers-smell-future-expansion/> Western Producer news article - 2017.

propagation. If 75% of the crop produced by the farm (36,000 lbs) is sold at 2019 wholesale prices of \$3.50 per lb, this may yield approximately \$126,000.

This is not the projected net annual income of the farm. There will be costs associated with regular farm maintenance, wages, planting (including cracking bulbs to harvest cloves for further propagation of seed), fertilization/soil amendments, harvesting, and treatment of pests and disease. Mr. Sahota will hire an individual to conduct all farm maintenance – if he pays this individual \$50,000 per year (which is higher than current reported farm wages of approximately \$12-\$14.00 per hour), and spends approximately \$5000 to \$10,000 per year on farm supplies including tools, implements, fertilizer, costs to run the farm can be expected to be up to approximately \$60,000 per year.

There is also a one-time significant cost of purchasing the initial bulbs. This may be upwards of \$80,000 for the first year (if both fields are planted, or 435,000 plants). Bulbs can be retained annually and propagated from the original purchased stock.

The basic, projected five year net income is:

Approximately \$60,000 per year to run the farm (farm wages and supplies, maintenance, soil testing, amendments, tools, machinery upgrades ect.) = \$300,000 for five years.

\$80,000 initial bulb investment (difficult to source garlic locally due to popularity and limited suppliers, this translates to high costs for the bulbs)

Sales income from 75% of the crop: \$126,000 per year (if garlic prices remain stable) x 5 years = \$630,000

$630,000 - \$300,000 - \$80,000 = \$250,000$ after five years (if there is continuous harvest)

10 year net income using above parameters - \$500,000.

This does not include property taxes paid by Mr. Sahota, purchase of new bulbs in the event of pest or disease affecting the initial bulbs, consulting fees for pest management/control, soil testing, or the purchase of a tractor. A tractor may be on the order of \$50,000 plus annual maintenance and fuel costs. Mr. Sahota currently owns backhoes and a variety of earthworks equipment therefore; a tractor may not be necessary for the initial farm operation.

Other potential costs include hiring additional labour (to assist a permanent farm employee) during harvest season to ensure quick harvest. Attracting farm labour may be difficult in the Lower Mainland therefore, higher wages may be necessary.

Yours Truly,
MADRONE ENVIRONMENTAL SERVICES LTD.

**This is a digitally signed duplicate of the
official manually signed and sealed document.*



Jessica Stewart, P. Geo., P. Ag.

On behalf of: Mr. Harinder Sahota (applicant)



Attachments – Supplementary Information

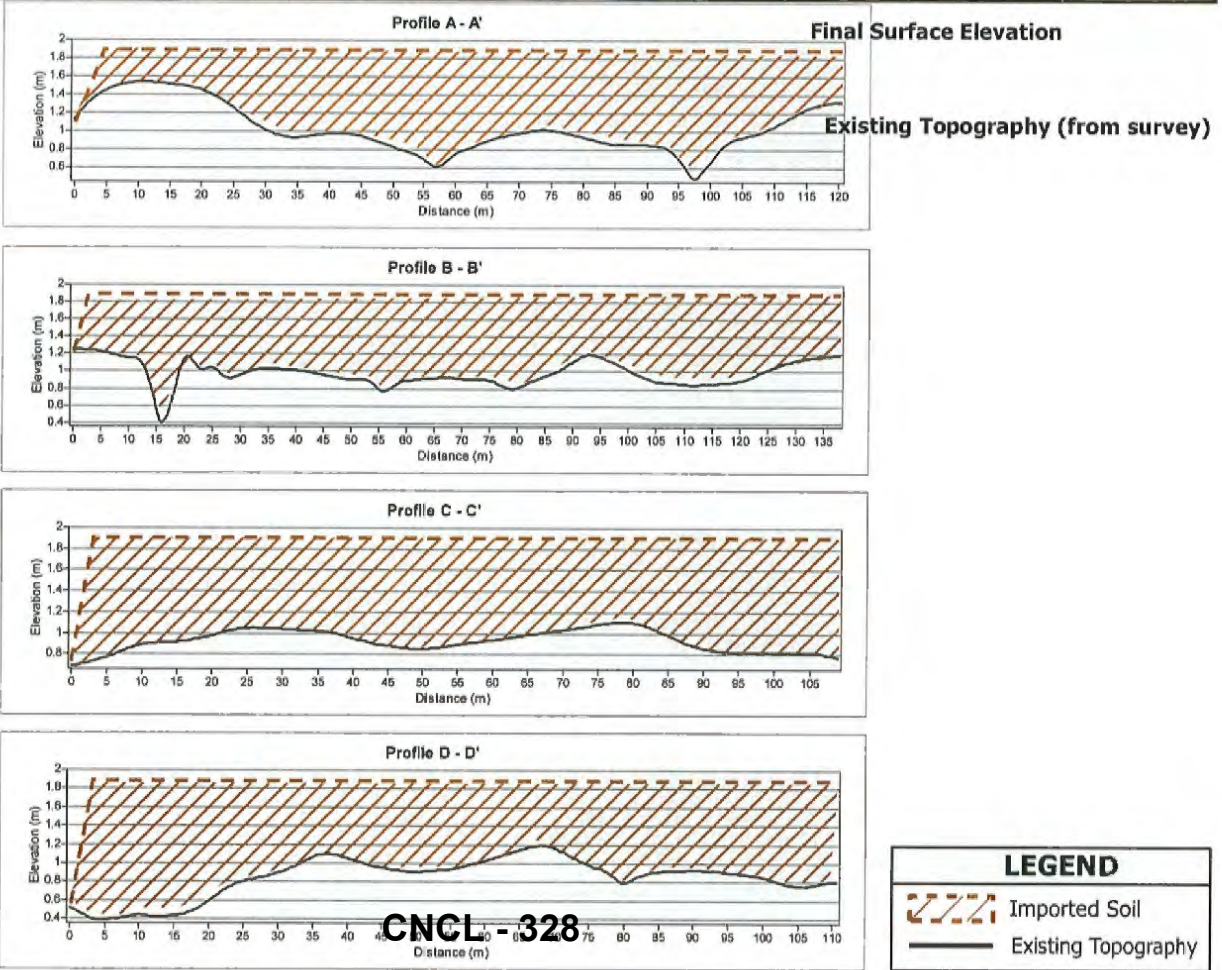
1. Topographic Survey
2. Soil Placement Plan (Madrone)



APPENDIX A

Figures

| | | | | | | | |
|--|--|--|----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|---|
|  | PROJECT: Soil Deposit Assessment : PID 005 - 480 - 663 | | | CLIENT: Harinder Sahota | | DOSSIER: 19.0469 |  |
| | ASSESSED BY: Jessica Stewart, P.Geo, P.Ag. | FIELD VISIT: January 7, 2020 | LOCATION: Richmond, BC | MAP SCALE: 1:1,400 | MAPPING DATE: July 7, 2020 | DRAWN BY: Jessi Yellowlees | |





| | | | | | | |
|--|--|-----------------------------------|----------------------------|--------------------------------------|--------------------------------------|--|
| PROJECT: Soil Deposit Assessment : PID 005 - 480 - 663 | | CLIENT: Harinder Sahota | | DOSSIER: 19.0469 | | |
| ASSESSED BY: Jessica Stewart, P.Geo, P.Ag. | FIELD VISIT: January 7, 2020 | LOCATION: Richmond, BC | MAP SCALE: 1:950 | MAPPING DATE: July 7, 2020 | DRAWN BY: Jessi Yellowlees | |

FIGURE 2: Planting Plan - Garlic Farm





1081 Canada Ave
Duncan, BC V9L 1V2
p. 250.746.5545
f. 250.746.5850

#1 - 30435 Progressive Way
Abbotsford, BC V2T 6Z1
p. 604.504.1972
f. 604.504.1912

info@madrone.ca
www.madrone.ca

November 1, 2021

Mr. Harinder Sahota
5547 SE Marine Drive
Burnaby BC V5J 3G7
hsahota56@gmail.com

Dear Mr. Sahota,

Memorandum RE: Locations of agriculturally-suitable soil for Importation to PID 005-480-663, River Road, Richmond, BC [CD 93639]

Madrone Environmental Services Ltd. ('Madrone'), acting as the qualified professionals (QP's) retained by you, Mr. Harinder (Harry) Sahota ('the Client'), has prepared this memorandum to identify suitable locations to source soil for completion of the soil importation project proposed for PID 005-480-663, River Road, Richmond, BC ('the Site'). This memorandum is intended to be submitted to the City of Richmond ('the City') for review and consideration by the Mayor and City Councilors prior to the meeting between the Client, Madrone and the General Purpose Committee Meeting scheduled for November 9, 2021.

The approximate volume of imported soil required for completion of the project has been estimated 12,000 m³, calculated based on the proposed import area (1.39 ha, the entirety of the property minus property line setbacks) and the depth of soil needed (ranging from 0.61 m to 1.13 m¹) to elevate the lands on the Site for the purpose of improving agricultural capability. It is Madrone's professional opinion that the textural (i.e., physical properties) and origin (i.e., geographical source) criteria for agriculturally-suitable soil required for project completion include the following:

1. A loam textured mineral soil (ideally a silt loam to sandy loam texture);
2. Minimal coarse fragment content (i.e., minimal gravel, cobble and stone content); and
3. Sourced from an area currently and historically zoned residential. Soils should not be sourced from commercial or industrial lands (current or historic) due to potential contamination. Lands currently zoned and used for agriculture are unsuitable soil source locations because of the regulatory restrictions concerning removing soils from agricultural lands.

¹ A topographic land survey was used to prepare this estimate; the survey results are included in the soil deposit assessment/plan prepared for the Site.

As such, Madrone has performed a desktop assessment to identify suitable areas within Richmond and Delta, and also in surrounding municipalities, where agriculturally-suitable soils may be sourced from for the Site. The Client and Madrone would prefer to import soil exclusively from within the municipality of Richmond; it is our opinion that the Client should prioritize accepting soil originating from Richmond where and when possible. However, we recognize that soil series and their surficial parent materials are not confined by municipal boundaries and as such, there are soils within the City of Richmond municipal limits that are found in neighbouring municipalities and should therefore be considered.

Madrone emphasizes that the topsoil on the Site will be stripped and preserved for later replacement on top of the placed subsoil; we do not anticipate importing topsoil.

Based on Madrone's desktop assessment, agriculturally-suitable soil for important to the Site can be found at the following locations:

- City of Richmond northwest of the Greenacres Golf Course in the residential neighbourhood west of Jacombs Road and north of Highway 91 (**Placemark 1, Figure 1**);
- City Richmond in the Southarm neighbourhood between No.4 Road and No. 5 Road, north and south of Steveston Highway (**Placemark 2, Figure 1**);
- Municipality of Delta north of Ladner Trunk Road between Highway 17A and 64 St, (**Placemark 3, Figure 1**); and
- South Vancouver west of the Point Grey Golf and Country Club (**Placemark 4, Figure 1**) and east of the Marine Drive Golf Club (**Placemark 5, Figure 1**)

All of these locations are mapped as containing Blundell, Ladner and Benson soils, an ideal agricultural soil because of their stone-free, silt loam texture. Moreover, these locations do not appear to be within commercial area or industrial area, thus reducing the potential for chemical contamination of the sourced soil.

Due to the volume of agriculturally-suitable soil required for project completion (12,000 m³), the sourcing of soil for importation to the Site will likely need to come from several of the aforementioned locations for completion of the proposed importation project within a 2 year timeframe.

Note that these recommendations are based on provincial mapping² which was developed at a small scale covering large areas (1:20,000) and were likely not field verified (via assessment of soil pits) for specific residential neighbourhoods. A field assessment should be conducted by a qualified professional to confirm the location-specific textural characteristics of any soils prior to importation. Moreover, prior to

² Province of British Columbia (2018). Soil Information Finder Tool.

<https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil/soil-information-finder>. Accessed September 23, 2021.

importation to the Site, source soils should be sampled and submitted for laboratory analyses to ensure they are not chemically contaminated (heavy metals, polyaromatic hydrocarbons etc.).

Please contact the undersigned authors should there be any questions regarding the contents of this memo.

Sincerely,

MADRONE ENVIRONMENTAL SERVICES LTD.

Prepared by:

**This is a digitally signed duplicate of the official manually signed and sealed document*



Daniel Lamhonwah, PhD, MES, P.Ag
Environmental Scientist, Professional Agrologist

Senior Reviewed by:

This is a digitally signed duplicate of the official manually signed and sealed document



Jessica Stewart, P.Ag, P.Geo
Professional Agrologist, Professional Geoscientist

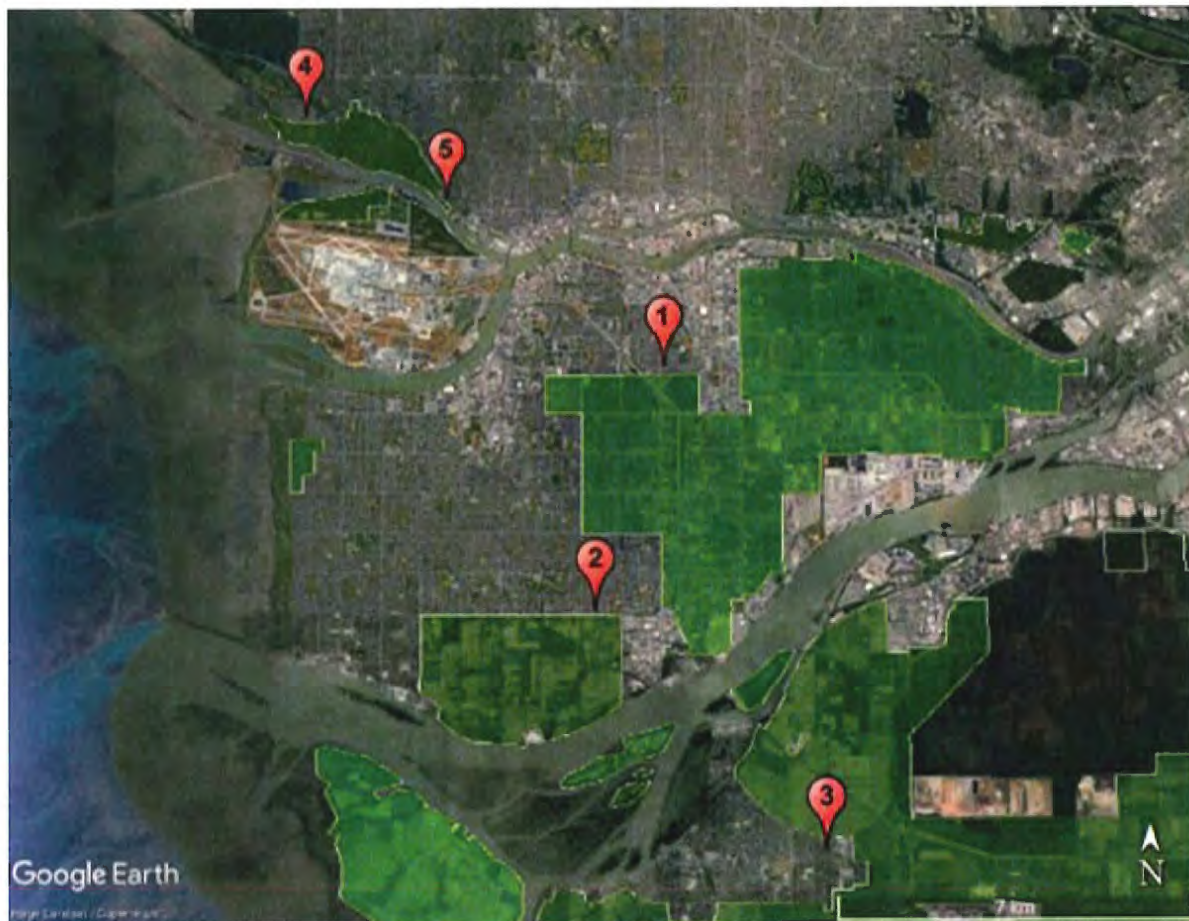


FIGURE 1. RECOMMENDED LOCATIONS TO SOURCE SOIL FOR IMPORTATION TO PID 005-480-663, RICHMOND, BC. SHADED POLYGONS SHOWS THE LOCATIONS OF THE PROVINCIAL AGRICULTURAL LAND RESERVE (ALR). IMAGERY PROVIDED BY GOOGLE EARTH; DATED 2021.



#203 – 19292 60 Avenue
Surrey, BC
V3S 3M2

April 21, 2020

Bruce McTavish RPBio PAg, has reviewed the documents presented for the proposed fill project located on PID 005-480-663. These documents include the Madrone Environmental Services Ltd. Soil Placement plan, topographic profile, and the preliminary Geotechnical Investigation by Geopacific.

The methodology for soil and agricultural capability assessment meets the criteria of the ALC P-10 policy "Criteria for Agricultural Capability Assessments".

The assessment concluded that the soils on the site are in the Blundell soil series and that the agricultural capability is 4W. The soils are agriculturally limited by excess free water and dense subsoils with undesirable soil structure in the Cg horizon. My review of the soil pit data provided in the Madrone report (including pictures of each pit) support the conclusions that the agricultural capability is 4W.

The Madrone report indicates that the soils are Rego Gleysols in the Blundell soil series. The information provided in the Madrone report supports their conclusion that the soils found on site are in the Blundell soil series.

The Madrone report quotes the Canadian Soil Information Service (CanSIS) as stating the soils have high salinity, however there was no soil testing carried out to confirm this.

The Madrone report states:

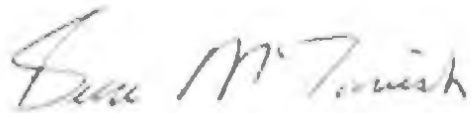
It is my opinion that the excess wetness experienced on the property may be now artificially exacerbated due its confinement between purposely raised land to the north (River Road dyke), south (CN Railway grade), and to the west (soil placement, up to several metres in elevation by visual inspection from Mr. Sahota's Site – this property has no civic address). There does not appear to be soil placement on the lands to the east (17360 and 17340 River Road). The River Road dyke and the CN railway were in place by the earliest airphoto data I reviewed (1938) however, filling of the property to the west began sometime between 1991 and 1997. Vegetation was re-established by 2004.

My review of the historical aerial photography provided in the Madrone report supports their conclusion that the wetness is likely exacerbated by land raising on adjacent properties.

The Madrone report recommends stripping the existing peat soil and than replacing this as farmable topsoil after the mineral fill is placed on the site. This is the best method of dealing with peat soil as the peat soil especially if mixed with medium textured mineral soil provides a good agricultural growing medium.

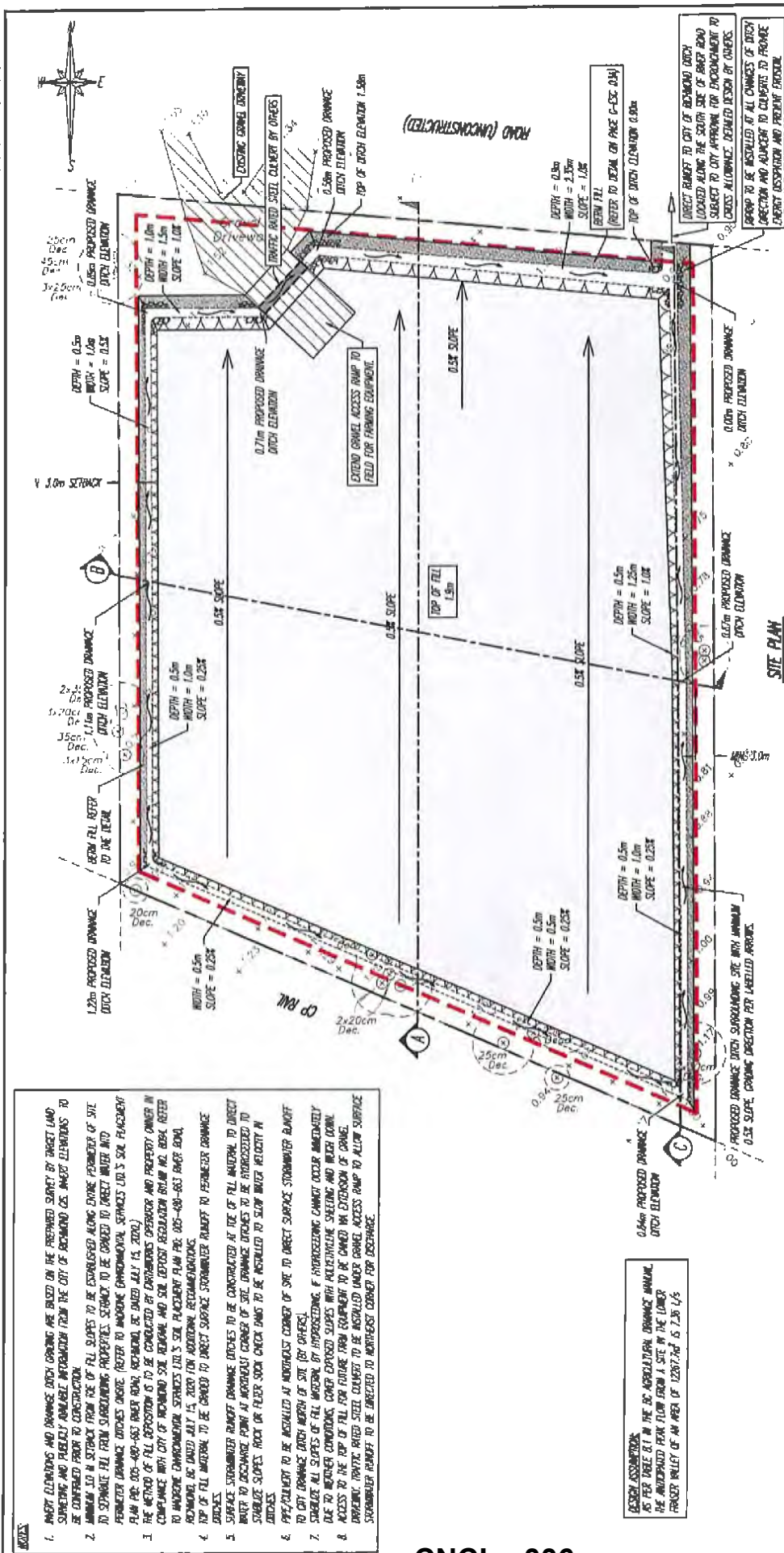
The Madrone report has covered all the critical areas of soil and land capability assessment and meets the ALC requirements in their P-10 policy "Criteria for Agricultural Capability Assessments".

The Madrone conclusion on soil depth including peat depth are supported by the geotechnical report.

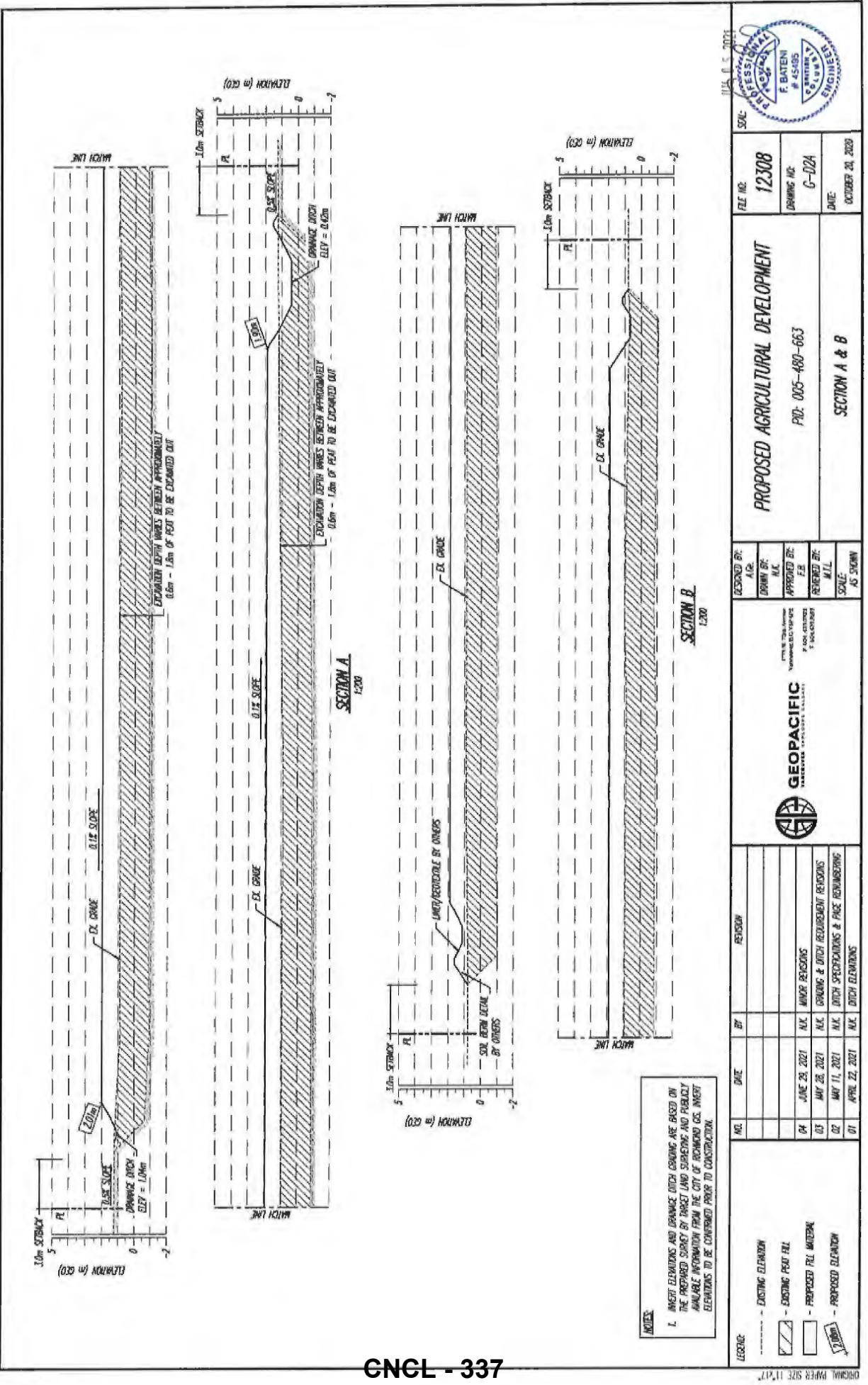


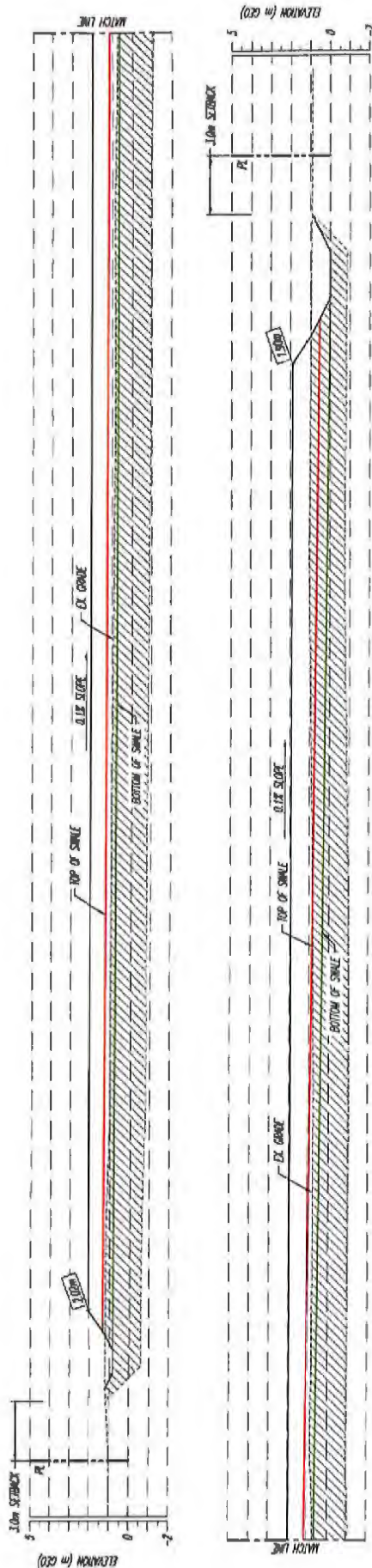
**Bruce McTavish, MSc MBA PAg RPBio Red Seal Landscape Horticulture
President**





| | | |
|---|--|---|
| <p>PROPOSED AGRICULTURAL DEVELOPMENT</p> <p>PD: 005-480-663</p> <p>DRAINAGE PLAN</p> | | <p>FILE NO. 12308</p> <p>DRAWING NO. 6-01</p> <p>DATE: OCTOBER 20, 2021</p> |
| <p>ISSUED BY: A.E.</p> <p>DRAWN BY: A.E.</p> <p>APPROVED BY: F.B.</p> <p>REVIEWED BY: A.E.</p> <p>SCALE: AS SHOWN</p> | | <p>PROJECT NO. 12308</p> <p>DATE: OCTOBER 20, 2021</p> |
| <p>REVISION</p> <p>NO. DATE BY</p> | | <p>REVISION</p> <p>NO. DATE BY</p> |
| <p>04 JUNE 20, 2021 A.E. DRAINAGE & DITCH REQUIREMENT REVISIONS</p> | | <p>04 JUNE 20, 2021 A.E. DRAINAGE & DITCH REQUIREMENT REVISIONS</p> |
| <p>01 JULY 20, 2021 A.E. DRAINAGE & DITCH REQUIREMENT REVISIONS</p> | | <p>01 JULY 20, 2021 A.E. DRAINAGE & DITCH REQUIREMENT REVISIONS</p> |
| <p>02 MAY 11, 2021 A.E. DITCH SPECIFICATIONS & PACE REMARKING</p> | | <p>02 MAY 11, 2021 A.E. DITCH SPECIFICATIONS & PACE REMARKING</p> |
| <p>01 APRIL 22, 2021 A.E. DITCH ELEVATIONS</p> | | <p>01 APRIL 22, 2021 A.E. DITCH ELEVATIONS</p> |





SECTION C
1:20

NOTES:
1. INVERT ELEVATIONS AND DRAINAGE DITCH GRADING ARE BASED ON THE PREPARED SURVEY BY TARGET LAND SURVEYING AND PUBLICLY AVAILABLE INFORMATION FROM THE CITY OF EDMONTON. ALL INVERT ELEVATIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.

LEGEND:
--- EXISTING ELEVATION
--- TOP OF SMOLE
--- BOTTOM OF SMOLE
--- EXISTING PEAT FILL
--- PROPOSED FILL MATERIAL
--- PROPOSED ELEVATION

| NO. | DATE | BY | REVISION |
|-----|----------------|------|--|
| 04 | JUNE 28, 2021 | N.E. | MINOR REVISIONS |
| 03 | MAY 28, 2021 | N.E. | GRADING & DITCH REQUIREMENT REVISIONS |
| 02 | MAY 11, 2021 | N.E. | DITCH SPECIFICATIONS & PHASE REVISIONS |
| 01 | APRIL 22, 2021 | N.E. | DITCH ELEVATIONS |



GEOPACIFIC
LAND SURVEYING & CONSULTING LTD.

11775 104 Avenue
Edmonton, Alberta T6E 1E1
P. 780.455.1111
F. 780.455.1112

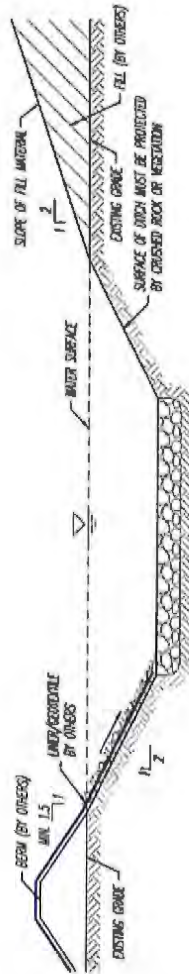
DESIGNED BY: A.G.
DRAWN BY: N.E.
APPROVED BY: F.B.
REVIEWED BY: M.L.
SCALE: AS SHOWN

PROPOSED AGRICULTURAL DEVELOPMENT
PID: 005-480-663
SECTION C

FILE NO: 12308
DRAWING NO: G-028
DATE: OCTOBER 28, 2020

SCALE: PROFESSIONAL
F. BATANI
#45495
REGISTERED PROFESSIONAL ENGINEER

JUL 05 2021



ORANGE OTCH DETAIL

1. SURFACE OF DRAINAGE DITCH TO BE IMPROVED.
2. DRAINAGE DITCH TO HAVE MINIMUM 2% SLOPE.
3. WIDTH AND SLOPE OF DITCH AS SPECIFIED ON G-12031.
4. PROVIDE REGULAR DITCH MAINTENANCE TO PREVENT GROWTH OF WEEDS AND GRASS.
5. DITCH TO BE SIZED FOR PEAK FLOWS.

| NO. | DATE | BY | REVISION |
|-----|----------------|------|---------------------------------------|
| 05 | JUNE 20, 2021 | A.K. | MINOR REVISIONS |
| 04 | JUNE 17, 2021 | A.K. | REVISED SWIRE DETAIL & PACE REWORKING |
| 03 | MAY 20, 2021 | A.K. | REMOVED PLASTIC SHEETING DETAIL |
| 02 | MAY 11, 2021 | A.K. | REVISED SWIRE DETAIL & PACE REWORKING |
| 01 | APRIL 22, 2021 | A.K. | REVISED DITCH DETAIL |

| | | | | |
|---------------------|-------------------|----------------------|------------------------|--------------------|
| DESIGNED BY: AGE | DRAWN BY: N.K. | APPROVED BY: F.B. | REVIEWED BY: M.T.L. | SCALE: AS SHOWN |
|---------------------|-------------------|----------------------|------------------------|--------------------|



GEOPACIFIC

1750 W. 72nd Avenue
Burlington, BC V6P 4P7
P 604 338-2922
F 604-338-2924

PROPOSED AGRICULTURAL DEVELOPMENT

PID: 005-480-663

DETAIL DRAWINGS (1 OF 2)

| | |
|----------|-----|
| FILE 147 | 705 |
|----------|-----|

12308

2015-2016

DATE:

JUL 05 2021





GEOPACIFIC
VANCOUVER KAMLOOPS CALGARY

Attachment 6

P 604.439.0922

F 604.439.9189

geopacific.ca

1779 W 75th Ave.

Vancouver, B.C. Canada V6P 6P2

Sahota Holdings Ltd.
5547 Marine Drive
Burnaby, BC
V5J 3G7

February 12, 2021

File: 12308

Attention: Harry Sahota

**Re: Preliminary Geotechnical Investigation Report- Proposed Agricultural Development
17260 River Road, Richmond, BC**

1.0 INTRODUCTION

We understand that you wish to redevelop the above referenced site with an agricultural development. No detailed design information has been provided at this time, however, we expect the redevelopment would consist of removing peat soils at the site, stockpiling peat soils, filling the site with structural fill, and capping the fill with agricultural soil for farming purposes. We further expect that a gravel access road will be provided in the area. The remainder of the site would be utilized as a storage yard.

This report has been prepared exclusively for Sahota Holdings Ltd., for their use and the use of others on their design and construction team for this project. This report presents the results of an investigation of the soil and groundwater conditions at the site and makes preliminary recommendations for the design and construction of the proposed buildings and asphalt paved parking areas.

2.0 SITE DESCRIPTION

The site is located east of the intersection of River Road and No. 8 Road in East Richmond, BC. The site is bounded by River Road to the north, private property to the east and west, and a CN Railway yard to the south. The site is presently improved with a single family home at the north west corner of the site, and is covered in low lying vegetation and some trees. The site is essentially flat. The location of the site in relation to adjacent lands as well as existing improvements is shown on the attached plan, Drawing No. 12308-01, following the text of this report.

3.0 FIELD INVESTIGATION

GeoPacific Consultants Ltd. conducted a site investigation on June 27, 2019, using the subcontracted services of Uniwide Drilling of Prince George, BC. The site investigation was comprised of five augered test holes, two cone penetration test (CPT) soundings, and one seismic cone penetration test (SCPT). All five augered test holes were advanced to a depth of 9.1 metres below current site grades. The soils were logged in the field and samples were collected for laboratory moisture content analysis.

Prior to our investigation, a BC one call was placed and a member of our utility locate staff was on site to clear the test locations of buried services. All test holes were backfilled and sealed in accordance with provincial abandonment requirements following classification, sampling and logging.

The CPT is an in-situ testing device which is pushed into the ground employing a hydraulic ram on the drill rig. The cone penetrometer records measurements of tip resistance, sleeve resistance, dynamic pore water pressure, temperature, and inclination in 50 mm increments. Shear wave velocities can also be collected in 1 m intervals when required. The data obtained may be correlated to estimate engineering parameters such as shear strength, relative density, soil behaviour type, and consolidation coefficients. The stratigraphic interpretation was verified with the auger test holes as described above.

The test hole logs are presented on Figure A.01 to A.05 in Appendix A. The CPT sounding data is presented in Figures B.01 to B.03 of Appendix B. Interpreted Soil Parameters are presented in Appendix C, Liquefaction Assessment in Appendix D and Shear Wave Velocity data in Appendix E. The approximate locations of the test hole and CPT soundings are shown on our Drawing 12308-01, following the text of this report.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

The soil conditions at our test hole locations were considered to consist of topsoil, underlain by peat, underlain by organic silt, underlain by overbank silt deposits, underlain by Fraser River channel sands, underlain by marine silt to the maximum depth explored. A detailed description of the soils encountered is as follows:

TOPSOIL

The ground surface at our test hole locations is covered with between 150 and 600 mm of topsoil. The topsoil was noted as black-brown, moist, with some organics.

PEAT/ORGANIC SILT

The topsoil is underlain by a layer of soft peat in TH 19-01, TH19-02 and TH19-05. The peat was described as soft, semi-fibrous, moist to wet and dark brown. The peat extends to depths between 0.6 to 1.8 m below grade at the site. The moisture content of the peat was found to be between 76.9 and 289.4 percent based on laboratory analysis. The peat and/or topsoil is underlain by a sequence of wet, soft, fibrous organic silt. The organic silt was found in all of our test holes, extending to depths of between 1.5 to 4.0 m below grade at the site. The moisture content of the organic silt was found to be between 53.1 and 166.4 percent based on laboratory analysis. This peat and organic silt shows high compressibility under the anticipated loading.

SILT (Overbank Sediments)

The peat and/or organic silt is underlain by a sequence of overbank sediments comprised of soft to firm silt to sandy silt. The overbank silt sequence extends to depths of between 7.0 to 7.6 m below grade at the site. The undrained shear strength of the silt is between 20 and 25 kPa based on CPT interpretations, shown in Appendix C. The moisture content of the silt was found to be between 38.8 and 86.1 percent based on laboratory analysis. The overbank sediments show moderate compressibility under the anticipated loading.

Fine Sandy SILT to Silty SAND (Transitional Sequence)

The overbank silt is underlain by 0.3 to 1.2 metre of a transitional sequence comprised of compact silty sand to firm to stiff sandy silt. Laboratory testing shows the moisture content of the transitional sequence is around 46.7 percent. The undrained shear strength was determined to be between 60 to 110 kPa. The sequence is non-plastic and therefore not compressible under the anticipated loading.

SAND (Channel Fill Sediments)

The overbank sequence is underlain by a sequence of channel deposited sands. The slight variations in insitu density, compressibility and mineralogy and grain size are reflected in the shape of the tip resistance curve shown on Figures B.01 to B.03. In general, the Fraser River channel sands at this site are well graded, medium grained, predominately quartz, highly stratified and compact.

SANDY SILT TO CLAYEY SILT (Marine deposits)

The channel deposited sands are underlain by marine deposited sandy silt to clayey silt at depths of between 25.5 and 30 meters below current site grades. These deposits are expected to continue to a significant depth at the site.

For a more detailed description of the subsurface conditions refer to the test hole logs in Appendix A, the CPT sounding logs in Appendix B and interpreted soil parameters in Appendix C, following the text of this report.

4.2 Groundwater Conditions

The water table at the site was determined by pore pressure dissipation tests carried out in the clean sand layers present at depth, during the CPT soundings. The CPT soundings indicate a static water level of about 1.2 metres below present site grades. Groundwater levels are expected to vary seasonally and tidally with generally lower groundwater levels during drier summer and fall months and periods of low tides. Note that perched groundwater should be expected to occur above the relatively impermeable upper silt layer, and can especially be expected during the wetter winter and spring months.

5.0 DISCUSSION

5.1 General Comments

We understand that the new development will consist of re-purposing the low lying, poorly drained site to accommodate future farming. This would involve removing peat soils at the site, stockpiling peat soils, filling the site with structural fill, and capping the fill with peat for farming purposes. We are in receipt of the soil placement plan, prepared by Madrone. Based on the soil placement plan, we expect grades at the site would be raised by approximately 1.0 m. We have produced a drainage plan for the site based on the soil placement plan prepared by others.

We confirm that the proposed over excavation of peat, replacement with structural fill and grade reinstatement of 1.0 m or less is acceptable from a geotechnical standpoint, and there will be no adverse impacts on surrounding properties and City infrastructure during and post project completion.

We confirm that we have reviewed the soil placement plan, and confirm that the proposed agricultural development feasible from a geotechnical standpoint provided that our recommendations are adhered to.

6.0 RECOMMENDATIONS

6.1 Site Preparation

Prior to any filling on site, all existing foundations, pipes and/or construction debris and any peat, topsoil, loose or otherwise disturbed soil must be removed from the construction area to expose a subgrade of soft to firm silt. Excavation of peat should extend laterally beyond the footprint of fill based on a 1H:1V offset. In general, stripping depths are expected to be around 0.6 to 1.8m, depending on the depth of peat.

We emphasize that the stripping depths are the minimum stripping depths at the test hole locations. It should be recognized that the thickness of unacceptable soil can vary throughout the site.

The native silt will be sensitive to moisture and disturbance; therefore, we recommend that the site be graded to direct water to the perimeter of the excavation to sumps with pumps. The subgrade should also be blinded with 100 mm of 19 mm clear crushed gravel.

GeoPacific must be contacted to confirm the soil conditions during initial excavations for the proposed renovations and confirm the stripping depths and compaction of engineered fill during construction.

6.2 Permanent Fill Placement

As discussed in Section 5.1 above, the peat will be removed from the site, which will be filled with permanent fill followed by a layer of peat topsoil to heights of up to 1.0 m above existing site grades. We expect permanent fill will consist of silty sand to sandy silt. Permanent fill should be placed in 300 mm loose lifts and compacted to a minimum of 90% Modified Proctor Dry Density with a moisture content that is within 2% of optimum for compaction. Fill placement should be completed during dry periods of the year to ensure compaction can be achieved.

GeoPacific should be contacted to review permanent fill placement and compaction.

6.3 Stockpiles

We understand that the stockpiling of both permanent fill material and peat may be required on site during the above noted site preparation work. Due to the sensitivity of underlying soils to excess loading, we recommend peat stockpiles are limited in height to 2.5 m, and permanent fill stockpiles are limited to a height of 1.5 m. Stockpiles should be maintained at a minimum distance equal to the total height of the stockpile from adjacent properties and city infrastructure.

6.4 Temporary Excavations

We expect that temporary excavations of up to 1.8 m may be required to remove the peat from the site. Temporary excavations should be maintained at a maximum slope of 1.5H:1V. All slopes, where not immediately backfilled by structural fill, should be covered in poly sheeting for erosion protection. All cuts in excess of 1.2 m requiring manned entry should be reviewed by GeoPacific in accordance with WorkSafe BC requirements.

6.4 On Site Road Structure

Following the recommended site preparation outlined in Section 6.1, it is our opinion that the minimum road structure identified in Table 1 is adequate to support conventional automobile and truck traffic.

| Table 1: Recommended Minimum On Site Road Structure | | |
|---|----------------|-----|
| MATERIAL | THICKNESS (mm) | CBR |
| Crushed Gravel Base Course - 19 mm minus | 150 | 80 |
| Crushed Gravel and Sand Sub- Base - 75 mm minus | 200 | 8 |

All base and subbase fills should be compacted to a minimum of 95% Modified Proctor dry density with a moisture content within 2% of optimum for compaction.

6.5 Utility Design and Installation

We anticipate up to 2.0 metres of permanent fill will be placed over the natural silt which is soft to firm. The silt is sensitive to disturbance and should be protected once exposed. Backfilling of any trenches excavated in the silt should be done with free draining granular material such as sand or clear crushed gravel. Where sand is used, it must be compacted immediately after placement since it will quickly saturate below the water table. Thus, use of clear crush gravel is often more practical below the water table.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulation supplied by the Worker Compensation Board of British Columbia. Any excavation in excess of 1.2 m in depth requiring worker entry must be reviewed by a professional geotechnical engineer.

7.0 DESIGN REVIEWS AND CONSTRUCTION INSPECTIONS

The preceding section make recommendations for the design and construction of the proposed development. We have recommended the review of certain aspects of the design and construction. It is important that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also important that any contractors working on the site review this document prior to commencing their work.

It is the responsibility of the contractors working on-site to inform GeoPacific a minimum of 48 hours in advance that a field review is required. In summary, reviews are required by geotechnical engineer for the following portions of the work.

- | | |
|--------------------|---|
| 1. Stripping | Review of stripping depth and peat replacement. |
| 2. Excavation | Review of temporary slopes in excess of 1.2 metres depth. |
| 3. Engineered Fill | Review of materials and compaction degree. |
| 4. Drainage | Review of drainage installation and placement of fills. |

8.0 CLOSURE

This report is prepared solely for use by our client and their design team for this project as described to the general standards of similar work for similar projects in this area. GeoPacific Consultants Ltd. accepts no responsibility for any other use of this report.

We are pleased to assist you with this project and we trust this information is helpful and sufficient for your purposes at this time. However, please do not hesitate to call if you should require any clarification.

For:
GeoPacific Consultants Ltd.

Daniel Kokan, B.A.Sc., EIT
Geotechnical Engineer in Training

Reviewed By:

FEB 16 2021

Matt Kokan, M.A.Sc., P.Eng.
Principal





**Alexandra District Energy Utility Bylaw No. 8641
Amendment Bylaw No. 10289**

The Council of the City of Richmond enacts as follows:

1. The **Alexandra District Energy Utility Bylaw No. 8641**, as amended, is further amended by deleting Schedule C (Rates and Charges) in its entirety and replacing it with a new Schedule C attached as Schedule A to this Amendment Bylaw.
2. This Bylaw is cited as “**Alexandra District Energy Utility Bylaw No. 8641, Amendment Bylaw No. 10289**”

FIRST READING

NOV 08 2021

SECOND READING

NOV 08 2021

THIRD READING

NOV 08 2021

ADOPTED

| |
|--|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. |
| CR |
| APPROVED for legality by Solicitor |
| BRB |

MAYOR

CORPORATE OFFICER

Schedule A to Amendment Bylaw No. 10289***SCHEDULE C to BYLAW NO. 8641******Rates and Charges*****PART 1 - RATES FOR SERVICES**

The following charges, as amended from time to time, will constitute the Rates for Services for the Service Area excluding shaded Area A as shown in Schedule A to this Bylaw:

- (a) Capacity charge – a monthly charge of \$0.1002 per square foot of Gross Floor Area; and*
- (b) Volumetric charge – a charge of \$15.967 per megawatt hour of Energy returned from the Energy Transfer Station at the Designated Property.*

PART 2 - EXCESS DEMAND FEE

Excess demand fee of \$0.173 for each watt per square foot of each of the estimated peak heat energy demand and estimated cooling demand referred to in section 21.1(e) (i), 21.1(e)(ii), and 21.1(e)(iii) that exceeds 6 watts per square foot.

PART 3 - RATES FOR SERVICES APPLICABLE TO AREA A

The following charges will constitute the Rates for Services applicable only to the Designated Properties identified within the shaded area (Area A) shown in Schedule A to this bylaw:

- (a) Volumetric charge – a charge of \$83.46 per megawatt hour of Energy returned from the Energy Transfer Station at the Designated Property calculated on each of (i) an energy use of 2644 MWh per annum ("Basic Supply Amount"), and (ii) any energy use in excess of the Basic Supply Amount.*



City of
Richmond

Bylaw 10290

**Oval Village District Energy Utility Bylaw No. 9134
Amendment Bylaw No. 10290**

The Council of the City of Richmond enacts as follows:

1. The **Oval Village District Energy Utility Bylaw No. 9134**, as amended, is further amended by deleting **Schedule D (Rates and Charges)** of the Bylaw in its entirety and replacing it with a new Schedule D as attached as Schedule A to this Amendment Bylaw.
2. This Bylaw is cited as "**Oval Village District Energy Utility Bylaw No. 9134, Amendment Bylaw No. 10290**".

FIRST READING

NOV 08 2021

SECOND READING

NOV 08 2021

THIRD READING

NOV 08 2021

ADOPTED

| |
|--|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. |
| CR |
| APPROVED for legality by Solicitor |
| BRB |

MAYOR

CORPORATE OFFICER

Schedule A to Amendment Bylaw No. 10290

SCHEDULE D

Rates and Charges

PART 1 - RATES FOR SERVICES

The following charges, as amended from time to time, will constitute the Rates for Services:

- (a) capacity charge - a monthly charge of \$0.0594 per square foot of gross floor area;
and
- (b) volumetric charge – a monthly charge of \$36.575 per megawatt hour of Energy
returned from the Energy Transfer Station at the Designated Property.

PART 2 - EXCESS DEMAND FEE

Excess demand fee of \$0.173 for each watt per square foot of the aggregate of the estimated peak heat energy demand referred to in section 19.1(e) (i), (ii), and (iii) that exceeds 6 watts per square foot.



**City Centre District Energy Utility Bylaw No. 9895
Amendment Bylaw No. 10291**

The Council of the City of Richmond enacts as follows:

1. The **City Centre District Energy Utility Bylaw No. 9895** is amended by deleting **Schedule D (Rates and Charges)** of the Bylaw in its entirety and replacing it with a new Schedule D as attached as Schedule A to this Amendment Bylaw.
2. This Bylaw is cited as "**City Centre District Energy Utility Bylaw No. 9895, Amendment Bylaw No. 10291**".

FIRST READING

NOV 08 2021

SECOND READING

NOV 08 2021

THIRD READING

NOV 08 2021

ADOPTED

| |
|--|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. |
| CR |
| APPROVED for legality by Solicitor |
| BRB |

MAYOR

CORPORATE OFFICER

Schedule A to Amendment Bylaw No. 10291

SCHEDULE D

Rates and Charges

PART 1 - RATES FOR SERVICES

The following charges, as amended from time to time, will constitute the Rates for Services:

- (a) capacity charge - a monthly charge of \$0.0693 per square foot of gross floor area;
and
- (b) volumetric charge – a monthly charge of \$42.573 per megawatt hour of Energy
returned from the Energy Transfer Station at the Designated Property.

PART 2 - EXCESS DEMAND FEE

Excess demand fee of \$0.173 for each watt per square foot of each of the estimated peak heat energy demand and estimated cooling demand referred to in section 19.1(f) (i), 19.1(f) (ii) and 19.1(f) (iii) that exceeds 6 watts per square foot.



City of Richmond

Bylaw 10311

Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10311

The Council of the City of Richmond enacts as follows:

1. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting Schedules A through G and substituting Schedule A attached to and forming part of this Bylaw.
2. This Bylaw is cited as “**Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10311**” and is effective January 1, 2022.

FIRST READING

NOV 08 2021

SECOND READING

NOV 08 2021

THIRD READING

NOV 08 2021

ADOPTED

| |
|---|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. <i>JW</i> |
| APPROVED for legality by Solicitor <i>LB</i> |

MAYOR

CORPORATE OFFICER

SCHEDULE A TO BYLAW NO. 10311**SCHEDULE "A" to BYLAW NO. 5637****FLAT RATES FOR
RESIDENTIAL, AGRICULTURAL, AND INSTITUTIONAL PROPERTIES**

| | Annual Fee |
|---|-------------------|
| A. Residential dwellings per unit | |
| One-Family Dwelling or Two-Family Dwelling | \$800.92 |
| Townhouse | \$655.61 |
| Apartment | \$422.48 |
| B. Stable or Barn per unit | \$161.37 |
| C. Field Supply – each trough or water receptacle or tap | \$100.88 |
| D. Public Schools for each pupil based on registration January 1 st | \$9.56 |

SCHEDULE "B" TO BYLAW NO. 5637**METERED RATES FOR
INDUSTRIAL, COMMERCIAL, INSTITUTIONAL, MULTI-FAMILY,
STRATA-TITLED AND FARM PROPERTIES****1. RATES**

| | |
|--|----------|
| Consumption per cubic metre: | \$1.5082 |
| Minimum charge in any 3-month period (not applicable to Farms) | \$114.00 |

2. WATER METER FIXED CHARGE

Fixed charge per **water meter** for each 3-month period:

| <u>Meter Size</u> | <u>Fixed Charge</u> |
|----------------------------|---------------------|
| 16 mm to 25 mm (inclusive) | \$15 |
| 32 mm to 50 mm (inclusive) | \$30 |
| 75 mm | \$110 |
| 100 mm | \$150 |
| 150 mm | \$300 |
| 200 mm and larger | \$500 |

SCHEDULE "C" TO BYLAW NO. 5637**METERED RATES FOR
ONE-FAMILY DWELLING AND TWO-FAMILY DWELLING****1. RATES**

Consumption per cubic metre: \$1.5082

2. WATER METER FIXED CHARGE

Fixed charge per **water meter** for each 3-month period:

| <u>Meter Size</u> | <u>Fixed Charge</u> |
|----------------------------|---------------------|
| 16 mm to 25 mm (inclusive) | \$12 |
| 32 mm to 50 mm (inclusive) | \$14 |
| 75 mm | \$110 |
| 100 mm | \$150 |
| 150 mm | \$300 |
| 200 mm and larger | \$500 |

SCHEDULE "D" to BYLAW 5637**1. WATER CONNECTION CHARGE**

| One-Family, Two-Family, Multi-Family, Industrial, Commercial Water Connection Size | Connection Charge | |
|---|----------------------------------|--|
| | Tie In Charge | Price Per Metre of Service Pipe |
| 25 mm (1") diameter | \$2,550 | \$175.00 |
| 40 mm (1 ½") diameter | \$3,500 | \$175.00 |
| 50 mm (2") diameter | \$3,650 | \$175.00 |
| 100 mm (4") diameter or larger | in accordance with Section 38 | in accordance with Section 38 |

2. DESIGN PLAN PREPARED BY CITY

Design plan prepared by City for One-Family Dwelling or Two-Family Dwelling \$1,000 each

Design plan for all other buildings \$2,000

3. WATER METER INSTALLATION FEE

Install water meter [s. 3A(a)] \$1,000 each

SCHEDULE “E” to BYLAW 5637**CONSTRUCTION PERIOD WATER CONSUMPTION RATES –
RESIDENTIAL**

| MONTH (2022) | ONE-FAMILY DWELLINGS & EACH UNIT IN A TWO-FAMILY DWELLING (rate per unit) | START BILL YEAR | MULTI- FAMILY LESS THAN 4 STOREYS (rate per unit) | START BILL YEAR | MULTI- FAMILY 4 STOREYS OR MORE (rate per unit) | START BILL YEAR |
|-------------------------|--|----------------------------|--|----------------------------|--|----------------------------|
| January | \$801 | 2023 | \$656 | 2023 | \$863 | 2024 |
| February | \$734 | 2023 | \$1,285 | 2024 | \$828 | 2024 |
| March | \$667 | 2023 | \$1,230 | 2024 | \$793 | 2024 |
| April | \$601 | 2023 | \$1,175 | 2024 | \$757 | 2024 |
| May | \$534 | 2023 | \$1,121 | 2024 | \$722 | 2024 |
| June | \$467 | 2023 | \$1,066 | 2024 | \$687 | 2024 |
| July | \$400 | 2023 | \$1,012 | 2024 | \$652 | 2024 |
| August | \$1,169 | 2024 | \$957 | 2024 | \$1,076 | 2025 |
| September | \$1,102 | 2024 | \$902 | 2024 | \$1,041 | 2025 |
| October | \$1,036 | 2024 | \$848 | 2024 | \$1,006 | 2025 |
| November | \$969 | 2024 | \$793 | 2024 | \$971 | 2025 |
| December | \$902 | 2024 | \$738 | 2024 | \$935 | 2025 |

**CONSTRUCTION PERIOD WATER CONSUMPTION RATES –
COMMERCIAL AND INDUSTRIAL**

| Water Connection Size | Consumption Charge |
|-------------------------------|---------------------------|
| 20mm (3/4”) diameter | \$155 |
| 25mm (1”) diameter | \$295 |
| 40mm (1 ½”) diameter | \$735 |
| 50mm (2”) diameter and larger | \$1,820 |

SCHEDULE "F" to BYLAW 5637**MISCELLANEOUS CHARGES**

| | | |
|-----|--|-------------------|
| 1. | For an inaccessible meter as set out in Section 7 | \$200 per quarter |
| 2. | For each turn on or turn off | \$108 |
| 3. | For each non-emergency service call outside regular hours | Actual Cost |
| 4. | Fee for testing a water meter | \$377 |
| 5. | Water Service Disconnections: | |
| | (a) when the service pipe is temporarily disconnected at the property line for later use as service to a new building | \$165 |
| | (b) when the service pipe is not needed for a future development and must be permanently disconnected at the watermain, up to and including 50mm | \$1,100 |
| | (c) if the service pipe is larger than 50mm | Actual Cost |
| 6. | Troubleshooting on private property | Actual Cost |
| 7. | Fire flow tests of a watermain: | |
| | First test | \$250 |
| | Subsequent test | \$150 |
| 8. | Locate or repair of curb stop service box or meter box | Actual Cost |
| 9. | Toilet rebate per replacement | \$100 |
| 10. | Fee for water meter verification request | \$50 |
| 11. | Fee for use of City fire hydrants: | |
| | (a) Where the installation of a water meter is required: | |
| | Refundable deposit: | \$340 |
| | Consumption fee: the greater of the rates set out in Item 1 of Schedule B or C, or | \$218 |
| | (b) Where the installation of a water meter is not required: | |
| | First day | \$218 |
| | Each additional day of use beyond the first day | \$72 |

12. Fee for use of Private fire hydrants:

- | | | |
|-----|---|-------|
| (a) | Where the installation of a water meter is required: | |
| | Refundable deposit: | \$360 |
| | Consumption fee: the greater of the rates set out in Item 1 of Schedule B or C, or | \$210 |
| (b) | Where the installation of a water meter is not required: | |
| | First day | \$100 |
| | Each additional day of use beyond the first day | \$65 |

SCHEDULE "G" to BYLAW 5637**RATES FOR VANCOUVER INTERNATIONAL AIRPORT AUTHORITY (YVR)**

Applicable rate is \$1.2754 per cubic meter of water consumed, plus the following amounts:

- YVR's share of future water infrastructure capital replacement calculated at \$0.3372 per m³
- 50% of the actual cost of operations and maintenance activities on water infrastructure shared by the **City** and YVR, as shown outlined in red on the plan attached as Schedule H
- 100% of the actual cost of operations and maintenance activities on water infrastructure serving only YVR, as shown outlined in red on the plan attached as Schedule H
- 76 m³ of water per annum at a rate of \$1.2754 per cubic meter for water used annually for testing and flushing of the tank cooling system at Storage Tank Farm TF2 (in lieu of metering the 200 mm diameter water connection to this facility)

(Note: water infrastructure includes water mains, pressure reducing valve stations, valves, hydrants, sponge vaults and appurtenances)



**Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551,
Amendment Bylaw No. 10312**

The Council of the City of Richmond enacts as follows:

1. The **Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting Schedule B and Schedule C in their entirety and substituting Schedule A attached to and forming part of this Bylaw.
2. This Bylaw is cited as “**Drainage, Dyke and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No. 10312**” and is effective January 1, 2022.

FIRST READING

NOV 08 2021

SECOND READING

NOV 08 2021

THIRD READING

NOV 08 2021

ADOPTED

MAYOR

CORPORATE OFFICER

| |
|---|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. <i>JW</i> |
| APPROVED for legality by Solicitor <i>LB</i> |

SCHEDULE A to Bylaw 10312**SCHEDULE B to BYLAW NO. 7551****SANITARY SEWER USER FEES****1. FLAT RATES FOR NON-METERED PROPERTIES**

| | Annual Fee Per Unit |
|--|----------------------------|
| (a) Residential Dwellings | |
| (i) One-Family Dwelling or Two-Family Dwelling | \$591.59 |
| (ii) Townhouses | \$541.29 |
| (iii) Apartments | \$450.81 |
| (b) Public School (per classroom) | \$456.34 |
| (c) Shops and Offices | \$540.38 |

2. RATES FOR METERED PROPERTIES

Regular rate per cubic metre of water delivered to the property: \$ 1.4429

3. RATES FOR COMMERCIAL, INDUSTRIAL, INSTITUTIONAL AND AGRICULTURAL

Minimum charge in any quarter of a year: \$ 86.00

4. CONSTRUCTION PERIOD – PER DWELLING UNIT

| Month (2022) | One-Family Dwellings & Each Unit in a Two-Family Dwelling (rate per unit) | Start Bill Year | Multi-Family Dwelling Less than 4 Storeys (rate per unit) | Start Bill Year | Multi-Family Dwelling 4 Storeys or More (rate per unit) | Start Bill Year |
|-------------------------|--|----------------------------|--|----------------------------|--|----------------------------|
| January | \$592 | 2023 | \$541 | 2023 | \$918 | 2024 |
| February | \$542 | 2023 | \$1,057 | 2024 | \$881 | 2024 |
| March | \$493 | 2023 | \$1,012 | 2024 | \$843 | 2024 |
| April | \$444 | 2023 | \$967 | 2024 | \$806 | 2024 |
| May | \$394 | 2023 | \$922 | 2024 | \$768 | 2024 |
| June | \$345 | 2023 | \$877 | 2024 | \$730 | 2024 |
| July | \$296 | 2023 | \$832 | 2024 | \$693 | 2024 |
| August | \$860 | 2024 | \$787 | 2024 | \$1,140 | 2025 |
| September | \$811 | 2024 | \$742 | 2024 | \$1,102 | 2025 |
| October | \$761 | 2024 | \$697 | 2024 | \$1,065 | 2025 |
| November | \$712 | 2024 | \$651 | 2024 | \$1,027 | 2025 |
| December | \$663 | 2024 | \$606 | 2024 | \$990 | 2025 |

SCHEDULE C to BYLAW NO. 7551**FLOOD PROTECTION SYSTEM FEES**

| | Annual Fee Per Unit |
|---|----------------------------|
| 1. FLOOD PROTECTION SYSTEM FEES | |
| (a) Residential Dwellings | |
| (i) One-Family Dwelling or Two-Family Dwelling | \$191.68 |
| (ii) Multiple-Family Dwellings | \$170.79 |
| (b) Agricultural properties | \$191.68 |
| (c) Stratified industrial, commercial and institutional properties | \$191.68 |
| (d) Non-stratified industrial, commercial and institutional properties with lot areas less than 800 m ² | \$191.68 |
| (e) Non-stratified industrial, commercial and institutional properties with lot areas between 800 m ² and 10,000 m ² | \$553.38 |
| (f) Non-stratified industrial, commercial and institutional properties with lot areas greater than 10,000 m ² | \$1,211.90 |



Solid Waste & Recycling Regulation Bylaw No. 6803, Amendment Bylaw No. 10313

The Council of the City of Richmond enacts as follows:

1. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by adding the following as Section 2.1.1(d):

(d) establish and maintain a recycling depot for use by **regional customers** for the deposit, free of charge, of **base depot materials**.
2. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by deleting Section 2.1.2 in its entirety and replacing with the following:

Notwithstanding the provisions of clause (c) and (d) of subsection 2.1.1, the **owner** or **occupier** of a **non-residential** property or **regional customer** is limited to depositing one cubic yard of the material described in clause (c)(ii) and (d) per visit, per day.
3. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by deleting Section 10.1 in its entirety and replacing with the following:

Any **recyclable materials** left for collection in any recycling receptacle or any **recyclable materials** or **base depot materials** left, placed, deposited or disposed of at a City recycling depot become the property of the City, provided such materials comply with the requirements of this bylaw.
4. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by deleting Section 10.3 in its entirety and replacing with the following:

No person other than the **General Manager of Engineering & Public Works** or a collector, or agent of the City may tamper with, examine or remove any **garbage, yard and garden trimmings, food waste** or **recyclable materials** left by another person on another property for collection or **recyclable materials** or **base depot materials** left, placed, deposited or disposed of at a City recycling depot.
5. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by adding the following definitions to Section 15.1 in the appropriate alphabetical order and reordering the remaining definitions:

“**Base depot materials**” means the following:

- (a) Batteries, household less than 5 kg, lead-acid batteries for vehicles;
- (b) Beverage containers, no refund provided;
- (c) Books;
- (d) Cooking oil or animal fat;
- (e) Corrugated cardboard;
- (f) Electronics, including televisions and accessories, computers, printers, speakers, audio equipment, electronic toys and musical instruments, video gaming systems;
- (g) Expanded polystyrene, white and coloured;
- (h) Film packaging, including plastic bags, overwrap and flexible plastic packaging;
- (i) Glass bottles and jars;
- (j) Gasoline;
- (k) Lamps and light fixtures;
- (l) Metals, including scrap metal, appliances, outdoor power equipment and metal packaging;
- (m) Paint products and solvents, including household paints, paint aerosols, flammable aerosols, flammable liquids;
- (n) Paper and paper packaging;
- (o) Pesticides, domestic;
- (p) Plastic packaging;
- (q) Propane tanks;
- (r) Small appliances and power tools;
- (s) Smoke and carbon monoxide alarms;
- (t) Used motor oil and antifreeze; and
- (u) Other products determined by the **General Manager of Engineering & Public Works** to be acceptable for recycling.

“**Regional customers**” means any resident or business situated within the Regional District of Metro Vancouver.

6. The **Solid Waste and Recycling Regulation Bylaw No. 6803**, as amended, is further amended by deleting Schedules A through D and substituting Schedule A attached to and forming part of this Bylaw. For greater certainty, any reference to Schedule B shall be interpreted as a reference to Schedule A of this Bylaw.
7. This Bylaw is cited as "**Solid Waste & Recycling Regulation Bylaw No. 6803, Amendment Bylaw No. 10313**" and is effective January 1, 2022.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

NOV 08 2021

NOV 08 2021

NOV 08 2021

| |
|---|
| CITY OF RICHMOND |
| APPROVED for content by originating dept. SB |
| APPROVED for legality by Solicitor LB |

MAYOR

CORPORATE OFFICER

SCHEDULE A to BYLAW NO. 10313**BYLAW YEAR: 2022****SCHEDULE A to BYLAW NO. 6803**

| FEES FOR CITY GARBAGE COLLECTION SERVICE | |
|--|-----------|
| Annual City garbage collection service fee for each unit in a single-family dwelling, each unit in a duplex dwelling, and each unit in a townhouse development: 80L container | \$ 80.56 |
| Annual City garbage collection service fee for each unit in a townhouse development with weekly collection service: 80L container | \$ 96.67 |
| Annual City garbage collection service fee for each unit in a single-family dwelling, each unit in a duplex dwelling, and each unit in a townhouse development: 120L container | \$ 108.61 |
| Annual City garbage collection service fee for each unit in a townhouse development with weekly collection service: 120L container | \$ 130.33 |
| Annual City garbage collection service fee for each unit in a single-family dwelling, each unit in a duplex dwelling, and each unit in a townhouse development: 240L container | \$ 137.78 |
| Annual City garbage collection service fee for each unit in a townhouse development with weekly collection service: 240L container | \$ 165.33 |
| Annual City garbage collection service fee for each unit in a single-family dwelling, each unit in a duplex dwelling, and each unit in a townhouse development: 360L container | \$ 257.50 |
| Annual City garbage collection service fee for each unit in a townhouse development with weekly collection service: 360L container | \$ 309.00 |
| Annual City garbage collection service fee for each unit in a multi-family dwelling | |
| - Weekly service | \$ 51.94 |
| - Twice per week service | \$ 90.83 |
| Optional Monthly City garbage collection service fee for Commercial customers | |
| - Weekly service | \$ 76.58 |
| - Cost per additional cart | \$ 41.97 |
| Optional Monthly City garbage collection service fee for Commercial customers | |
| - Twice weekly service | \$ 131.33 |
| - Cost per additional cart | \$ 59.74 |
| Fee for garbage cart replacement | \$ 25.00 |
| Fee for each excess garbage container tag | \$ 2.00 |
| Large Item Pick Up fee | \$ 21.89 |
| Non-compliant large item collection fee | \$ 75.00 |

SCHEDULE B to BYLAW NO. 6803

| FEES FOR CITY RECYCLING SERVICE | |
|---|---|
| Annual City recycling service fee: | |
| (a) For residential properties, which receive blue box service (per unit) | \$ 68.94 |
| (b) For multi-family dwellings or townhouse developments which receive centralized collection service (per unit) | \$ 53.50 |
| Annual City recycling service fee: | |
| (a) For yard and garden trimmings and food waste from single-family dwellings and from each unit in a duplex dwelling (per unit) | \$ 176.94 |
| (b) For yard and garden trimmings and food waste from townhome dwellings that receive City garbage or blue box service (per unit) | \$ 71.11 |
| (c) For yard and garden trimmings and food waste from multi-family dwellings | |
| - Weekly Service | \$ 54.44 |
| - Twice per week service | \$ 74.22 |
| Cardboard bin recycling service for multi-family dwellings, collected once every 2 weeks | \$ 60.00/bin/month |
| Cardboard bin recycling service for multi-family dwellings, collected weekly | \$ 70.00/bin/month |
| Fee for yard/food waste cart replacement | \$ 25.00 |
| Annual City recycling service fee for non-residential properties | \$ 6.23 |
| Optional Monthly City organics collection service fee for Commercial customers | |
| - Weekly service | \$ 72.64 |
| - Cost per additional cart | \$ 32.11 |
| Optional Monthly City organics collection service fee for Commercial customers | |
| - Twice weekly service | \$ 100.16 |
| - Cost per additional cart | \$ 61.11 |
| City recycling service fee for the Recycling Depot: | |
| | \$20.00 per cubic yard for the second and each subsequent cubic yard |
| (a) (i) for yard and garden trimmings from residential properties | yard |
| (ii) for recyclable material from residential properties | \$ 0.00 |
| (b) For yard and garden trimmings from non-residential properties | \$20.00 per cubic yard |
| (c) For recycling materials from non-residential properties | \$ 0.00 |

SCHEDULE C to BYLAW NO. 6803

| FEES FOR CITY LITTER COLLECTION SERVICE | |
|--|----------|
| Annual City litter collection service fee for both residential properties and non-residential properties | |
| | \$ 40.00 |

SCHEDULE D TO BYLAW 6803

| NEW RESIDENTIAL PROPERTY PAYMENT FEE SCHEDULE | | | | | | | | | |
|--|--|--|--------------------------|--|--|--|--------------------------|--|--|
| Month in Current Year in which Building Permit is Issued | GARBAGE, RECYCLING & LITTER COLLECTION FEE | | | | RECYCLING & LITTER COLLECTION FEE PER STRATA LOT | | | | |
| | Single-Family Dwellings & Each Unit in a Duplex Dwelling | | Townhouse Development | | Townhouse Development | | | Multi-Family Development | |
| | Prorated Fee Per Unit | Year in which Annual Fee Commences | Prorated Fee Per Unit | Year in which Annual Fee Commences | Prorated Fee Per Unit | Year in which Annual Fee Commences | Prorated Fee Per Unit | Year in which Annual Fee Commences | |
| | | | | | | | | | |
| January | \$ 201 | 2023 | \$ - | 2023 | \$ - | 2023 | \$ 68 | 2024 | |
| February | \$ 167 | 2023 | \$ 261 | 2024 | \$ 152 | 2024 | \$ 57 | 2024 | |
| March | \$ 134 | 2023 | \$ 238 | 2024 | \$ 138 | 2024 | \$ 45 | 2024 | |
| April | \$ 100 | 2023 | \$ 214 | 2024 | \$ 124 | 2024 | \$ 34 | 2024 | |
| May | \$ 67 | 2023 | \$ 190 | 2024 | \$ 110 | 2024 | \$ 23 | 2024 | |
| June | \$ 33 | 2023 | \$ 166 | 2024 | \$ 96 | 2024 | \$ 11 | 2024 | |
| July | \$ - | 2023 | \$ 143 | 2024 | \$ 83 | 2024 | \$ - | 2024 | |
| August | \$ 375 | 2024 | \$ 119 | 2024 | \$ 69 | 2024 | \$ 127 | 2025 | |
| September | \$ 341 | 2024 | \$ 95 | 2024 | \$ 55 | 2024 | \$ 115 | 2025 | |
| October | \$ 307 | 2024 | \$ 71 | 2024 | \$ 41 | 2024 | \$ 104 | 2025 | |
| November | \$ 273 | 2024 | \$ 48 | 2024 | \$ 28 | 2024 | \$ 92 | 2025 | |
| December | \$ 239 | 2024 | \$ 24 | 2024 | \$ 14 | 2024 | \$ 81 | 2025 | |



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10120 (RZ 19-858458)
10931 Seaward Gate**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it "**COMPACT SINGLE DETACHED (RC2)**".

P.I.D. 004-087-836

Lot 238 Section 36 Block 4 North Range 6 West New Westminster District Plan 42353

2. This Bylaw may be cited as "**Richmond Zoning Bylaw 8500, Amendment Bylaw 10120**".

FIRST READING

DEC 18 2019

PUBLIC HEARING

JAN 20 2020

SECOND READING

JAN 20 2020

THIRD READING

JAN 20 2020

OTHER CONDITIONS SATISFIED

NOV 04 2021

ADOPTED

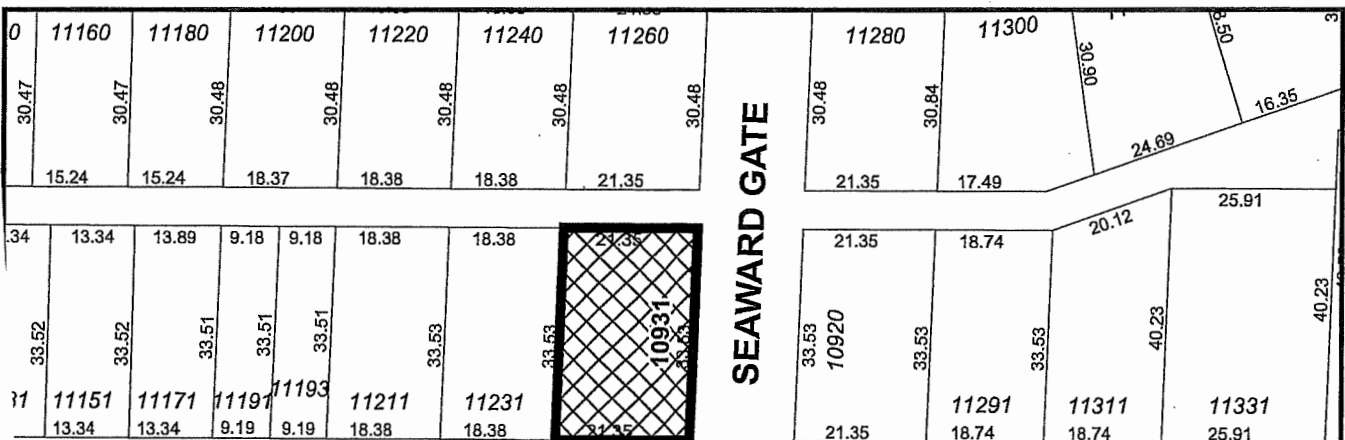
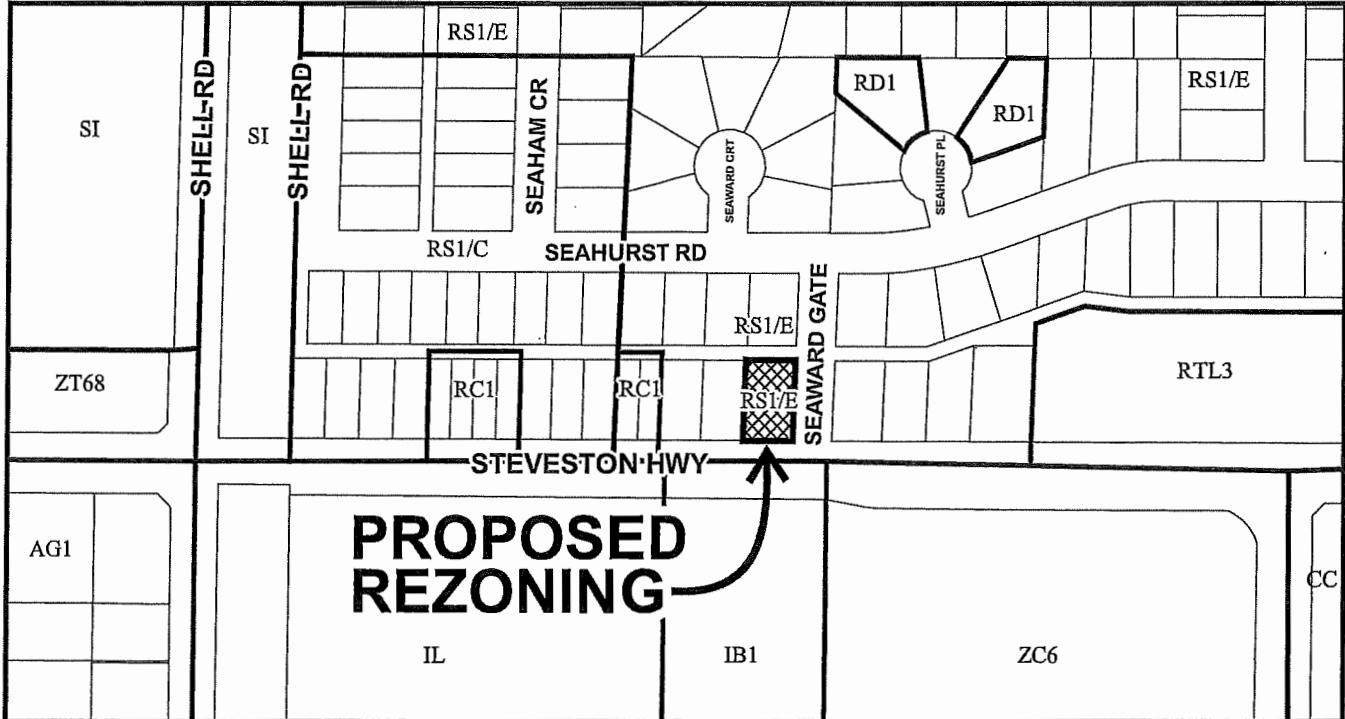


MAYOR

CORPORATE OFFICER



City of Richmond



STEVESTON HWY

229.33

51.21

113



Bylaw 10120

Original Date: 04/30/19

Revision Date:

Note: Dimensions are in METRES

CNCL - 372



Special Planning Committee

Date: Wednesday, November 17, 2021

Place: Council Chambers
Richmond City Hall

Present: Councillor Bill McNulty, Chair
Councillor Alexa Loo, (by teleconference)
Councillor Chak Au (by teleconference)
Councillor Carol Day (entered the meeting at 4:01 p.m. by teleconference)
Councillor Andy Hobbs (by teleconference)
Councillor Harold Steves (by teleconference)
Councillor Chak Au (by teleconference)

Also Present: Councillor Michael Wolfe (by teleconference)
Councillor Linda McPhail by teleconference)

Call to Order: The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded

That the minutes of the meeting of the Planning Committee held on November 2, 2021, be adopted as circulated.

CARRIED

Cllr. Day the meeting (4:01 p.m.).

PLANNING AND DEVELOPMENT DIVISION

1. **APPLICATION BY ENRICH CUSTOM HOMES LTD. FOR REZONING AT 8231 NO. 3 ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE**

(File Ref. No. 12-8060-20-010309; RZ 20-905210) (REDMS No. 6767318)

Discussion ensued in regards to landscape security deposit and driveway access off of No. 3 Road.

Special Planning Committee
Wednesday, November 17, 2021

It was moved and seconded

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10309, for the rezoning of 8231 No. 3 Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, be introduced and given first reading.

CARRIED

2. INCREASE OF MAXIMUM FINES FOR TREE PROTECTION BYLAW 8057

(File Ref. No. 12-8360-01) (REDMS No. 6764640)

Sharon MacGougan, President, Garden City Conservation Society referred to her submission (attached to and forming part of these minutes as Schedule 1) and commented that the Garden City Conservation Society strongly supports increasing fines for the illegal cutting of trees from \$10,000 to \$50,000 and that an increase in public education in understanding the tree bylaw is needed.

Don Flintoff, Richmond resident, referred to his submission (attached to and forming part of these minutes as Schedule 2) and commented that the \$50,000 fine is excessive for home owners, developers should incur the higher fine and that fruit trees should be exempt from the Tree Bylaw.

Discussion ensued with regards to the maintenance of street and park trees by the Park's Department. Staff outlined that this bylaw pertains to the willful destruction and damage of trees on private property and the final decision on the fine amount levied will be determined by the legal court system.

Further discussion ensued regarding replacement of damaged trees and fines in proportion to the value of the home.

It was moved and seconded

That Tree Protection Bylaw No.8057, Amendment Bylaw 10307 increasing the maximum fine to \$50,000 for an offence, be introduced and given first, second, and third reading.

CARRIED

3. RICHMOND COMMENTS ON METRO VANCOUVER'S DRAFT UPDATED REGIONAL GROWTH STRATEGY, METRO 2050

(File Ref. No. 01-0157-30-RGST1) (REDMS No. 6766254)

Staff highlighted the four objectives used to review the Metro 2050 Regional Growth Strategy which are (i) to protect the City's autonomy in decision making, (ii) pursue City goals, (iii) deliver services efficiently through City efforts and regional cooperation, and (iv) to pursue shared regional goals.

Staff noted changes in the strategy including (i) conducting population projections on a broader sub regional level rather than a municipal level, providing greater flexibility, and (ii) proposing a new trade-oriented overlay to secure land for trade oriented businesses.

Special Planning Committee

Wednesday, November 17, 2021

It was moved and seconded

That staff forward the report titled “Richmond Comments on Metro Vancouver’s Draft Updated Regional Growth Strategy, Metro 2050” dated October 20, 2021 from the Director, Policy Planning, to Metro Vancouver, providing comments as outlined in Attachment 1.

CARRIED

Discussion ensued regarding sharing the report with other stakeholders including other municipalities and senior levels of government. As a result, of the discussion the following **motion** was introduced:

It was moved and seconded

That staff be directed to share the City’s comments, as approved by the Committee and proposed for Council endorsement, immediately at a staff level with member jurisdictions, and that a letter be drafted for Councillor Steves’ signature to accompany the proposed comments.”

CARRIED

4. MANAGER’S REPORT

Response to Referral: Name Change of Trutch Avenue

Staff advised that a consultation letter will be sent to the approximately 20 residents on Trutch Avenue this week seeking their feedback.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (5:05 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Special Planning Committee of the Council of the City of Richmond held on November 17, 2021.

Councillor Bill McNulty
Chair

Raman Grewal
Legislative Services Associate

From: Sharon MacGougan, President, Garden City Conservation Society
To: Special Planning Committee, November 17, 2021
Re: Increase of maximum fines for Tree Protection Bylaw 8057

The Garden City Conservation Society strongly supports increasing fines for the illegal cutting of trees from the current \$10, 000 to \$50,000.

We lose too many mature trees in Richmond, through a variety of means, including illegal tree cutting.

City staff work hard to protect trees through the development process and it is particularly discouraging when those "protected" trees, the ones that are healthy and provide good habitat for birds, end up "disappearing" through the actions of either a misinformed owner or someone that just doesn't like trees.

\$10,000 does not make up for the loss of a decades old tree.

Increasing penalties provides more incentive to keep that tree. But even an increased penalty is not enough to solve the problem.

Further comments and recommendations:

1. Increase public education. A notice in the newspaper or online once or twice a year is not enough.
2. Signage is effective. The current "Stop all Tree Work" signage left in place means something. It draws attention to the problem and people read them. Signage could be also helpful on boulevard trees when excessive pruning or topping (not by city) takes place.
3. Working to protect trees takes time for investigation and follow up. Do we have adequate Tree Protection staff in Richmond, given that our population continues to grow?

More proactive work needs to be done to protect trees from being illegally cut in the first place. Trees take decades to grow and the loss is significant. If we are serious about not allowing the illegal cutting of trees, we need to take strong action: increase penalties, increase public education and give our Tree Protection department all the resources they need to do their job.

In conclusion, it is heartbreaking when mature trees are illegally cut. Let's do whatever we can to stop it from happening. Increasing penalties is a good first step.



CNCL - 376

PHOTOCOPIED

NOV 17 2021

& DISTRIBUTED

A handwritten signature in dark ink, appearing to be "K" or "Kl", located to the right of the "NOV 17 2021" stamp.

Subject: FW: Special Planning Committee Nov. 17/21 INCREASE OF MAXIMUM FINES FOR TREE PROTECTION BYLAW 8057 (File Ref. No. 12-83)

From: Don Flintoff <don_flintoff@hotmail.com>

Sent: November 10, 2021 3:23 PM

To: CityClerk <CityClerk@richmond.ca>

Subject: Special Planning Committee Nov. 17/21 INCREASE OF MAXIMUM FINES FOR TREE PROTECTION BYLAW 8057 (File Ref. No. 12-83)

City of Richmond Security Warning: This email was sent from an external source outside the City. Please do not click or open attachments unless you recognize the source of this email and the content is safe.

Mayor & Council, cityclerk@richmond.ca <cityclerk@richmond.ca>;

The maximum fine for tree protection being set at \$50,000 for homeowners is excessive. The current \$10,000 limit is sufficient for homeowners. If you wish to set \$50,000 limit for developers, keep in mind it will be added into the cost of the house when sold. Would it not be more productive to plant trees along Railway Trail and in Dover Crossing Park on the East Side?

There should be an exemption for

1. all fruit trees (apple, pear, cherry, plum, fig, etc.) and grape vines.
2. All diseased fruit trees or branches should be able to be removed by owner.
3. All trees causing moss to grow on house roofs should able to be removed by owner.
4. All tree root systems that are damaging the house foundations, walkways or driveways should able to be removed by owner.

Usually the homeowners look after their trees appropriately, the City should look after its own better. For instance the removal of Oak Trees on city property at No. 3 Rd and Lansdown and at the south end of the No. 2 Rd. bridge to accommodate future construction.

The City should removed dangerous or diseased trees immediately. I am still waiting for them to deal with their birch tree on the boulevard.

EXAMPLES

1. Case # 210716-000009 – Confirmation July 16, 2021 – STILL WAITING!

The birch tree has the bark beetles issue. The city took off some branches about 2 years ago and some more should be removed.

My neighbour's truck, in photo, is at risk as branches are coming off. Could you please checkout the tree and prune the dead limbs?



2. Recently, I reported a downed branch in Lynas Lane park that the City should have looked after. **Lynas Lane Park is just north of Archibald Blair Elementary School.**



Regards,
Donald Flintoff
604-277-0141

Sent from [Mail](#) for Windows