TOWN OF LADYSMITH

*Celebrate our Present. Embrace our Future. Honour our Past.*

# A REGULAR MEETING OF THE TOWN OF LADYSMITH COUNCIL AGENDA 7:00 P.M.

**Tuesday, February 1, 2022**
**This meeting will be held electronically**

---

**Pages**

## 1. CALL TO ORDER AND ACKNOWLEDGEMENT

The Town of Ladysmith acknowledges with gratitude that this meeting takes place on the traditional, unceded territory of the Stz'uminus First Nation.

### 1.1. INFORMATION ON HOW TO VIEW / ATTEND THE MEETING

Register to electronically attend the meeting:

https://zoom.us/webinar/register/WN_5KZ-HIZoS7eHhUqI_TtUiA

Instructions on how to join the meeting will be sent immediately after you register.

For those unable to participate by electronic means, the meeting will be broadcast in the City Hall Council Chambers at 410 Esplanade. Participation will be managed electronically via Zoom, operated from Council Chambers. Masks are mandatory and seating is limited.

View the livestream on YouTube: https://www.youtube.com/channel/UCH3qHAExLiW8YrSuJk5R3uA/featured.

## 2. AGENDA APPROVAL

Recommendation
That Council approve the agenda for this Regular Meeting of Council for February 1, 2022.

## 3. MINUTES

### 3.1. Minutes of the Regular Meeting of Council held January 25, 2022. 4

Recommendation
That Council approve the minutes of the Regular Meeting of Council held January 25, 2022.

## 4. DELEGATION

### 4.1. Frank Crucil and Toby Seward, Applicants, Official Community Plan and Zoning Bylaw Amendment Application for 1301 and 1391 Rocky Creek Road

## 5. DEVELOPMENT APPLICATIONS

### 5.1. Official Community Plan and Zoning Bylaw Amendment Application for 1301 and 1391 Rocky Creek Road 11

Recommendation
That Council:

1. Consider Application 3360-20-10 to amend the Official Community Plan and Zoning Bylaw to allow for a mix of single-dwelling residential, multiple-dwelling residential, and commercial development at 1301/1391 Rocky Creek Road; and
2. Select one resolution from Alternatives 1, 2, 3, 4, or 5 as provided in Attachment A of the staff report dated February 1, 2022.

## 6. REPORTS

### 6.1. Appointment of Chief Election Officer and Deputy Chief Election Officers – 2022 General Local Election 180

Recommendation
That Council appoint the following individuals as officers for the Town of Ladysmith 2022 General Local Election:

- Donna Smith, Manager of Corporate Services, as Chief Election Officer;
- Sue Bouma, Administrative Coordinator, as Deputy Chief Election Officer; and
- Andrea Hainrich, Legislative Services Administrative Assistant, as Deputy Chief Election Officer.

### 6.2. Adjustment to Water Billing Account 183

Recommendation
That Council provide:

1. A full bill adjustment in the amount of $5,674.76 to billing account #000-1002252 due to a water leak; and
2. A partial bill adjustment in the amount of $3,338.23 to billing account #001-0083000 due to a water leak.

### 6.3. Poverty Reduction Task Group 186

Recommendation
That Council receive the Poverty Reduction Task Group staff report dated February 1, 2022.

## 7. BYLAWS

### 7.1. Bylaw Status Sheet 188

## 8. NEW BUSINESS

## 9. QUESTION PERIOD

- A maximum of 15 minutes is allotted for questions.
- Persons wishing to address Council during "Question Period" must be Town of Ladysmith residents, non-resident property owners, or operators of a business.
- Individuals must state their name and address for identification purposes. Alternately, questions can be submitted via email at info@ladysmith.ca during the meeting.
- Questions put forth must be on topics which are not normally dealt with by Town staff as a matter of routine.
- Questions must be brief and to the point.
- Questions shall be addressed through the Chair and answers given likewise. Debates with or by individual Council members or staff members are not allowed.
- No commitments shall be made by the Chair in replying to a question. Matters which may require action of the Council shall be referred to a future meeting of the Council.

## 10. ADJOURNMENT

LADYSMITH

# MINUTES OF A REGULAR MEETING OF COUNCIL

**Tuesday, January 25, 2022**
**6:31 P.M.**
**City Hall Council Chambers**
**410 Esplanade**

**Council Members Present:**

Mayor Aaron Stone
Councillor Amanda Jacobson
Councillor Rob Johnson
Councillor Tricia McKay
Councillor Duck Paterson (via telephone)
Councillor Marsh Stevens
Councillor Jeff Virtanen

**Staff Present:**

Allison McCarrick
Erin Anderson
Chris Barfoot
Jake Belobaba
Ryan Bouma
Donna Smith
Chris Geiger
Julie Thompson
Sue Bouma

---

## 1. CALL TO ORDER

Mayor Stone called this Regular Meeting of Council to order at 6:31 p.m., in order to retire immediately into Closed Session.

## 2. CLOSED SESSION

**CS 2022-014**

That, in accordance with section 90 of the *Community Charter,* Council retire into closed session order to consider items related to the following:

- personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the municipality or another position appointed by the municipality - section 90(1)(a);
- personal information about an identifiable individual who is being considered for a municipal award or honour, or who has offered to provide a gift to the municipality on condition of anonymity - section 90(1)(b);
- labour relations or other employee relations - section 90(1)(c);
- the security of the property of the municipality - section 90(1)(d);

- the acquisition, disposition or expropriation of land or improvements, if the council considers that disclosure could reasonably be expected to harm the interests of the municipality - section 90(1)(e);
- law enforcement, if the council considers that disclosure could reasonably be expected to harm the conduct of an investigation under or enforcement of an enactment - section 90(1)(f);
- litigation or potential litigation affecting the municipality - section 90(1)(g);
- the receipt of advice that is subject to solicitor-client privilege, including communications necessary for that purpose - section 90(1)(i);
- negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public - section 90(1)(k); and
- the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party - section 90(2)(b).

*Motion Carried*

## 3. OPEN MEETING AND ACKNOWLEDGEMENT (7:00 P.M.)

Mayor Stone called the Regular Meeting of Council to order at 7:00 p.m., recognizing with gratitude that it was taking place on the traditional unceded territory of the Stz'uminus First Nation.

## 4. AGENDA APPROVAL

**CS 2022-015**
That Council approve the agenda for this Regular Meeting of Council for January 25, 2022 as amended to include additional public submissions for item 7.1.
*Motion Carried*

## 5. RISE AND REPORT- Items from Closed Session

Council rose from Closed Session at 6:54 p.m. with report on the following:

**CE 2022-008**
That Council rise with report on closed session resolutions for the period January 2020 to December 2020 contained in Attachment A of the confidential staff report dated January 25, 2022 as follows:

- Routine resolutions highlighted in orange; and
- Resolutions highlighted in green and blue, shown below:

- **CE 2020-013 (February 18, 2020)**
  That Council defer consideration of the request from Ladysmith Search and Rescue to lease the existing vacant building at the Town's Bio Solids Treatment Facility until staff have determined the feasibility of the Town using the building for soil storage.

- **CE 2020-060 (May 5, 2020)**
  That Council grant permission to the COVID-19 Vulnerable Populations Cowichan Task Force to use 20 Buller Street for an Emergency Response Centre for the period of time encompassed by the Joint Provincial Framework, currently set as May 1 – June 30 2020, without the requirement of a Temporary Use Permit.
  OPPOSED: Councillors Johnson, Jacobson and Paterson

- **CE 2020-061 (May 5, 2020)**
  That Council advise the COVID-19 Vulnerable Populations Cowichan Task Force of their decision to authorize the proposed Emergency Response Centre at 20 Buller Street.

- **CE 2020-063 (May 5, 2020)**
  That Council authorize staff to proactively negotiate a Letter of Understanding with CUPE Local 401 mitigating potential impacts of COVID-19 to Town operations and employees.

- **CE 2020-065 (May 5, 2020)**
  That Council rise at 8:58 p.m. with report on item 4.1., "Vulnerable Population COVID-19 Update" at an appropriate time, and item 8.1, "Request for Proposal for the Chief Administrative Officer Executive Search/Recruitment".

- **CE 2020-077 (May 21, 2020)**
  That Council direct staff to invite Jerry Berry Consultants and Ravenhill Smith Search to a future closed Council meeting to present their recruitment services plan for Ladysmith's next Chief Administrative Officer.

- **CE 2020-108 (August 13, 2020)**
  That Council direct the consultants to proceed with reference checks for the preferred candidate for the CAO position.

- **CE 2020-112 (August 18, 2020)**
  That Council authorize the Mayor to present an offer to the preferred candidate for the Chief Administrative Officer position as provided to Council by JB Consultants Inc., subject to a successful meeting between the Mayor and the candidate on Friday, August 21, 2020.

- **CE 2020-153 (November 17, 2020)**
  FINAL RESOLUTION AS AMENDED BY CE 2020-154
  That Council preserve the possibility for inclusion of a track and train inside the Machine Shop.
  Motion Defeated
  OPPOSED: Mayor Stone and Councillors Johnson, McKay, and Paterson

- **CE 2020-154 (November 17, 2020)**
  AMENDS RESOLUTION CE 2020-153
  That resolution CE 2020-153 be amended to include “preserve the possibility for”.
  Amendment Carried
  OPPOSED: Mayor Stone and Councillors Johnson and Paterson

  *[Note for context only related to CE2020-153 & -154: On December 15, 2020, Council rose and reported on Resolution CE 2020-155 “That Council approve the inclusion of a track and train inside the Machine Shop.”]*

## 6. MINUTES

### 6.1 Minutes of the Public Hearing and Regular Meeting of Council held January 11, 2022

**CS 2022-016**
That Council approve the minutes of the Public Hearing and Regular Meeting of Council held January 11, 2022.
*Motion Carried*

## 7. DEVELOPMENT APPLICATIONS

### 7.1 Development Variance Permit Application – 303 Chemainus Road

**CS 2022-017**

That Council issue Development Variance Permit 3090-21-14 to vary the following regulations within the Marine Residential Moorage (W-1) and the Marine Park and Recreation (W-P) zones to facilitate construction of a dock in the Ladysmith Harbour adjacent to the upland property at 303 Chemainus Road:

1. The maximum surface area of dock structures in the W-1 zone from 20m² to 138m²;
2. The maximum height of dock structures in the W-1 zone from 2.0m to 3.1m;
3. The maximum dock length in the W-1 zone from 30m to 77m;
4. The minimum setback from the Marine Harvesting (W-4) zone in the W-1 zone from 125m to 19m;
5. The minimum clearance above the seabed in the W-1 zone from 2.0m to 1.8m; and
6. The minimum setback from the seaward extension, perpendicular to the shoreline of an adjacent upland side parcel line in the W-P zone from 6m to 0m.

*Motion Carried*
OPPOSED: Councillor Stevens

## 8. REPORTS

### 8.1 Water Billing Adjustments - Methuen

**CS 2022-018**

That Council direct staff to adjust the water billing amounts to zero for Account Nos. 1314000, 0667000, 0666000, 1313100, 0665000, 1317000, 1317100, and 1313000 for 2021 Q4 (October to December 2021) and 2022 Q1 (January to March).
*Motion Carried*

### 8.2 Fire Department Aerial Device

**CS 2022-019**

That Council:

1. Increase the proposed 2022-2026 Financial Plan budgeted amount for the Fire Department Aerial Device Truck (Ladder Truck) to $2.1 million dollars with the additional funds to be borrowed;

2. Direct staff to proceed with the required process for an Alternative Approval Process;
3. Provide early budget approval in order to facilitate an Alternative Approval Process; and
4. Upon successful completion of an Alternative Approval Process authorize staff to waive the Town's Purchasing Policy and direct award the bid to Fort Garry Fire Trucks in the amount of $1,899,775 plus applicable taxes.

*Motion Carried*

**CS 2022-020**
By unanimous consent Council recessed the meeting at 8:13 p.m. for a short break and reconvened at 8:20 p.m.

### 8.3 4th Avenue Reconstruction Update

**CS 2022-021**
That Council direct staff to include in the 2022-2026 Financial Plan the 4th Avenue Improvement Project (Root Street to White Street) at a cost of $1,880,000, with the additional funding to come from the Water Reserve for $300,000 and the Gas Tax/Canada Community Building Fund up to $158,000.
*Motion Carried*

## 9. BYLAWS

### 9.1 Bylaw Status Sheet

## 10. NEW BUSINESS

### 10.1 Cowichan Valley Regional District Application for UBCM Community Emergency Support Services Grant

**CS 2022-022**
That Council support the Cowichan Valley Regional District proposal to apply for, receive and manage the UBCM Community Emergency Preparedness Fund Emergency Support Services grant funding on behalf of the Town of Ladysmith.
*Motion Carried*

## 11. UNFINISHED BUSINESS

### 11.1 Councillor Johnson's Motion Regarding a Permanent Memorial

**CS 2022-023**
That Council direct staff to prepare a report for consideration at a future Council meeting, including options and budget for the creation of a permanent memorial such as a wall of honour, listing Citizens of the Year in the Town of Ladysmith and others that have brought honour to, or improved our community.
*Motion Carried*

## 12. QUESTION PERIOD

There were no questions submitted by the public.

## 13. ADJOURNMENT

**CS 2022-024**
That this Regular Meeting of Council adjourn at 9:06 p.m.
*Motion Carried*

CERTIFIED CORRECT:

Mayor (A. Stone)

Corporate Officer (D. Smith)

# STAFF REPORT TO COUNCIL

| | |
|---|---|
| **Report Prepared By**: | Christina Hovey, RPP, MCIP, Senior Planner |
| **Reviewed By:** | Allison McCarrick, Chief Administrative Officer |
| **Meeting Date:** | February 1, 2022 |
| **File No:** | **3360-20-10** |
| **Re:** | **Official Community Plan and Zoning Bylaw Amendment Application for 1301 and 1391 Rocky Creek Road** |

---

## RECOMMENDATION:

That Council:

1. Consider Application 3360-20-10 to amend the Official Community Plan and Zoning Bylaw to allow for a mix of single-dwelling residential, multiple-dwelling residential, and commercial development at 1301/1391 Rocky Creek Road; and
2. Select one resolution from Alternatives 1, 2, 3, 4, or 5 as provided in Attachment A of the staff report dated February 1, 2022.

## EXECUTIVE SUMMARY:

The Town has received an application for an Official Community Plan and Zoning Bylaw amendment at 1301 and 1391 Rocky Creek Road (District Lots 81, 86, and 98 Oyster District Plan EPP87265, PID: 030-801-460, formerly the civic address was 1301&1391 Rocky Creek Road) at the northern boundary of the Town. The conceptual plan for the 4.7ha site is for a mix of single dwellings, townhouses, multiple-dwelling buildings, and some commercial. The concept plan shows:

- 20-24 Single Dwelling parcels;
- 20-24 Townhomes;
- 7 apartment buildings of up to six storeys (totaling 234-242 units); and
- Approximately 1,650m² of commercial space split between three buildings;

for an overall density of approximately 60 units per hectare for a total of 282 dwelling units plus commercial space. The existing zoning on the property would allow for approximately 75 single detached parcels.

Staff have prepared five alternatives for Council to consider for Recommendation No 2. The full wording for each is provided in Attachment A.

| | |
|---|---|
| Alternative 1 | Give the proposed bylaws first and second reading as proposed by the applicant; |
| Alternative 2 | Give the proposed bylaws first and second reading as amended; |
| Alternative 3 | Defer consideration of the application; |
| Alternative 4 | Refer the application back to staff for further review; or |

| | |
|---|---|
| Alternative 5 | Deny the application. |

For all alternatives except Alternative 5, staff recommend that Council refer the application to Stz'uminus First Nation and the Archaeology Branch of the Provincial Government at this time.

Council may wish to consider a zoning amendment to allow a lower density than proposed to allow a maximum of 188 dwelling units plus commercial space and limiting height to 4 storeys (Alternative 2). The lower density is more consistent with other multiple-dwelling residential developments in Ladysmith that are located adjacent to the Town's boundary. The lower overall density will make it easier to enable other goals for the site, including compatibility with neighbouring land uses, maximizing tree preservation and providing park space and public access to the water.

Council may also consider deferring consideration of the amendment bylaws (Alternative 3) until the consultation with Stz'uminus First Nation and the Archaeology Branch of the Provincial Government is completed and/or until the Growth Scenarios being prepared for the Official Community Plan review project are provided to Council.

**PREVIOUS COUNCIL DIRECTION:**

N/A

**INTRODUCTION/BACKGROUND:**

**Property Context:**

The subject property (District Lots 81, 86, and 98 Oyster District Plan EPP87265, PID: 030-801-460, formerly the civic address was 1301 and 1391 Rocky Creek Road) is 4.69 ha in size and located in the northeastern boundary of the Town. The property is between Rocky Creek Road and Ladysmith Harbour. The property is vacant, the majority of the property was formerly used as a campground/mobile home park and the northern part of the property is a rural residential property (also vacant).

The property is located between an industrial area and a rural residential area as follows:

- North: rural residential properties located within Electoral Area H of the Cowichan Valley Regional District (CVRD)
- Southeast and in Ladysmith Harbour: Ladysmith Marina
- South: Western Forest Products log sort
- West: light industrial area

Figure 1: Aerial Photo of 1301 & 1391 Rocky Creek Road


**Existing OCP Designation & Zoning Regulations:**

The property is currently designated Single Family Residential in the Official Community Plan (Bylaw No. 1488). The foreshore and adjacent water (Ladysmith Marina) is within DPA 1 – Maritime.

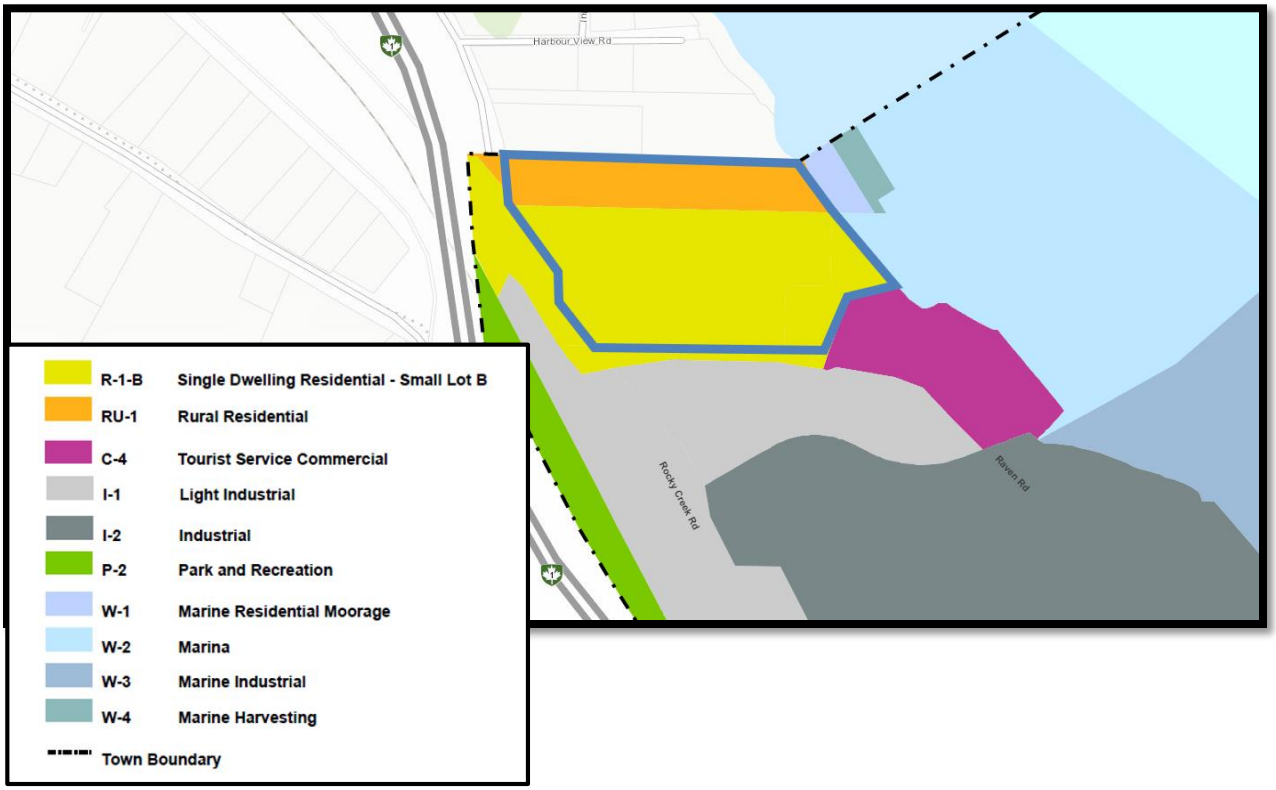
The property currently has two zones. The area closest to the northern boundary of the Town is in the Rural Residential zone (RU-1) and the rest of the property is in the Single Dwelling Residential – Small Lot B Zone (R-1-B). Table 1 describes what would be permitted under the existing zoning:

Table 1: Existing Zoning

| Zone | Maximum Density Permitted | Area (approx.) | Maximum number of Residential Parcels (approx.) |
|---|---|---|---|
| **Rural Residential Zone (RU-1)** | 0.4ha | 1.2ha | 3 parcels |
| **Single Dwelling Residential – Small Lot B Zone (R-1-B)** | 372m$^2$ | 3.5ha | 70 parcels[1] |
| **Total** | -- | 4.7ha | 73 parcels |

Figure 2: Zoning Map

[1] Excludes 25% of land allocated for interior roads and other public uses. This is an estimate.




**OCP & Zoning History:**

The subject property was brought into the Town boundary in 2002. The southern part of the property was previously used as a mobile home park/campground. According to the applicant, the mobile home park/campground was closed in 2011.

The property was zoned MP-1 Mobile Home Park in previous Zoning Bylaw No. 1160 which was repealed and replaced in 2014 with the current Zoning Bylaw (Bylaw No. 1860). A background report for the 2014 zoning review provided the following rationale for the change to the zoning on the property:

> "The previous MP-1 Mobile Home Park Zone has been renamed R-1-B Single Dwelling Residential – Small Lot B in reflection of the small lot single unit dwellings that currently exist within those areas (Note: Existing mobile home parks would be zoned MHP-1 Mobile Home Park)."

***Existing Covenants on Title:***

The subject property was subdivided in 2019, and then sold to the current owners. Through the subdivision application, several covenants were placed on the property. The 2019 covenants include the following:

- Requirement to provide public access to Ladysmith Harbour;
- Requirement to provide pedestrian pathway along the waterfront;
- Restriction on the use of the property as a campground or mobile home park; and

- Confirmation of the right of the neighbouring mill to operate including the right to "interfere with the use and enjoyment" of the subject property due to noise, vibration, light, dust, odours etc.

**Proposed Development:**

The applicant is requesting site specific zoning to accommodate the concept plan (Attachment D) for the property. The proposed plan shows a mix of townhomes, single family homes, multiple-dwelling buildings and mixed use commercial/residential buildings as shown in Table 2.

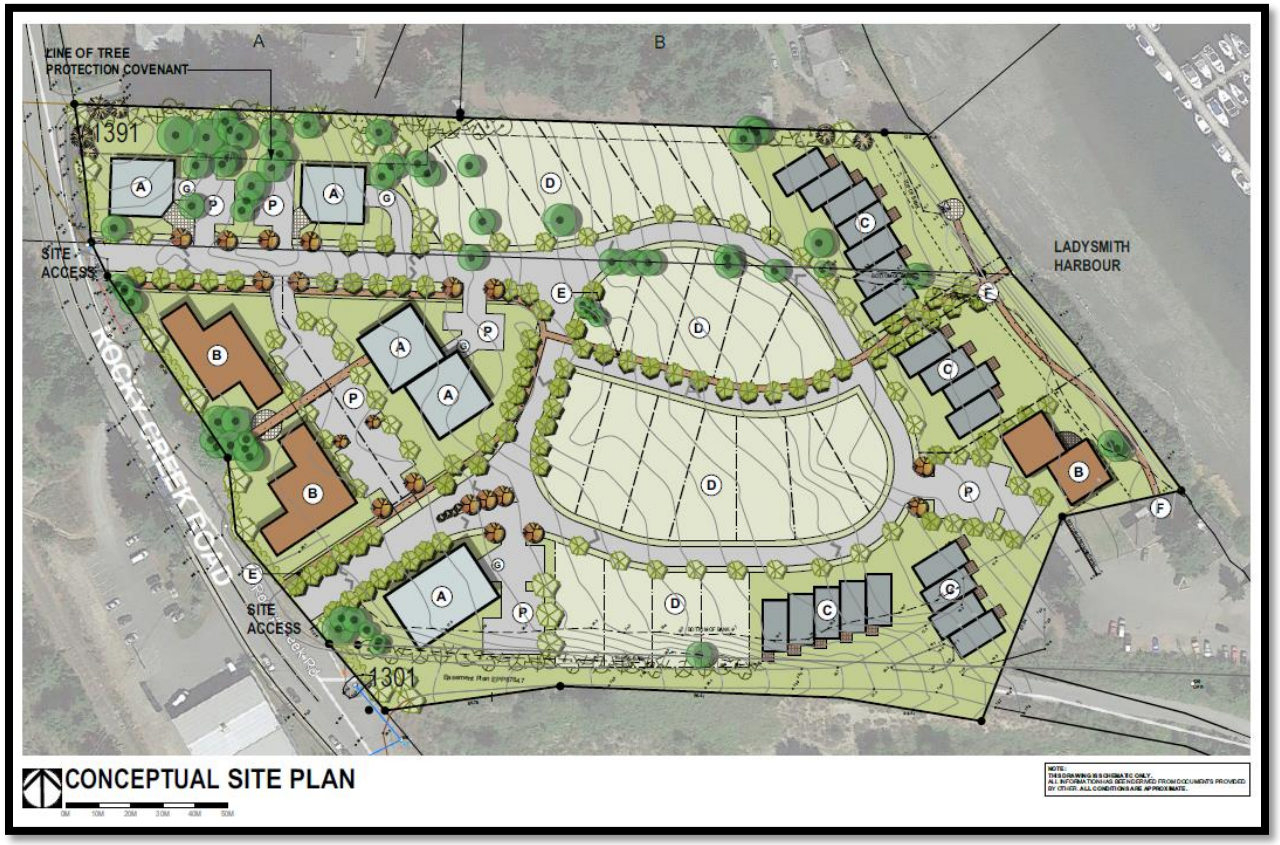
Table 2:Proposed Development

| Land use/Building Type | Area (approx.) | Number of Residential Units (approx.) | Commercial Space (approx.) |
|---|---|---|---|
| **Single Family** | 1.6ha | 20-24 parcels | N/A |
| **Townhomes** | 1.3ha | 20-24 units | 450m$^2$ |
| **Multi-family Buildings & Mixed Use Commercial/ Residential Buildings** | 1.8ha | 234-242 units (7 buildings, up to six storeys) | 1,200m$^2$ |
| **Total** | 4.7ha | 282 (60 units per hectare) | 1650m$^2$ |

The general configuration proposed in the concept plan (Figure 3 and Attachment D) shows townhomes adjacent to the water, multiple-dwelling buildings closest to Rocky Creek Road, and single dwelling parcels in between. Note that this plan is conceptual only and will need to be modified, for example to relocate the waterfront path, to locate the buildings in accordance with the geotechnical setback required, to provide park land, and to include a right of way providing access to the water.

The proposal would require amendments to both the Official Community Plan and the Zoning Bylaw.

Figure 3: Conceptual Site Plan




**Proposed Community Amenity Contributions:**

In accordance with the Town's Community Amenity Contribution Policy[2], the applicant has agreed to provide $1,000 into the Town of Ladysmith Amenity Fund for each residential unit permitted in excess of the 75 units (approximate number that can be accommodated by the existing zoning).

In addition, the applicant has committed to:

- Constructing all buildings to a minimum of Step 2 of the BC Energy Step Code or higher as required by the BC Building Code or Town of Ladysmith Bylaws;
- Providing a minimum of one electric vehicle charge station for each storey of each multiple-dwelling residential building; and
- Providing a minimum of 40% of the required parking for the multiple-dwelling residential buildings as underground parking.

These amenities are proposed to be secured by covenant.

[2]Community Amenity Contribution: https://www.ladysmith.ca/business-development/development-resources/community-amenity-contribution-policy

**Technical Studies:**

*Biophysical Assessment:*

The applicant submitted a "biophysical assessment" of the property prepared by a registered biologist. No watercourses were identified within the subject property.

The report notes that the portion of the property that was formerly a mobile home park is mostly cleared, but some mature trees exist along the edges of the property. The northern part of the property is mostly treed. There are steep slopes adjacent to the water, treed with mainly big-leaf maple trees. The marine area includes seagrass. Though highly impacted by surrounding and past development, the remnant habitats on the property and in the adjacent water can provide habitat for some species.

The following recommendations from the biophysical assessment relate to site layout:

- Aligning the waterfront trail to minimize vegetation removal and retain mature trees if possible.
- Designing development to minimize vegetation removal and retain mature trees if possible.
- Limit foot traffic and riparian disturbance through the vegetated foreshore area by installing a raised staircase from the waterfront trail alignment to the downslope beach.

*Tree Preservation Covenant Report:*

The Tree Protection Covenant Report (Attachment F - Aquaparian Environmental Consulting, dated January 5, 2022) provides recommendations for retaining and managing mature trees on the property. The report notes that loss of trees is problematic for wildlife and that even where habitat is fragmented, clusters of trees provide ecological stepping stones for wildlife, and linear strips of vegetation create safe corridors. Tree retention has additional benefits not limited to: aesthetic value, privacy, shade, wind break, slope stabilization (relevant to the slope adjacent to the waterfront), and carbon sequestration (in the larger context).

Accordingly, staff recommend making a tree protection and management covenant a requirement of approval of the amendment bylaws (included in both Alternatives 1 and 2). The report identified approximately 90 mature trees (over 50cm in diameter) including 16 trees over 100cm in diameter. The resulting tree protection covenant would protect 34-38 of the mature trees including 9-13 of the trees over 100cm in diameter. The following paragraphs describe the proposed terms of the covenant, at a high level.

The covenant will include the recommended tree protection areas and tree management as recommended in the report:

- Tree protection areas:
    - Along the north property line (15-5m in width).
    - Along the waterfront (15m width).
    - Two clusters along Rocky Creek Road.
    - Additional buffers of 6x the tree stem diameter to protect trees over 50cm that are within the tree retention areas.

    - Additional buffers as established by an arborist to protect "critical root zones" for the trees within the protected areas.

- Tree management, under the supervision of an arborist, as follows within the tree protection areas:
    - Assessment and removal of hazard trees.
    - Limb removal or similar to make trees wind firm if needed.
    - Filling in of trees where space permits.
    - Standards for replacement of trees within the tree protection areas where necessary due to hazard trees or in exceptional circumstances where a tree on the edge of the buffer cannot be preserved.
    - Special management of the trees within the tree protection area along the water to allow for limited tree removal and "topping" of trees to maintain views.

In addition, staff recommend including the mature trees that are located within the Rocky Creek Road right of way in the tree protection area. This would be a mutual commitment of the developer and the Town to retain these trees.

The report notes that additional mature trees may be retained depending on the final site plan. Staff recommend an additional provision for a tree management covenant to maintain at least 4 additional trees over 100cm in diameter or at least 8 additional trees over 50cm in diameter (or a combination where two 50cm trees are considered equal to one 100cm tree). The developer would have the flexibility to determine which trees to retain based on their site plan.

*Geotechnical Assessment:*
A preliminary Geotechnical Assessment (Attachment G - Lewkowich Engineering Associates Ltd, dated February 27, 2020) was prepared for the property. The report identified a steep slope adjacent to the waterfront including scarp failures and evidence of surficial creep.

The following recommendations from the Geotechnical Assessment relate to site layout:

- A minimum 3.0m setback from the top-of-bank is required for the waterfront walkway.
- A minimum 9.0m setback from the top of bank is required for townhomes adjacent to the waterfront.

Based on the concerns with slope stability adjacent to the waterfront, approximately 60m at the eastern edge of the property is proposed to be placed in DPA-7 – Hazard Lands. This will allow for additional review of the geotechnical safety of the proposed development at the time of development permit and/or subdivision.

*Transportation Impact Assessment (TIA):*
A TIA (Attachment H) was completed to assess whether the proposed development can be accommodated by the existing road network. The report concludes that no upgrades to the road network are needed to accommodate the proposal, except that a sidewalk should be installed along Rocky Creek Road adjacent to the development.

In January 2022, an addendum to the TIA considered the proposed roundabout at the intersection of Rocky Creek Road and Ludlow Road and reviewed the potential impact on the intersection between Malamos Road and the Highway (which provides access to the Highway heading north). The addendum also concluded that the proposed development can be accommodated by the road network without any upgrades.

The addendum to the TIA has been reviewed by the Ministry of Transportation and Infrastructure and they have indicated that they have no additional comments.

*Conceptual Site Servicing Report:*
This report provides preliminary comments on how the site can be serviced with water and sanitary sewer as well as how storm water runoff can be managed. This has been reviewed by the Town's Engineering Division and will inform subsequent work at the time of subdivision and development permit. The Engineering Division requested additional information about the existing capacity of the sanitary sewer to accommodate the proposed development. More information will be provided to Council in a subsequent report.

**DISCUSSION:**
**OCP Growth Management and Population Projections:**
***Population Projections:***
*OCP Background Report, 2021*[3]
The background report for the OCP review included population projections to the year 2050 and the number of new dwelling units that will be required to accommodate the projected population. The OCP background report forecasts a population growth from 8,537 to 12,712 people by year 2050, representing a population growth of 1.2% per year and 4,175 new residents. The background report suggests that to accommodate the projected population growth the Town will need 1,600 dwelling units by 2050 (53 units per year) with 168 units in 1-4 storey apartment style buildings.

Based on these projections, the proposed development represents approximately 15% of the total projected dwellings and 140% of the projected apartment dwellings that the Town is forecasted to need over the next 30 years.

*Housing Needs Report, 2021*[4]
A Housing Needs Report was accepted by Council on February 16, 2021 (CS 2021-044). The Housing Needs Report projects a need for 510 housing units from 2019 to 2025, approximately 85 new units per year for 6 years. The report suggests that the largest need is for 1 bedroom units (384 of the 510 units).

[3] The OCP Background Report can be found here: https://www.ladysmith.ca/city-hall/OCP
[4] The Housing Needs Report can be found here: https://www.cvrd.ca/3348/Sub-regional-Housing-Needs-Assessment-Re

Based on these projections, the proposed development represents approximately 55% of the total projected dwellings for a 5 year period.

***Growth Management:***

Based on recent population projections, the Town appears to have a surplus of land zoned for residential uses (e.g. there is already enough residential zoned land to accommodate more dwellings than the Town is projected to need before 2050). The Town may influence where and how development occurs, being strategic about if and where it adds new residential lands and increasing the density of existing residentially zoned lands.

In 2018, the OCP was amended to recognize that five key growth areas—Holland Creek, North Ladysmith, South Ladysmith, the Waterfront and Downtown infill[5]—had the capacity to accommodate an additional 6,165 residents based on the existing land use projections. Based on the current household size of 2.3 people per dwelling, in 2018 there was enough residentially zoned land for an additional 2,680 residential dwellings – at least 1,000 more units than the Town is projected to need over the next 30 years. Additional residential density has been approved since 2018 which would further increase the surplus.

***Ongoing OCP Review:***

In 2021, the Town of Ladysmith launched a comprehensive review of the Town's OCP. This will include an update of the community's vision for land use to the year 2049 and will specify priorities for growth. Under the *Local Government Act* the new OCP must plan the location, amount, type and density of residential development required to meet anticipated housing needs over a period of at least 5 years.

***Growth Scenarios, 2022***

As part of the OCP review, the project team is working to prepare two growth scenarios to represent different policy options for growth management for the next 30 years. These scenarios will take into account the projections from the housing needs study and illustrate policy options for how decisions around OCP designations and zoning help to shape the community. They are also preparing a "status quo" scenario to model carbon emissions based on existing development patterns.

According to the project schedule, the growth scenarios are anticipated to be ready to present to Committee of the Whole or Council in March, 2022.

**OCP Multi-Family Residential Policies:**

The existing OCP provides the following guidance regarding appropriate locations for the multi-family residential designation (see Section 3.8.1 of the OCP):

[5] Note that the subject property is not part of the Waterfront Area Plan Area and is considered part of "North Ladysmith" in the growth areas identified in the OCP.

> "Generally, residential uses in the Multi-Family Residential designation are located adjacent to a major (collector) road and near or with access to local commercial services, schools, recreation centres and/or parks. It provides for a range of multi-family residential uses including townhouses, and apartments, cluster housing, and special needs housing. Designation of new locations for Multi-Family Residential development will, in addition to the above criteria, be assessed based on an appropriate 'fit' with the neighbourhood in terms of scale, traffic and parking, and servicing issues**."**

Based on this criteria, the following paragraphs comment on the suitability of the location for multi-family residential development and fit with the surrounding area:

In favour of the proposal, the OCP calls for integrated neighbourhoods that incorporate a variety of housing types and densities and local service commercial development will be encouraged in new neighbourhoods. The proposed development includes a range of residential densities – small lot residential, townhomes, and multiple-dwelling buildings. However, the proposal does not limit the development to rental tenure and the applicant has not offered to enter into a housing agreement to set aside a portion of the development for affordable housing.

Also in favour of the proposal, the development is proposing to provide some local commercial and a neighbourhood park, which will provide access to these amenities for future residents. The adjacent marina makes this a desirable location for residential housing for users of the marina. The location of the property relative to the mill would be considered undesirable by many people, and there is a covenant registered on the property to notify future residents of the potential nuisances associated with the neighbouring heavy industrial use. However, as one member of the Community Planning Advisory Committee pointed out, the mill can also be considered part of the "character" of Ladysmith as a waterfront town with a working harbour.

Based on the criteria listed in the OCP, there are several considerations against the subject property as a candidate for multiple-dwelling residential development. The subject property is located on a major collector road, however it is not adjacent to commercial, social or government services, schools, recreation centres and/or parks. There is currently no access to transit from the subject property. The distance to downtown (the intersection of the Highway and 1st Avenue) is approximately 950m, approximately 1.2km on the road. While this would still be less than a 20 minute walk or 5 minute bike ride for many people, the route is through an industrial area and currently without a continuous sidewalk or a bicycle lane.

Consideration of this development should take into account its compatibility with the existing surrounding uses. This is not an area that is currently identified for major growth or transition to a different land use. Therefore the development for this property should make sense in the context of the existing neighbouring industrial, light industrial, rural residential, and marina uses.

**Proposed Density:**

The overall density proposed for the property is based on the Medium Density Residential (R-3) zone which allows for a density of up to 60 units per hectare. The applicant is proposing the density be averaged; whereby the units from the lower density areas of the property (e.g. the single detached and townhouse areas) be transferred to the multiple-dwelling residential area to allow for significantly higher density in the multiple-dwelling residential area. The applicant is also requesting a maximum height of 21.0m, whereas the R-3 zone allows for a maximum height of 12.0m. Table 3 describes the proposed density of the different areas shown in the concept plan.

Table 3: Proposed Density

| Land use/Building Type | Area (approx.) | Number of Residential Units (approx.) | Density (excluding commercial) (approx.) |
|---|---|---|---|
| **Single Family** | 1.6ha | 20-24 Parcels | |
| **Townhomes** | 1.3ha | 20-24 units | 18 units per hectare |
| **Multiple Dwelling Buildings** | 1.8ha | 234-242 units (7 buildings, up to six storeys) | 130 units per hectare |
| **Total** | 4.7ha | 282 | 60 units per hectare |

Attachment I: Relative Density compares the proposed density of the multiple-dwelling residential area with other zones and specific developments in Ladysmith. There is only one property in Ladysmith that permits a density greater than proposed (201-203 Dogwood (Dalby's)). It is also noted that all properties in Ladysmith that permit a density greater than 60 units per hectare are within 400 metres of the Downtown Core.

There are multiple-dwelling residential properties located throughout Ladysmith including to the boundaries of Town, however these are typically zoned "Low Density Residential (R-3-A)" which allows for a maximum density of 37 units per hectare.

**Staff Proposed Density:**

Factors that reduce the developable area of the property include preserving mature trees and providing parkland and public access to the waterfront. There may also be constraints on the site based on the archaeological potential.

Given the location, growth management considerations, constraints on the property, and the concerns expressed by neighbours in the rural residential area, staff propose that a lower density may be more appropriate for the property (Alternative 2).

Staff propose that the maximum density for the site be set to a maximum of 188 dwelling units for an average density of 40 units per hectare (down from the 282 currently proposed by the applicant). This number is based on calculating each area of the concept plan according to the proposed use, allowing for 37 units per hectare for the townhouse area, calculating the units for the single-detached dwelling area according to the minimum parcel size, and allowing for

the R-3 density of 60 units per hectare on the multiple-dwelling residential area.[6] For comparison the R-3-A zone would allow a total of 174 units (37 units per hectare).

188 dwelling units would allow for the proposed single detached dwellings (24) and townhomes (24) and allow for 140 units of multiple-dwelling residential (allowing, for example, seven buildings at 20 units each or 5 buildings with 28 units each).

Staff also propose that the maximum height may be reduced to 14.0 meters to limit the building height to four storeys rather than the proposed 21.0 meters (six storeys). Height can be varied through a Development Variance Permit, therefore the applicant can ask Council for an increase to height once the site plan is finalized, if they choose.

**OCP Amendment Bylaw No. 2102:**

Proposed Bylaw No. 2102 would amend the OCP by:

- Changing the designation on the subject property from "Single Family Residential" to "Multi-Family Residential";
- Adding the subject property to "DPA 3 – Commercial" and "DPA 4 – Multi-Unit Residential";
- Adding the area of the subject property closest to the waterfront to "DPA 7 – Hazard Lands"; and,
- Adding a new exemption to the DPAs to clarify that the single and two unit dwellings are not required to obtain a Development Permit under DPA 3 or DPA 4.

**Zoning Amendment Bylaw No. 2103:**

Proposed Bylaw No. 2103 creates a comprehensive development zone (CD-7 Rocky Creek Road Mixed Use-Residential) for the subject property.

The CD-7 zone:

- Permits a total of 282 units on the subject property (Alternative 2 would have Council amend this to a total of 188 units);
- Permits single-detached dwellings based on the provisions of the R-1-B Zone (Small Lot B Zone), which is the existing zoning on the majority of the subject property;
- Permits two-unit dwellings with a minimum parcel size of 780m$^2$;
- Permits a range of commercial uses, including uses permitted in the C-1 Zone (Local Commercial) and additional uses that staff considered compatible with the neighbouring marina use;
- Permits multiple-dwelling residential buildings based on the provisions of the R-3 Zone (Medium Density Residential);
- Allows multiple-dwelling residential buildings to be up to 21.0 metres high (Alternative 2 would have Council amend this to a maximum height of 14.0 metres); and

[6] 188 units = (townhomes: 37uphX1.3ha) + (multiple dwelling residential: 60uphX1.8ha) + (single detached dwellings: 1.6haX0.75%/372m2 minimum parcel size)

- Allows Live/Work Industrial units, based on the provisions of the I-1A Zone (Live/Work Industrial), only in the area adjacent to Rocky Creek Road.

**Recommended Conditions:**

Table 4 outlines the conditions that are recommended to be requirements for adoption of the proposed OCP and Zoning amendment bylaws. These conditions are included in the recommended resolutions for Alternatives 1 and 2.

Table 4: Proposed Conditions

| Recommended Condition | Notes |
|---|---|
| Tree Preservation and Management Covenant | • See "Tree Preservation Covenant Report" under "Technical Studies". |
| Parkland Dedication Covenant | • This will clarify that 5% parkland dedication is required, rather than cash-in-lieu.<br>• This will secure the provision of parkland in the unlikely event that the applicant chooses to develop the entire property as a strata instead of pursuing subdivision.<br>• Additional work is needed to determine if there is a preferred location for the parkland (for example, connected to the waterfront).<br>• See also "CPAC Referral" and "Interdepartmental Involvement" (Parks). |
| Limit Residential Development Prior to Commercial Development | • The purpose is to ensure (to the extent possible) that the residents of this development have access to some commercial services.<br>• In mixed use developments, commercial units are often constructed last (or not at all) based on the argument that the residential units are needed to support the commercial uses.<br>• In this case, the neighbouring marina and industrial uses provide additional potential customers for the commercial uses.<br>• The proposed terms would state that:<br>a. No more than 12 dwelling units can be built prior to construction of at least one commercial unit a minimum of 100$m^2$ in size; and<br>b. No more than 72 dwelling units can be built prior to construction of a second commercial unit a minimum of 100$m^2$ in size.<br>• These are minimum requirements, additional and/or larger commercial units are permitted.<br>• This will allow for construction of approximately two town house buildings before the first commercial unit is required.<br>• This will allow for construction of (for example) the townhouses, the single detached dwellings, and one |

| Recommended Condition | Notes |
|---|---|
| | multiple-dwelling building before the second commercial unit is required.<br>• See also "CPAC Referral". |
| Community Amenity Contribution | • See "Proposed Community Amenity Contributions". |
| Decommission the 100mm A/C watermain along the former Gladden Road | • See "Interdepartmental Involvement" (Infrastructure Services). |
| Require that the developer construct a bus "pull out" lane for a transit stop along Rocky Creek Road. | • See "Intergovernmental Involvement" (BC Transit). |
| Amend Covenant to clarify that a 20m access to the water is required. | • At the time of subdivision the property owner is required to provide a 20m right-of-way providing public access to the water.<br>• The covenant will ensure that this 20m right-of-way is provided in the in the unlikely event that the applicant chooses to develop the entire property as a strata instead of pursuing subdivision.<br>• See also "Intergovernmental Involvement" (MoTI). |
| Amend Covenant to clarify required location of the waterfront pathway. | • The Geotechnical Assessment recommended that the pathway be setback a minimum of 3.0m from the top of bank.<br>• Similarly, the Biophysical Assessment recommends that the pathway be located to minimize removal of vegetation on the slope.<br>• See also "Technical Studies". |

**NEXT STEPS:**

Staff will report back to Council on the following matters prior to scheduling a Public Hearing:

- Outcome of the consultation with Stz'uminus First Nation and Archaeology Branch;
- Outcome of sewer modelling to confirm whether the additional units can be accommodated on the existing sanitary sewer; and,
- Outcome of additional review by staff regarding a preferred location for parkland and whether the preferred location should be secured now through the proposed parkland dedication covenant.

Any of the listed topics may result in changes to the proposed development or zoning, or in additional or modified conditions for adoption of the bylaws

**ALTERNATIVES:**

Staff have prepared five alternatives for Council to consider for Recommendation No 2. The full wording for each is provided in Attachment A.

| | |
|---|---|
| Alternative 1 | Give the proposed bylaws first and second reading as proposed by the applicant; |

| | |
|---|---|
| Alternative 2 | Give the proposed bylaws first and second reading as amended; |
| Alternative 3 | Defer consideration of the application; |
| Alternative 4 | Refer the application back to staff for further review; or |
| Alternative 5 | Deny the application. |

**FINANCIAL IMPLICATIONS:**
N/A

**LEGAL IMPLICATIONS:**
The *Local Government Act* (sections 475 and 476) requires that the Town specifically consider providing consultation opportunities for persons, organizations, and authorities as part of amending an OCP.

Section 473(2.1) of the *Local Government Act* requires that local governments consider the most recent housing needs report[7] when amending an OCP in relation to residential development.

Section 477(3) of the *Local Government Act* requires that Council consider OCP amendments in conjunction with the Town's Financial Plan and any waste management plans.[8] Accordingly, the application was referred to the Town's Finance Department, the Town's Infrastructure Services Department, and the CVRD. The applicant has been asked to provide additional information regarding the capacity of the existing sanitary sewer service and this information will be provided to Council.

The recommended Council resolutions in Attachment A follow the *Local Government Act* requirements help to demonstrate that the Town has followed the requirements of the Act as they pertain to adopting an amendment to the OCP.

If the application proceeds, the Zoning Bylaw amendment will need to be approved by the Ministry of Transportation and Infrastructure following third reading (*Transportation Act*, section 52).

**CITIZEN/PUBLIC RELATIONS IMPLICATIONS:**
As this application includes an OCP amendment, a Public Hearing would be required prior to third reading of any amendment bylaws.

The applicant hosted two Neighbourhood Information Meetings (NIMs) the first was held on July 7, 2021 and the second on September 1, 2021. Thirteen people attended the first meeting

[7] The Town's housing needs report can be found here: https://www.cvrd.ca/3348/Sub-regional-Housing-Needs-Assessment-Re. The report is referenced in the discussion section of this report.
[8] The Town's Liquid Waste Management Plan (2013) can be found here: https://www.ladysmith.ca/discover-ladysmith/community-plans/liquid-waste-management-plan
The CVRD's Solid Waste Management Plan (2020) can be found here: https://www.cvrd.bc.ca/SWMP

and nine written responses were received. Seven people attended the second meeting and one additional written response was received.

The written responses included the following comments, although some of the letters reported that they did not object to the development "in principle":

- Concern that the location of the multiple-dwelling buildings would create overlook into the neighbouring single-detached properties, resulting in a loss of privacy.
- Concern that the height of the multiple-dwelling buildings would be too high.
- Concern about the overall scale of the proposed development.
- Concern about increased traffic/safety on Rocky Creek Road.
- Concern about speed of traffic on Rocky Creek Road.
- Concern about parking on Rocky Creek Road.
- Concern about availability of potable water.
- Concern for loss of trees and concern about the waterfront ecology.

The summary from the meetings including the written comments is Attachment J: NIM Summary.

**CPAC REFERRAL:**

CPAC considered the application on Wednesday October 6, 2021 (Attachment K) and made the following resolutions:

> "It was moved, seconded and carried that the Community Planning Advisory Committee supports OCP and Zoning Amendment Application 3360-20-10 (1301 & 1391 Rocky Creek Road) in principle and recommends that the development be subject to the following conditions:
>
> - Provision of a recreational park for families.
> - Assurance that commercial space will be provided.
> - Assurance of a high standard of form and character.
> - Assurance that tree preservation be maximized.
>
> It was moved, seconded and carried that the Community Planning Advisory Committee requests that Council consider referring the application for 1301 & 1391 Rocky Creek Road back to CPAC at the Development Permit stage to review form and character."

The recommended conditions address the comments of CPAC as follows:

- Proposed covenant requiring a park for families
- Proposed covenant for Tree Protection

In addition, the proposed OCP Amendment Bylaw would add the subject property to DPA-3 – Commercial and DPA-4 – Multi-Unit Residential to address the form and character of the development. Council may refer the development permit applications associated with the

subject property to CPAC either at the time of application or by providing that direction to staff now.

**INTERGOVERNMENTAL INVOLVEMENT/IMPLICATIONS:**

Staff referred the application to other governments and agencies between October 29th and November 2, 2021, as shown in Table 5; responses are included in the notes and below.

Table 5: Intergovernmental/Agency Referral

| Government/Agency | Reason for Referral | Notes |
|---|---|---|
| **Stz'uminus First Nation** | • In accordance with the Naut'Sa Mawt Community Accord.<br>• High Archaeological Potential. | • See below. |
| **Cowichan Valley Regional District** | • Adjacent to boundary with CVRD.<br>• CVRD residents attended NIM.<br>• Per section 477 of the *Local Government Act*: OCP amendments must be considered in the context of waste management plans including the CVRD's Solid Waste Management Plan. | • Response received Dec 1, 2021, stating that their interests are unaffected. |
| **School District 68 (Nanaimo Ladysmith)** | • Proposed density increase.<br>• Per section 476 of the *Local Government Act*. | • Pending Council's decision, staff will send a second referral letter including the Council resolution referencing section 476 of the *Local Government Act*. |
| **Department of Fisheries and Oceans Canada** | • Oceanfront property. | • A reminder was sent Dec. 16, 2021.<br>• No response received at time of writing. |
| **MoTI** | • Per section 52 of the *Transportation Act*. | • See below. |
| **FLNRORD** | • Oceanfront property.<br>• Adjacent to marina. | • See below.<br>• |
| **FLNRORD – Arch Branch** | • High Archaeological Potential. | • See below. |
| **BC Transit** | • Proposed density increase. | • See below. |

**Stz'uminus First Nation – Early and Ongoing Consultation Recommended:**

Due to the archaeological potential of the subject property (see below under Archaeology Branch) a more extensive consultation process with the Stz'uminus First Nation is triggered under section 475(2) of the *Local Government Act*. Given the identified archeological potential, it is reasonable to presume that Stz'uminus may have significant interest in this file. With this in mind, the standard for consultation is bilateral communication in which Stz'uminus has the opportunity to question, receive explanation, and provide comment to the local government on

the proposal before it is given further consideration. Staff are recommending that consultation with Stz'uminus First Nation be initiated with a formal referral from Council and that their input be considered prior to scheduling a public hearing for the proposed bylaw amendments.

**The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD):**
The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) provided the following response on November 23, 2021:

> "given the immediate proximity of the Ladysmith Marina, owned by Oak Bay Marine Group, the Province has received public comments expressing concern over expansion of the marina associated with proposed upland property development. The Province requests that the Town of Ladysmith engage Oak Bay Marine group to determine if their long term business plan includes expansion of the Marina. If plans do include marina expansion it would be beneficial to include this, to the extent possible, in public discussions related to the proposed upland zoning bylaw amendment."

The applicant reports that they reached out to the planning consultant for the Oak Bay Marine group following this request. According to the applicant, the Oak Bay Marine group confirmed that they have no plans to expand the Ladysmith Marina.

**Archaeology Branch - The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) – Early and Ongoing Consultation Recommended:**
The subject property is listed on the provincial database as having high archaeological potential in the province's information database. Accordingly the applicant commissioned a preliminary archaeological review of the property. Under the *Heritage Conservation Act* all archaeological sites, whether or not they have been recorded, are protected.

The archaeologist retained by the applicant has recommended that an Archaeological Impact Assessment (AIA) be conducted for this property. The applicant has already commenced the AIA process. Upon review of the preliminary study from the applicant, the Archaeology Branch agreed that an AIA should be completed and provided the following comments:

> "The results and recommendations of the AIA must be considered before final approvals are given, as additional archaeological studies and Heritage Conservation Act permits, such as Section 12.5 Site Alteration Permits, may be required as a condition of development."
>
> "It is my recommendation that the AIA is reviewed as part of the current application. The location has been verified by a professional archaeologist as having high archaeological potential, with the recommendation of an AIA to determine if protected archaeological sites are present…

Archaeological sites present a significant risk and should be addressed at the earliest stage possible, to allow for site avoidance or impact mitigation measures that may inform the nature and extent of development approvals. While no immediate land alterations are planned, the results of the study will inform the land use decision."

Based on the above comments, the Archaeology Branch may have additional input to provide if additional information (in the form of an Archaeological Impact Assessment) becomes available and/or based on feedback received from the Stz'uminus First Nation. Accordingly, staff are recommending that consultation with the Archaeology Branch be initiated with a formal referral from Council and that their input be considered prior to scheduling a public hearing for the proposed bylaw amendments.

**Ministry of Transportation and Infrastructure:**
MoTI provided a preliminary response in November 2021, noting that the concept plan does not show public access to the waterfront as required by Section 75 of the *Land Titles Act*. The Ministry of Transportation and Infrastructure provided the following additional comments on December 22, 2021:

- "Should the Town of Ladysmith decide to support waiving the obligations of Covenant CA7488208 in favour of a boardwalk along the full width of the property's ocean frontage, then a Section 75 waiver can be submitted for review by the Provincial Approving Officer."
    - At this time staff do not recommend waiving the requirement for public access to the water. Accordingly one of the proposed conditions for the rezoning is to amend the existing covenant to ensure that the 20m road allowance leading to the water is provided.
- "The TIA [Transportation Impact Assessment] should be updated to make recommendations for upgrades to the north access of Rocky Creek Road where it meets Malamos Road and Highway 1. It is expected that this highway access will be significantly impacted by the development."
    - On January 18, 2022 the applicant provided an update to the TIA which indicated that no upgrades to the intersection at Malamos Road are warranted.

MoTI has reviewed the update to the TIA and has indicated that they have no additional comments at this time.

**BC Transit:**
BC Transit stated that they have no objections to the proposed development subject to their recommendations. Their recommendations were mainly pertaining to establishing pedestrian connectivity through the site and adjacent roadway and ensuring site design that is compatible with transit operations. These comments can be addressed at the time of development permit and/or subdivision.

BC Transit recommended providing for a bus stop location on Rocky Creek Road fronting this property, accordingly this is recommended as a condition of adoption of the proposed amendment bylaws.

BC Transit provided two additional comments that are relevant to the current application:

- To increase allowable density; and
- To allow a mix of residential, commercial, institutional or recreational uses.

The proposed zoning provides for a range of uses. Staff requested clarification on how much density was required for BC Transit to provide transit service to the development. BC Transit provided the following response based on the "CVRD Transit System Service Standards and Performance Guidelines (2016)"

- "Minimum density of 10 residents or 10 employment jobs per hectare measured over a minimum developed area of 10 hectares; and,
- There is road and pedestrian access that provides for safe pedestrian access and efficient operation of transit service.
- Basic transit service coverage levels shall be introduced first; and
- Jurisdictions requesting transit service that are outside of the existing CVRD jurisdiction and governance structures should enter into a long-term cost sharing agreement with the CVRD to fund a portion of costs to provide transit. (i.e. Victoria Transit Commission, Regional District of Nanaimo, and non-transit function local governments)."

  "In the Cowichan Valley, the transit system is challenged to provide efficient, effective service over such a large geographic area with significant areas of low-density development and separate distinct communities. There are many areas that request improved service, and any new service areas and expansion must be approved by the CVRD Board."

Based on this response, the proposed development will provide sufficient density to meet the minimum threshold set by the CVRD to provide transit if a minimum of 100 residential units are developed.

**INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS:**

The application has been referred to other departments including Infrastructure Services; Parks, Recreation & Culture; and Finance. Table 6: Internal Referral provides details of the comments provided.

Table 6: Internal Referral

| Department/Division | Notes |
|---|---|
| **Infrastructure Services** | • The Engineering Department requested the following additional information:<br>o An update to the TIA to take into account the proposed roundabout at the intersection of Rocky Creek Road and Ludlow Road.<br>▪ This was received on January 19, 2022 and is pending review by the Engineering Division.<br>o Cross sections of the proposed roads within the subject property, |

| | |
|---|---|
| | since they do not match the Engineering Standards.<br>▪ These were received on January 19, 2022, but the Engineering Department determined that they do not meet the required standards (e.g. for access for fire trucks, snow removal). The applicant is aware of the need to address the roads; and<br>o A model to determine whether the proposed units can be accommodated with the existing sewer services.<br>▪ This information was requested on January 20, 2022 and has not yet been received.<br>• The Engineering Department provided the following additional comments:<br>o That the easement on the old Gladden Road be discharged and the 100mm A/C watermain be decommissioned at the developer's cost (the requirement to decommission the watermain is proposed to be captured as condition of adoption, discharge of the easement on old Gladden Road will benefit the applicant and therefore is not listed as a condition).<br>o That the applicant will be required to upgrade the sanitary sewer on Rocky Creek Road per the DCC project list and as part of the required frontage works. |
| **Parks, Recreation & Culture** | • Supports protection of mature trees on the property.<br>• Supports the request for a covenant requiring parkland dedication.<br>• Further work is needed to determine the preferred location for the park, this may be brought back to Council for future consideration.<br>• Emphasized that no tree removal or "topping" could be permitted in the area designated for park.<br>• Noted that there are currently no trails in the immediate area that the proposed waterfront pathway could connect with. Although the Town should secure the right of way as a future opportunity, the Town may not want to see the trail built until it can be connected to the broader trail network (e.g. to manage operational costs). |
| **Finance** | • Council is required to review OCP amendments in conjunction with the Town's Financial Plan (*Local Government Act*, section 477).<br>• Finance notes that the civic addresses 1301 and 1391 Rocky Creek Road no longer exist and the current property has not been assigned an address.<br>• Finance notes that "there will be a reduction in future water and sewer parcel taxes as fewer parcels will be created (assuming the multiple-family/mixed use is not stratified)." To clarify, rental buildings are charged for one sewer and water parcel tax, in the case of a condominium building, each unit would pay. |

**ALIGNMENT WITH SUSTAINABILITY VISIONING REPORT:**

☒Complete Community Land Use ☐ Low Impact Transportation

☐Green Buildings
☐Innovative Infrastructure
☐Healthy Community
☐ Not Applicable
☒ Multi-Use Landscapes
☐ Local Food Systems
☐ Local, Diverse Economy

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

☐Infrastructure
☐Community
☐Waterfront
☐ Economy
☒ Not Applicable

***I approve the report and recommendations.***

**Allison McCarrick, Chief Administrative Officer**

**ATTACHMENTS:**

A. Alternative Resolutions 1-5
B. OCP Amendment Bylaw No. 2102
C. Zoning Amendment Bylaw No. 2103
D. Conceptual Site Plan
E. Letter from Applicant
F. Tree Protection Covenant Report
G. Geotechnical Assessment
H. Transportation Impact Assessment & Addendum Letter
I. Relative Density
J. NIM Summary
K. CPAC Minutes

Attachment A

# Recommended Wording for Alternative Resolutions for 1301/1391 Rocky Creek Road

Council has the option to give the proposed bylaws first and second reading as proposed (Alternative 1), to give the proposed bylaws first and second reading as amended (Alternative 2), to defer consideration of the application (Alternative 3), to refer the application back to staff for further review (Alternative 4), or to deny the application (Alternative 5). For all alternatives except Alternative 5, staff recommend that Council refer the application to Stz'uminus First Nation and the Archaeology Branch of the provincial government at this time.

**ALTERNATIVE 1: GIVE THE BYLAWS 1st and 2nd READING AS PROPOSED BY THE APPLICANT**

That Council:

1. Having considered s. 475 of the *Local Government Act,* and in particular the matters set out in subsections (2)(a) and (b), resolve as follows:
    a. That the following persons, organizations and authorities are the only entities that are appropriate to consult in connection with "Official Community Plan 2003, No. 1488, Amendment Bylaw (No. 70) 2022, No. 2102":
        i. Stz'uminus First Nation; and,
        ii. The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – Archaeology Branch;
    b. That consultation with Stz'uminus First Nation and Archaeology Branch should be early and ongoing and that staff be directed to refer application 3360-20-10 and Bylaw No. 2102 to Stz'uminus First Nation and Archaeology Branch to initiate the consultation process described in the staff report to Council dated February 1, 2022;
2. Direct staff to refer application 3360-20-10 to School District 68 pursuant to section 476 of the *Local Government Act.*
3. Give 1st and 2nd Reading to Bylaw No. 2102;
4. Consider Bylaw No. 2102 in conjunction with the Town's Financial Plan, the Town's Liquid Waste Management Plan, and the Cowichan Valley Regional District's Solid Waste Management Plan, pursuant to section 477(3) of the *Local Government Act*;
5. Consider Bylaw No. 2102 in conjunction with the Town's Housing Needs Report, pursuant to section 473(2.1) of the *Local Government Act*;
6. Give 1st & 2nd Reading to "Town of Ladysmith Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 47) 2022, No. 2103";
7. Direct staff to report back to Council on the outcome of the Consultation with Stz'uminus First Nation and the Archaeology Branch prior to scheduling a Public Hearing for Bylaw Nos. 2102 and 2103;

8. Require that the developer, at their cost, complete the following prior to adoption of Bylaw Nos. 2102 and 2103:
    a. Register on the title of the subject property, Lot A, District Lots 81, 86, and 98, Oyster District, Plan EPP87265 (PID: 030-801-460), a covenant or covenants in favour of the Town pursuant to section 219 of the *Land Title Act*:
        i. Establishing a tree preservation area and a tree management plan as outlined in the staff report to Council dated February 1, 2022;
        ii. Requiring parkland dedication as outlined in the staff report to Council dated February 1, 2022;
        iii. Limiting residential development prior to the construction of commercial units as outlined in the staff report to Council dated February 1, 2022;
        iv. Securing the community amenity contribution of $1,000 per additional unit, underground parking, and energy efficiency standards as outlined in the staff report to Council dated February 1, 2022; and
        v. Requiring that the developer decommission, at their expense, the 100mm watermain along the former Gladden Road;
    b. Amend Covenant CA7488213 to require that the developer construct a bus "pull out" lane for a transit stop along Rocky Creek Road;
    c. Amend Covenant CA7488208 to clarify that a 20 metre access to the harbour is required for any development; and
    d. Amend Covenant CA7488209 and CA7488210 to clarify that the location of the waterfront pathway must be setback a minimum of 3.0 metres from the top of bank as recommended by the Geotechnical Assessment provided as Attachment F to the February 1, 2022 staff report to Council.

**ALTERNATIVE 2: GIVE THE BYLAWS 1st and 2nd READING AS AMENDED**

That Council:

1. Having considered s. 475 of the *Local Government Act,* and in particular the matters set out in subsections (2)(a) and (b), resolve as follows:
    a. That the following persons, organizations and authorities are the only entities that are appropriate to consult in connection with "Official Community Plan 2003, No. 1488, Amendment Bylaw (No. 70) 2022, No. 2102":
        i. Stz'uminus First Nation; and,
        ii. The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – Archaeology Branch;
    b. That consultation with Stz'uminus First Nation and Archaeology Branch should be early and ongoing and that staff be directed to refer application 3360-20-10 and Bylaw No. 2102 to Stz'uminus First Nation and Archaeology Branch to initiate the consultation process described in the staff report to Council dated February 1, 2022;
2. Direct staff to refer application 3360-20-10 to School District 68 pursuant to section 476 of the *Local Government Act;*
3. Give 1st and 2nd Reading to Bylaw No. 2102;
4. Consider Bylaw No. 2102 in conjunction with the Town's Financial Plan, the Town's Liquid Waste Management Plan, and the Cowichan Valley Regional District's Solid Waste Management Plan, pursuant to section 477(3) of the *Local Government Act*;

5. Consider Bylaw No. 2102 in conjunction with the Town's Housing Needs Report, pursuant to section 473(2.1) of the *Local Government Act*;
6. Amend "Town of Ladysmith Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 47) 2022, No. 2103" to reduce the total maximum number of residential dwelling units to 188 and reduce the maximum height for residential dwelling units to 14.0 metres and give 1st and 2nd readings to Bylaw No. 2103;
7. Direct staff to report back to Council on the outcome of the Consultation with Stz'uminus First Nation and the Archaeology Branch prior to scheduling a Public Hearing for Bylaw Nos. 2102 and 2103;
8. Require that the developer, at their cost, complete the following prior to adoption of Bylaw Nos. 2102 and 2103:
    a. Register on the title of the subject property, Lot A, District Lots 81, 86, and 98, Oyster District, Plan EPP87265 (PID: 030-801-460), a covenant or covenants in favour of the Town pursuant to section 219 of the *Land Title Act*:
        i. Establishing a tree preservation area and a tree management plan as outlined in the staff report to Council dated February 1, 2022;
        ii. Requiring parkland dedication as outlined in the staff report to Council dated February 1, 2022;
        iii. Limiting residential development prior to the construction of commercial units as outlined in the staff report to Council dated February 1, 2022;
        iv. Securing the community amenity contribution of $1,000 per additional unit, underground parking, and energy efficiency standards as outlined in the staff report to Council dated February 1, 2022; and
        v. Requiring that the developer decommission, at their expense, the 100mm watermain along the former Gladden Road;
    b. Amend Covenant CA7488213 to require that the developer construct a bus "pull out" lane for a transit stop along Rocky Creek Road;
    c. Amend Covenant CA7488208 to clarify that a 20 metre access to the harbour is required for any development; and
    d. Amend Covenant CA7488209 and CA7488210 to clarify that the location of the waterfront pathway must be setback a minimum of 3.0 metres from the top of bank as recommended by the Geotechnical Assessment provided as Attachment F to the February 1, 2022 staff report to Council.

**ALTERNATIVE 3: DEFER CONSIDERATION OF THE APPLICATION**

That Council:

1. Having considered s. 475 of the *Local Government Act,* and in particular the matters set out in subsections (2)(a) and (b), resolve as follows:
    a. That the following persons, organizations and authorities are the only entities that are appropriate to consult in connection with "Official Community Plan 2003, No. 1488, Amendment Bylaw (No. 70) 2022, No. 2102":
        i. Stz'uminus First Nation; and,
        ii. The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – Archaeology Branch;

b. That consultation with Stz'uminus First Nation and Archaeology Branch should be early and ongoing and that staff be directed to refer application 3360-20-10 and Bylaw No. 2102 to Stz'uminus First Nation and Archaeology Branch to initiate the consultation process described in the staff report to Council dated February 1, 2022;

2. Direct staff to refer application 3360-20-10 to School District 68 pursuant to section 476 of the *Local Government Act;*
3. Defer further consideration of application 3360-20-10 until:
    a. Staff reports back to Council on the consultation with Stz'uminus First Nation and the Archaeology Branch; [<and/or>]
    b. Council receives the Growth Scenarios being prepared for the Official Community Plan review project.

**ALTERNATIVE 4: REFER THE APPLICATION BACK TO STAFF FOR FURTHER REVIEW**

That Council:

1. Having considered s. 475 of the *Local Government Act,* and in particular the matters set out in subsections (2)(a) and (b), resolve as follows:
    a. That the following persons, organizations and authorities are the only entities that are appropriate to consult in connection with "Official Community Plan 2003, No. 1488, Amendment Bylaw (No. 70) 2022, No. 2102":
        i. Stz'uminus First Nation; and,
        ii. The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – Archaeology Branch;
    b. That consultation with Stz'uminus First Nation and Archaeology Branch should be early and ongoing and that staff be directed to refer application 3360-20-10 and Bylaw No. 2102 to Stz'uminus First Nation and Archaeology Branch to initiate the consultation process described in the staff report to Council dated February 1, 2022;
2. Direct staff to refer application 3360-20-10 to School District 68 pursuant to section 476 of the *Local Government Act;* and
3. Refer application 3360-20-10 back to staff for further review as follows:
    a. [<Council Direction to staff and/or applicant>]

**ALTERNATIVE 5: DENY THE APPLICATION**

That Council deny Application 3360-20-10 to amend the Official Community Plan and Zoning Bylaw at 1301/1391 Rocky Creek Road.

Attachment B

**TOWN OF LADYSMITH**

**BYLAW NO. 2102**

**A Bylaw to amend "Official Community Plan Bylaw 2003, No. 1488"**

The Council of the Town of Ladysmith in open meeting assembled enacts the following amendments to "Official Community Plan Bylaw 2003, No. 1488":

1. Schedule A.1 - Development Permit Areas "Exemptions", by deleting item 4.(m) in its entirety and replacing with the following:

   "(m) construction of, addition to, or alteration of a single family or two family dwelling in Commercial (DPA 3), or Multi-Unit Residential (DPA 4);"

2. Map 1 – Land Use, by changing the "Single Family Residential" designation to "Multi-Family Residential" for Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460) as shown in Schedule 1, which is attached to and forms part of this Bylaw;

3. Map 2 – Development Permit Areas, by adding:
   a. Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460) as shown in Schedule 1 to "DPA 3 – Commercial" (Development Permit Area 3 – Commercial) and "DPA 4 – Commercial" (Development Permit Area 4 – Multi-Unit Residential); and
   b. The easternmost portion of Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460) to "DPA 7 – Hazard Lands" (Development Permit Area 7 - Hazard Lands), as shown in Schedule 2 which is attached to and forms a part of this Bylaw.

**Citation**

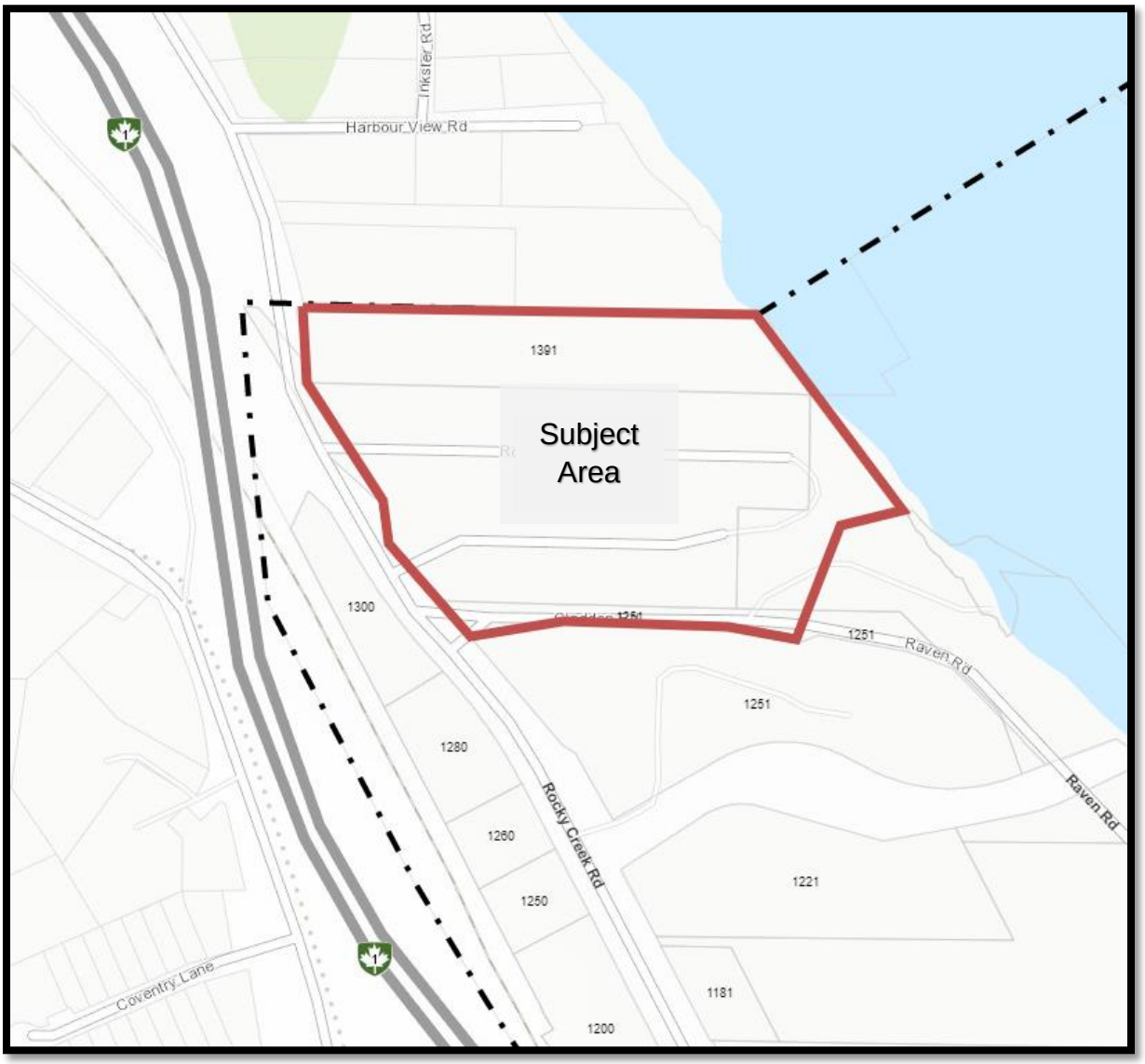
4. This Bylaw may be cited for all purposes as "Official Community Plan Bylaw 2003, No. 1488, Amendment Bylaw (No. 70) 2022, No. 2102".

| | | |
|---|---|---|
| **READ A FIRST TIME** on the | day of | , |
| **READ A SECOND TIME** on the | day of | , |
| **PUBLIC HEARING HELD** on the | day of | , |
| **READ A THIRD TIME** on the | day of | , |
| **ADOPTED** on the | day of | , |

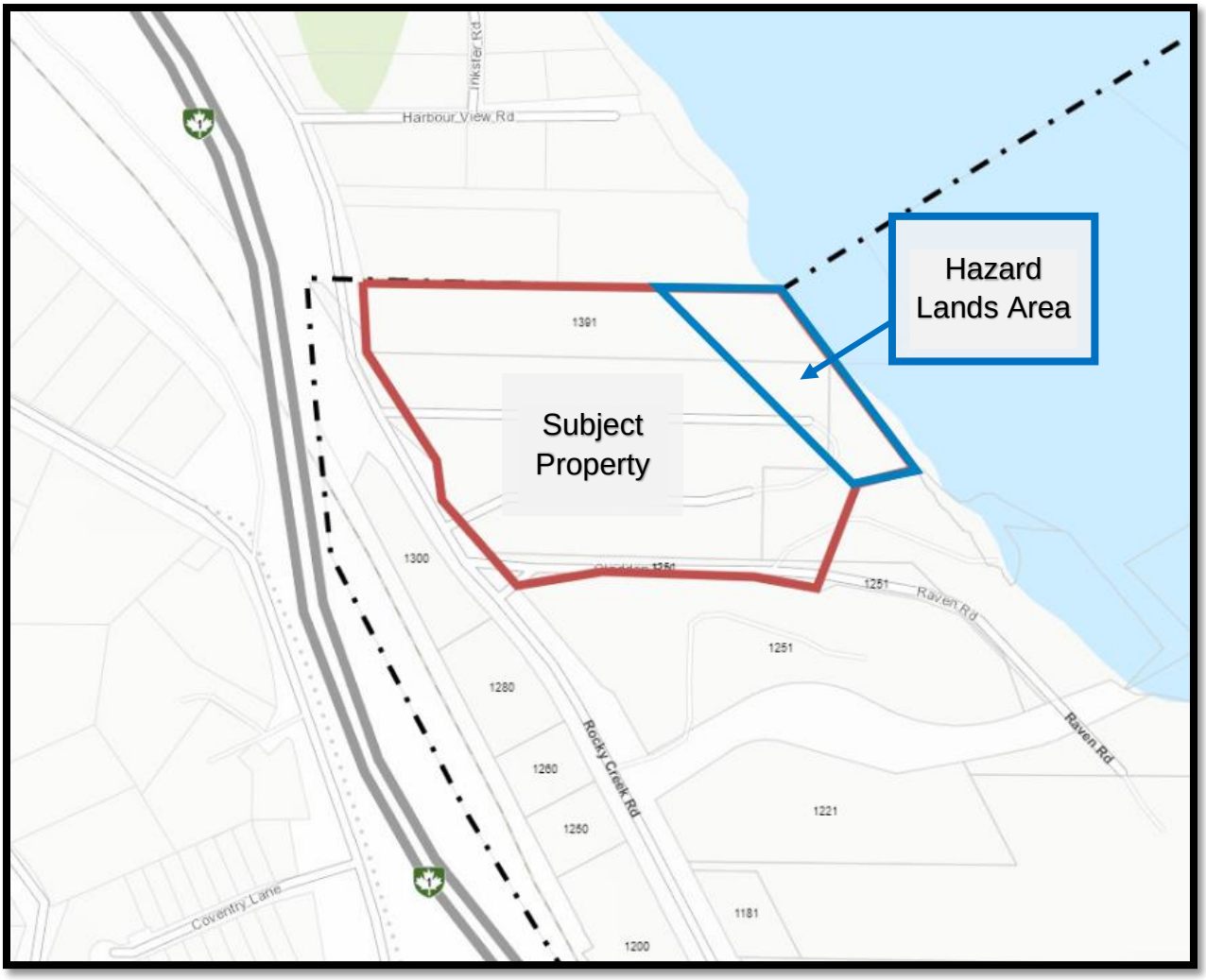
Mayor (A. Stone)

Corporate Officer (D. Smith)

**Schedule 1**


Harbour View Rd
Trickster Rd
1391
Subject Area
1300
1251
Raven Rd
1251
1280
Rocky Creek Rd
Raven Rd
1260
1221
1250
1181
Coventry Lane
1200

**Schedule 2**


Hazard Lands Area
Subject Property
Harbour View Rd
Inkster Rd
1391
1300
1251
Raven Rd
1280
Rocky Creek Rd
1260
1250
1221
1181
1200
Coventry Lane

Attachment C

**TOWN OF LADYSMITH**

**BYLAW NO. 2103**

**A Bylaw to amend "Town of Ladysmith Zoning Bylaw 2014, No. 1860"**

The Council of the Town of Ladysmith in open meeting assembled enacts the following amendments to "Town of Ladysmith Zoning Bylaw 2014, No. 1860":

1. Schedule A – Zoning Bylaw Text:
   a. By adding the following to the end of the table in Section 9.1 "Creation of Zones" subsection a):

| | |
|---|---|
| Rocky Creek Road Mixed-Use Residential | CD-7 |

   b. By adding to Part 17: Comprehensive Development Zones a new zone "17.7 Comprehensive Development 7 – Rocky Creek Road Mixed-Use Residential (CD-7)" as shown in Schedule 1, which is attached to and forms part of this Bylaw.

2. By amending Schedule B – Zoning Bylaw Map to change the zone for the subject area, at Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460) as shown in Schedule 2 which is attached to and forms a part of this Bylaw from R-1-B and RU-1 to CD-7.

**Citation**

3. This Bylaw may be cited for all purposes as "Town of Ladysmith Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 47) 2022, No. 2103".

**READ A FIRST TIME** on the day of ,
**READ A SECOND TIME** on the day of ,
**PUBLIC HEARING HELD** on the day of ,
**READ A THIRD TIME** on the day of ,
**APPROVED BY THE MINISTRY OF TRANSPORTATION & INFRASTRUCTURE**
on the day of ,
**ADOPTED** on the day of ,

Mayor (A. Stone)

Corporate Officer (D. Smith)

**Schedule 1**

## 17.7 COMPREHENSIVE DEVELOPMENT 7 – ROCKY CREEK ROAD MIXED-USE RESIDENTIAL (CD-7)

The purpose of the Comprehensive Development 7 Zone is to accommodate a mixed-use residential neighbourhood with a range of housing options and densities, with flexibility in permitted uses to allow for the option of Live-Work uses adjacent to Rocky Creek Road and to provide access to local commercial services for existing and future residents.

### 1. Principal Uses

a) Artist Studio.

b) *Bakery.*

c) *Coffee Shop.*

d) *Commercial School.*

e) *Community Care Facility.*

f) *Convenience Store.*

g) Cottage Industry.

h) *Liquor Retail Sales.*

i) *Media Production Studio.*

j) *Micro-Brewery.*

k) *Multiple-Unit Dwelling.*

l) *Neighbourhood Pub.*

m) *Non-Motorized Recreational Equipment Sales or Rental*

n) *Office.*

o) *Personal Service Establishment.*

p) *Restaurant.*

q) *Retail Sales.*

r) *Single Unit Dwelling.*

s) *Tourist Accommodation.*

t) *Two Unit Dwelling.*

u) *Townhouse Dwelling.*

v) *Veterinary Clinic.*

### 2. Accessory Uses

a) *Coach House Dwelling,* as an *Accessory Use* to a *Single Unit Dwelling*, and subject to Part 6, Section 6.5.

b) *Home Based Business,* subject to Part 6, Section 6.8.

c) *Recreation Activity Space.*

d) *Secondary Suite*, subject to Part 6, Section 6.4.

e) *Urban Agriculture.*

### 3. Sizing and Dimensions of Parcels

a) No *Parcel* for a *Single Unit Dwelling Use* shall be created which has a *Parcel Area* less than 372 square metres in area.

b) No *Parcel* for a *Two Unit Dwelling Use* shall be created which has a *Parcel Area* less than 780 square metres in area.

c) No *Parcel* for a *Multiple-Unit Dwelling* or a *Townhouse Dwelling* shall be created which has a *Parcel Area* less than 2023 square metres.

d) No *Parcel* for a commercial use shall be created which has a *Parcel Area* less than 668 square metres in area.

e) No *Parcel* shall be created which has a *Frontage* of less than 12.19 metres.

### 4. Total Density of the Use of Land, Buildings and Structures

a) For the *Parcel* legally described as Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460), the maximum number of *Dwelling Units* is 282 in total.

b) The maximum number of *Dwelling Units* permitted by subsection 17.7.4.a) applies despite any subdivision of the *Parcel* specified.

c) For the purpose of calculating the maximum total density permitted by 17.7.4.a) and b), an *Accommodation Unit* for a *Tourist Accommodation Use* will be counted as a *Dwelling Unit.*

### 5. Size and Density of the Use of Land, Buildings and Structures

a) For a *Single Unit Dwelling* section 10.4.4."Size and Density of the Use of Land, Buildings and Structures" of Section 10.4 "Single Dwelling Residential – Small Lot B Zone (R-1-B)" shall apply.

b) For a *Two Unit Dwelling* section 10.6.4. "Size and Density of the Use of Land, Buildings and Structures" of Section 10.6 "Old Town Residential (R-2)" shall apply.

c) For a *Multiple-Unit Dwelling* or a *Townhouse Dwelling* the *Floor Space Ratio* shall not exceed 2.0.

d) For a *Parcel* created for a *Multiple-Unit Dwelling* or a *Townhouse Dwelling, no Building* or *Structure* shall exceed a *Parcel Coverage* of 50.0 percent.

e) No commercial use on a *Parcel* shall have a *Gross Floor Area* greater than 200 square metres.

d) Despite subsection 17.7.5.e) a maximum of one commercial use on the *Parcel* legally described as Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460), may have a *Gross Floor Area* of no greater than 500 square metres. The maximum of one commercial use no greater than 500 square metres applies despite any subdivision of the *Parcel* specified.

f) The combined *Floor Space Ratio* for all commercial uses on a *Parcel* shall not exceed 0.5.

g) Commercial uses may only be located on the *First Storey* of a *Building.*

h) Despite section 17.7.5(g) *Tourist Accommodations* may be located above the *First Storey* of a *Building*.

i) A *Parcel* may contain more than one *Principal Building*.

j) Despite section 17.7.5.(i) a *Parcel* for a *Single Unit Dwelling* shall not contain more than one *Principal Building*.

## 6. Siting, Sizing and Dimension of Uses, Buildings and Structures

a) For a *Single Unit Dwelling* section 10.4.5. "Siting, Sizing and Dimension of Uses, Buildings and Structures" of Section 10.4 "Single Dwelling Residential – Small Lot B Zone (R-1-B)" shall apply.

b) For a *Two Unit Dwelling* section 10.6.5 "Siting, Sizing and Dimension of Uses, Buildings and Structures" of Section 10.6 "Old Town Residential (R-2)" shall apply.

c) For a *Multiple-Unit Dwelling* or a *Townhouse Dwelling* section 10.10.5 "Siting, Sizing and Dimension of Uses, Buildings and Structures" of Section 10.10 "Medium Density Residential (R-3)" shall apply.

d) Despite section 10.10.5.(a) a *Multiple-Unit Dwelling Building* shall not exceed a *Height* of 21.0 metres.

e) Despite section 10.10.5.(d) no *Multiple-Unit Dwelling Building* shall be located closer than 6.0 metres from any *Parcel Line* that abuts a *Parcel* that contains a *Single Unit Dwelling* or a *Two Unit Dwelling*.

## 7. Landscaping and Screening

a) *Landscaping* and *screening* shall be provided in accordance with Part 7: Landscaping and Screening Regulations.

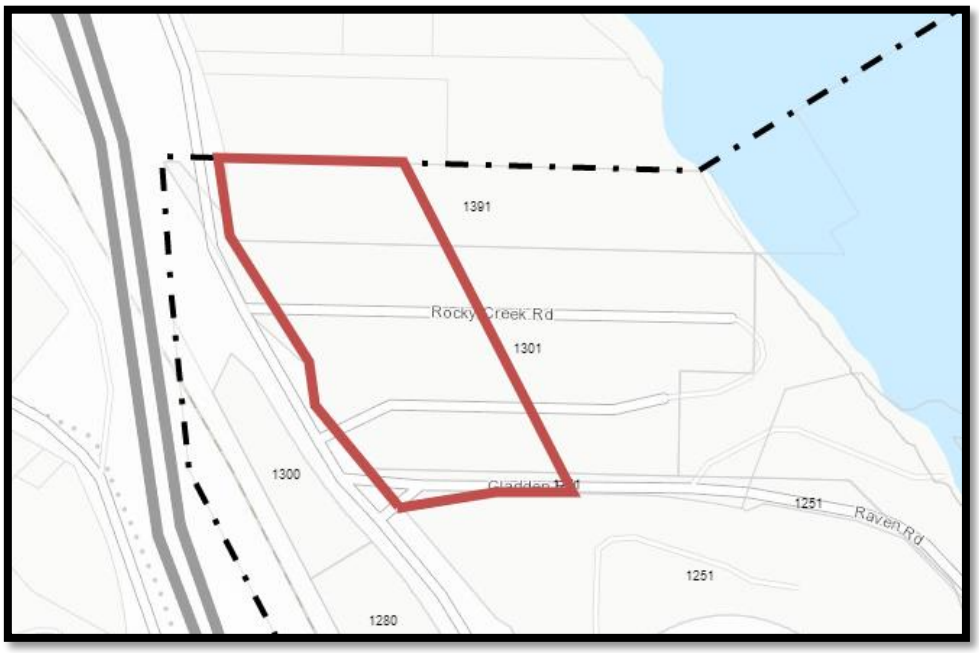
## 8. Parking and Loading

a) Off-street parking and off-street loading shall be provided in accordance with Part 8 Parking and Loading Regulations.

## 9. Additional Option for Live-Work Industrial Development

a) For the portion of *Parcel* legally described as Lot A, District Lots 81, 86 and 98, Oyster District, Plan EPP87265 (PID: 030-801-460), shown in Figure 17.7, the *Uses* permitted in the I-1A *Zone* are permitted in addition to the *Uses* listed in section 17.7.1 and 17.7.2, subject to meeting the requirements for: sizing and dimension of parcels; size and density of the use of the land, buildings and structures; siting sizing and dimensions of uses, buildings and structures; landscaping and screening; parking and loading; and, other regulations as provided in sections 12.1.3 to 12.1.8 of Section 12.1 "Live/Work Industrial (I-1A)".

**Figure 17.7**



**Schedule 2**


Harbour View Rd
1391
Subject Area
1300
1251
Raven Rd
1251
1280
1260
1250
1221

Attachment D


# CONCEPTUAL SITE PLAN

0M 10M 20M 30M 40M 50M

**NOTE:**
**THIS DRAWING IS SCHEMATIC ONLY.**
ALL INFORMATION HAS BEEN DERIVED FROM DOCUMENTS PROVIDED BY OTHER. **ALL CONDITIONS ARE APPROXIMATE.**

## SITE DATA

**LEGAL DESCRIPTION:** LOT A, DISTRICT LOT 81,86 & 98, OYSTER DISTRICT, PLAN EPP87265, PID 030-801-460

**CIVIC ADDRESS:** 1301 / 1391 ROCKY CREEK ROAD, LADYSMITH B.C.

**LOT SIZE:** +/- 11.59 ACRES

**CURRENT ZONING:** 1301 ROCKY CREEK ROAD - R-1-B SINGLE DWELLING RESIDENTIAL - SMALL LOT B ZONE
1391 ROCKY CREEK ROAD - RU-1 RURAL RESIDENTIAL

## LEGEND

- (A) MULTI-FAMILY RESIDENTIAL
- (B) COMMERCIAL / RESIDENTIAL
- (C) TOWNHOUSES - 20 UNITS
- (D) SINGLE FAMILY LOTS - 22 LOTS
- (E) PEDESTRIAN ACCESS / AMENITY
- (F) WATERFRONT WALKWAY
- (G) BELOW BUILDING PARKING
- (P) PARKING
- EXISTING TREES AS DEFINED BY SURVEY



PROPOSED DEVELOPMENT
**1301 / 1391 ROCKY CREEK ROAD**
LADYSMITH, B.C.
CLIENT: ROCKY CREEK VENTURES INC.

**bjk architecture inc.**
2122 Brandon Rd.
Shawnigan Lake B.C.
V0R 2W3
Ph: 250-891-1602

DELINEA DESIGN CONSULTANTS LTD



| | |
|---|---|
| ISSUED: | FEB.10 2020 |
| ISSUED: | FEB.12 2020 |
| ISSUED: | DEC.02 2020 |
| ISSUED: | SEPT.02 2021 |
| ISSUED: | OCT. 28 2021 |
| ISSUED: | DEC. 15 2021 |

PR1.0

Attachment E

January 03, 2022

Christina Hovey, Senior Planner, Development Services Department
Town of Ladysmith, 132C Roberts Street
Ladysmith, BC, V9G 1A2
Via email: chovey@ladysmith.ca

Dear Christina

**Re: 0CP Amendment and Rezoning Application, 1301/1391 Rocky Creek Road, Ladysmith**

Further to our discussion December 20, 2021 and your follow up email December 21, I confirmed I would send you a letter providing the rationale for the proposed OCP and rezoning amendments we are seeking for the above noted property. A summary of our proposal and rationale is as follows;

**Request** – Ladysmith staff support amending the OCP to multi-family residential and rezoning the property to medium density residential (R-3), to allow for future development on this site as shown on the design drawings submitted with the application. The future development of the site would include 20 to 24 townhouse units at the waterfront, 20 to 24 single-family dwelling lots in the middle of the site and up to seven multi-family buildings with 24-30 units each, in up to six story building forms, adjacent to the Rocky Creek Road frontage. This would result in a total of 208 to 258 units on the property. We request that our application for R-3 zoning be forwarded to Town Council as submitted, for their consideration. We understand that the staff report will be forwarded to Council's meeting either January 25 or February 1.

**Town of Ladysmith OCP and Rezoning Bylaw** – The proposed OCP designation is for multi-family residential, which would allow for a combination of single-family, townhouse and multi-family buildings, plus allow for a small amount of commercial space. The proposed zoning amendment is to a medium density residential (R-3) zone, with site-specific amendments to allow single-family dwellings and multi-family buildings up to six stories (21.0m). The proposed density for the property would comply with R-3 zone, that allows for up to 60 units per ha. The proposed density for the property is 44 – 55 units per ha, with the densities averaged over the entire property, during a future phased subdivision. The proposed floorspace ratio (FSR) is 0.63, which is 32% of the permitted 2.0 FSR in the R-3 zone. The proposed site coverage is 20%, which is considerably less than the maximum 50% site coverage permitted in the R-3 zone.

**Seward Developments Inc.**
**toby.seward@shaw.ca**
**250-713-6595**
**1820 Argyle Avenue, Nanaimo, B.C., V9S 3K7**

**OCP/Rezoning Applications Submitted to the Town of Ladysmith** – On December 3, 2020 the application was submitted to Ladysmith for the OCP/Rezoning amendments. On December 20, 2021 Ladysmith staff requested that we consider revising the rezoning application to low density residential (R-3-A) zone, instead of the requested medium density residential (R-3) zone, limiting the property development to a maximum of 174 units and four storey buildings. The property owners reviewed the request to revise the application and advised Ladysmith staff that they wish to proceed with the application as submitted and proceed with the request for R-3 zoning, allowing for a mix of single family dwellings, townhouse and multi-family buildings up to six stories.

**Local Demand for Various Forms of Housing** – Ladysmith continues to experience a high demand for all forms of housing. Historically the majority of housing built locally is single-family dwelling, therefore there is considerable interest in seeing multi-family housing built, including a variety of unit sizes. This is evidenced by the construction that is underway for a 96 unit multi-family building at 107 Rollie Rose Drive, in the Holland Creek area. Though this building is only nearing completion, it is understood there is between 240 - 270 people on a wait list for units in this building. Also, since the Rocky Creek Road project was initially proposed, the owners have received considerable interest from Ladysmith residents, people from out of town and people who keep their boats at the nearby Ladysmith Marina, regarding the availability of units in this development.

**Impact of the Development on the Neighbourhood** – The proposed Rocky Creek development will have very little impact on neighbouring properties and there will be no view blockage or building shadows that impact neighbours. The only residential properties that are adjacent to the property are two houses to the north in the CVRD, that will be shielded from the development by retention of a 5.0 m-15.0 m wide tree buffer and fencing, running down the north property line. The property to the south is the Western Forest Products mill and the properties to the west across Rocky Creek Road are industrial uses.

**Input from the Community Planning Advisory Committee (CPAC**) – The committee reviewed the proposed development at their October 2021 meeting and supported the application in principal, subject to provision of park area for families, allocation of commercial space in the development, a high standard of form and character and that tree preservation be maximized. The owners have been working with their consulting team to ensure each of these issues are incorporated into the project.

**Seward Developments Inc.**
**toby.seward@shaw.ca**
**250-713-6595**
**1820 Argyle Avenue, Nanaimo, B.C., V9S 3K7**

**Proposed Amenities Provided by the Development** – As required in a future subdivision application, a park area will be identified for the property and access to water will be provided from Rocky Creek Road through to the waterfront. As required by covenants registered on the property, a waterfront walkway will be constructed as part of the development and sewer pump station will be installed on the new Gladden Road right of way. Also electrical charging stations will be installed for cars and bicycles, energy step code will be incorporated in the designs and the majority of parking for the multi-family buildings will be constructed under the buildings.

**Rationale for the proposed OCP Amendment and Rezoning Application** – The property owners have worked with their design team to develop a comprehensive concept plan for the site, taking into consideration the issues noted above, including the OCP and zoning bylaw requirements, demand for housing (particularly multi-family housing), impact on surrounding neighbours, site conditions, protection of the environment, tree retention, traffic, parking and access for future residents to downtown Ladysmith and the waterfront.

Please advise if you require further information to support our request to pursue R-3 zoning, with the site specific amendments noted, for this property.

Yours truly

Toby Seward
Seward Developments Inc

ec Allison McCarrick, CAO
Jake Belobaba, Director of Planning
Rocky Creek Ventures Inc

**Seward Developments Inc.**
**toby.seward@shaw.ca**
**250-713-6595**
**1820 Argyle Avenue, Nanaimo, B.C., V9S 3K7**

Attachment F

AQUAPARIAN
Environmental Consulting Ltd.

January 5, 2022

Rocky Creek Ventures Inc
1890 Schoolhouse Road
Nanaimo BC, V9X 1T4

**C/O:** Toby Seward, Seward Developments Inc.

**Via Email:** toby.seward@shaw.ca

**RE: REZONING PHASE**
**PROPOSED TREE PROTECTION COVENANT LETTER REPORT**
**1301 & 1391 ROCKY CREEK ROAD, LADYSMITH BC**

## 1.0 INTRODUCTION

Aquaparian Environmental Consulting Ltd. (Aquaparian) was retained by Rocky Creek Ventures Inc. to provide environmental services for the proposed re-zoning and subsequent subdivision and development of 1301 and 1391 Rocky Creek Road located in the Town of Ladysmith, BC. The property is legally described as follows: Lot A, District Lots 81, 86 and 98 Oyster District, Plan EPP87265. A site map is included as Figure 1. Site Photographs are included as Appendix A.

Aquaparian completed a Biophysical Assessment (January 2020) for this parcel to characterize the environmental attributes of this property and identify environmental constraints that may be present for future development. The intent of this letter is to aid a preliminary discussion regarding tree retention as part of the rezoning phase and subsequent development phase. The Town of Ladysmith currently has no Tree Protection Bylaw to prevent the loss of trees during development of land; as such, the Town has requested that trees be retained and protected on the property by developing a Tree Management Plan for the parcel and registering a covenant to protect a portion of the property to retain trees for the long term. This letter report provides an approach and rationale to select treed areas to be retained on the parcel and recommends items for consideration when drafting a covenant to protect trees on the property in the future. Additional trees may also be retained outside of the covenanted areas in keeping with the development landscape plan.

A review of the Town of Ladysmith Official Community Plan (OCP) identifies that the subject property is approximately 11.59 acres (4.69 ha) in size. 1391 Rocky Creek Road is zoned RU1 Rural Residential and is located north of 1301 Rocky Creek Road; this parcel shows evidence of past clearing and has an old road alignment extending east toward the foreshore but is

undeveloped and has a cluster of mature trees near Rocky Creek Road. 1301 Rocky Creek Road is zoned R1B Single Dwelling Residential – Small Lot B Zone, and was developed in the past as the Ivy Green Mobile Home Park until 2011; it has been sitting vacant since it was cleared and pioneering vegetation is increasing. The following covenants and easements are registered on this property: M76300, EW161088, FB383434, FB383440, FB383445, FB383467, FB383468, FB396708, CA7488208, CA7488209, CA7488210, CA7488211, CA7488213, CA7488215, CA7488217, CA7488218, CA7488220 & CA7488221.

The property is roughly rectangular in shape, bound by Rocky Creek Road to the west, Ladysmith Harbour to the east, private properties on the north and the Ladysmith Marina owned by Oak Bay Marine Group to the south. As understood, the project proposes to rezone the property to allow a number of Single Dwelling Residential as well as multi-family residential and commercial / residential to enable a higher density development. The property is subject to the following Town of Ladysmith Development Permit Areas (DPAs):

- DPA 1 – Maritime: The lands and water included in DPA1 are located along the coast in the Town boundaries and comprise the upland, foreshore, and marine environments within this area (Town of Ladysmith Official Community Plan 2016 – Map 2). No distance from the shoreline is specified.
- DPA 7 – Hazard Lands: Steep slope areas within the town boundary are subject to this DPA.

As understood, in lieu of a Tree Protection Bylaw, the Town is proposing that a covenant be placed on portions of the property to protect trees. Sarah Bonar R.P.Bio (Aquaparian) and Peter Brinson (Arborist from VI Tree Service) completed a preliminary site assessment on September 28, 2021 to document the tree cover on the site. Subsequently, the larger diameter trees (>50cm DBH) were tagged by VI Tree and surveyed onto a legal site plan produced by Turner & Associates Land Surveying (Figure 2). The intent was to identify significant clusters of mature trees and determine the potential tree removal requirements for the proposed development in order to plan for tree retention. Figure 3 includes the tree location map with the >100cm DBH trees identified in red and Appendix B is a tree inventory table of all the tagged trees adapted from a draft Tree Management Plan report by VI Tree. The table includes tree health comments and calculated tree protection zones based on a standard calculation of six times the tree stem diameter.

Based on the proposed preliminary development plan and the location of the majority of mature trees, the covenant area is proposed to be a 15m & 5m strip located along the north boundary and a 15m wide strip on the waterfront steep slope area as well as three clusters of trees along Rocky Creek Road. These trees will require further assessment by the arborist to ensure they are not hazard trees or require modification by limb removal or similar to make them wind firm. The exact covenant areas may require adjustment by VI Tree to protect the critical root zones of the trees within the protected areas. Similarly, if any reduction of the tree protection zone is

anticipated, the trees would need further assessment on an individual basis. These covenant areas can be enhanced by the addition of trees and understory species to replace other trees removed from the property. Other trees on the property will likely be retained and enhanced with additional plantings in keeping with the final development plan and landscape plan but will not be included in a covenant area.

The following sections provide a rationale for the importance of tree retention and the covenant as well as recommendations for terms and conditions for discussion in drafting the covenant.

## 2.0 RATIONALE FOR PROPOSED TREE PROTECTION

An increased need for housing due to a growing population is driving development pressure on Vancouver Island including the Town of Ladysmith. Without a Tree Protection Bylaw in place, the loss of trees is problematic for wildlife (birds, amphibians, reptiles and mammals) within the town as urban environments increase and nesting and foraging habitat is lost. Development is responsible for much of the ecosystem fragmentation experienced by wildlife in urban settings. Species that do not undergo migrations are particularly sensitive to ecosystem fragmentation because they do not have the ability to travel elsewhere to find ample food and breeding opportunities. Fragmented ecosystems lead to limitations in resources because of a lack of interconnectedness between foraging and breeding habitats. With this in mind, tree retention should consider adjacent forest stands where they occur to create larger areas for wildlife across property boundaries. Clusters of trees create ecological stepping stones for wildlife, while linear strips of vegetation across property lines create a safe corridor for wildlife to move across the landscape while avoiding anthropogenic threats such as mortality from traffic or predation by domestic pets. Buffers adjacent to aquatic features and connectivity to upland areas are particularly important.

In addition to the ecological benefits of tree retention to wildlife, there is the appeal of the aesthetic value of green space to the landowner and the creation of privacy maintained by retained trees along property lines. Backyard bird activity may be valued by residents. Other benefits of retaining trees in an urban landscape include provision of shade, improved air quality, wind break and, in the larger context, carbon sequestration.

When planning for tree retention and removal with regards to land development, several factors should be taken into account. Tree removal may result in increased wind shear risk for retained trees when suddenly exposed to winds through clearing of adjacent stands. In some cases, it may be necessary to replace or modify some trees (i.e. hazard trees) and plant additional trees of the same species to allow the new stand of trees to establish in their current conditions and grow wind firm to a mature height. This is to be directed by a certified arborist.

Trees along shoreline slopes provide soil stability and reduce surface erosion, provide structural wildlife habitat as well as leaf litter and insects to the intertidal zone which support fish life processes. Organic material is incorporated in the nearshore substrate that supports organisms at the bottom of the food chain such as bacteria and small invertebrates, these in turn are eaten by larger invertebrates, fish and birds. Vegetation along the shoreline also serves to filter stormwater by removing sediments before it meets the ocean. Shade from trees overhanging the shoreline keeps the high intertidal substrate cool, reducing heat stress during low tides for sessile intertidal organisms.

## 3.0 RECOMMENDATIONS FOR TREE RETENTION AND PROTECTION

The proposed tree protection covenant area includes a 15m wide linear strip, narrowing to a 5m wide strip along the north boundary and a 15m wide strip encompassing the shoreline slope from the top of bank to the shoreline as well as three clusters of mature trees fronting Rocky Creek Road. Two of the large diameter trees (≥100cm DBH) are located just outside the central covenant area fronting Rocky Creek Road in the road right-of-way where they can be retained, and the proposed covenant areas will protect seven of the large diameter trees. One additional large diameter tree is located immediately outside the north covenant area that should be able to be retained by site design. Therefore, a total of ten of the 16 large diameter trees are expected to be retained. The covenant areas will need to be assessed by the arborist to determine if any of the trees are hazardous and require modification to make them wind firm or require removal and replacement with suitable native species and to ensure the critical root zones of the trees to be retained are protected.

The shoreline slope is approximately 60% and 4-5m high and vegetated with maple trees that have been topped in the past. These trees were not tagged as their diameters were less than 50cm DBH. As understood, the Town would like a 3m wide waterfront walkway to be incorporated into the final project design. Due to the steepness of the slope, Aquaparian assumes the only suitable location for the trail would be along the top of the slope and would not currently connect to any existing walkway sections on either end as private land is located on the north side and a marina is located on the south side of the property. The location of the trail in proximity of the top of the slope will need to be confirmed by a geotechnical engineer.

As understood, the Town is intending to require a covenant to protect retained trees. The terms and conditions of the covenant are to be negotiated. Aquaparian recommends some flexibility in the covenant wording to allow limited future activities within the covenant area to remove or modify trees that may become hazardous over time. In addition, removal of invasive species is to be allowed to protect the health of the trees and integrity of the habitat. Planting and preserving native understory species should also be encouraged to maintain and enhance

habitat value of the covenant area for wildlife and help outcompete invasive plants. In addition, because this property is waterfront, views of the ocean are desirable. Limited tree topping or limb removal of the existing maple trees is to be determined by the arborist to maintain view corridors. Some of the densely spaced young Douglas fir along the top of the slope are expected to be removed to allow for views in those areas. Aquaparian recommends coniferous trees should be strategically planted on the slope toward the bottom of the slope for future slope stability and habitat value as there are currently none.

The majority of the site was cleared in the past with a few older trees (>100cm DBH) being retained. VI Tree's tree inventory has been added to the survey plan. Figure 3 is an overlay of the site plan on Google Earth to estimate the treed areas of the property, location of larger diameter trees and the proposed covenant areas. A total of 105 mature trees with a Diameter at Breast Height (DBH) of ≥50cm were found and tagged on the site. Of the tagged trees, there are 16 trees that are ≥100cm DBH with one Douglas fir that is 220cm DBH (VI Tree Draft Tree Management Plan). The proposed covenant areas cover approximately 4000m$^2$ of the property which is 8.5% of the property and 20% of the existing canopy cover by area. Some portions of the northern boundary covenant area, near Rocky Creek Road and where it narrows to 5m wide, are devoid of trees and will require enhancement. Table 1 below identifies the estimated treed portion of the property and the proposed covenant areas:

**Table 1: Summary of Estimated Tree Canopy and Proposed Covenant Areas**

| Area Description | Area m$^2$ or Number | % Area or Number |
|---|---|---|
| Parcel Area | 46,900 m$^2$ | 100% of parcel |
| Estimated Canopy Cover | 21,900 m$^2$ | 47% of parcel |
| Proposed Covenant Area | 4000 m$^2$ | 8.5% of parcel<br>20% of existing canopy cover |
| Mature Trees >50cm DBH | 105 mature trees on parcel | 31 mature trees in covenant |

The covenant areas are intended to protect retained trees from encroachment and should be planted with additional trees to offset the loss of mature trees on the remainder of the parcel that will be removed to accommodate development. The total number of trees proposed to be removed is unknown; however, the preliminary development plan indicates up to 75 mature trees with >50cm DBH may be removed with the remainder of the canopy being comprised of smaller diameter trees. The covenant areas have enough space to have at least 75 trees added, especially along the northern boundary covenant area. A permanent barrier such as a fence with signage is an effective way to prevent negative impacts to the covenant.

At the development phase of the project, the draft Tree Management Plan report by VI Tree will need to be completed and will include a more detailed analysis of the tree inventory, proposed tree retention, removal and replacement as well as protection recommendations for the retained

trees. Any trees deemed hazardous should be scheduled for removal and replacement as determined by the arborist. A conservative approach of tree modification is to be considered before removal if possible i.e. if danger trees can be topped to leave a wildlife tree stem it is preferable than full removal. The Tree Management Plan will include a site plan showing the proposed development and the existing trees on the site, trees to be retained, tree covenant protection areas and a plan for tree replacement within the covenant area(s) which identifies recommended species and densities. The development may retain additional trees outside the covenant areas where possible.

## 5.0 CLOSURE

This report has been provided to support the re-zoning application phase of the project by providing information regarding the existing tree canopy on the parcel, provide a rational for tree protection within the property and to propose a strategy for tree retention and protection within covenant areas. The covenant is being required by the Town of Ladysmith in lieu of a Tree Protection Bylaw. This report is to be amended to reflect ongoing negotiations and rezoning discussions as required by changes to the site plan or proposed covenant boundaries.

This assessment has also been completed in accordance with generally accepted biological practices. No other warrantee is made, either expressed or implied. Aquaparian Environmental Consultants Ltd. trusts this information meets your requirements for the Phase 1 OCP/rezoning stage of the development. If you require further information, please contact the undersigned.

Sincerely,

**AQUAPARIAN ENVIRONMENTAL CONSULTING LTD.**

**Prepared by:**

Jeni Rowell, B.Sc.
Biologist-in-Training

**Prepared / Revised by:**

COLLEGE OF APPLIED BIOLOGY
Sarah E. Bonar
R.P. Bio #1947
CAB

Sarah Bonar, B.SC, R.P.Bio
Senior/Principle

**FIGURE 1**

**SITE LOCATION MAP**

**1301 & 1391 Rocky Creek Road Ladysmith**
**Site Location Map**

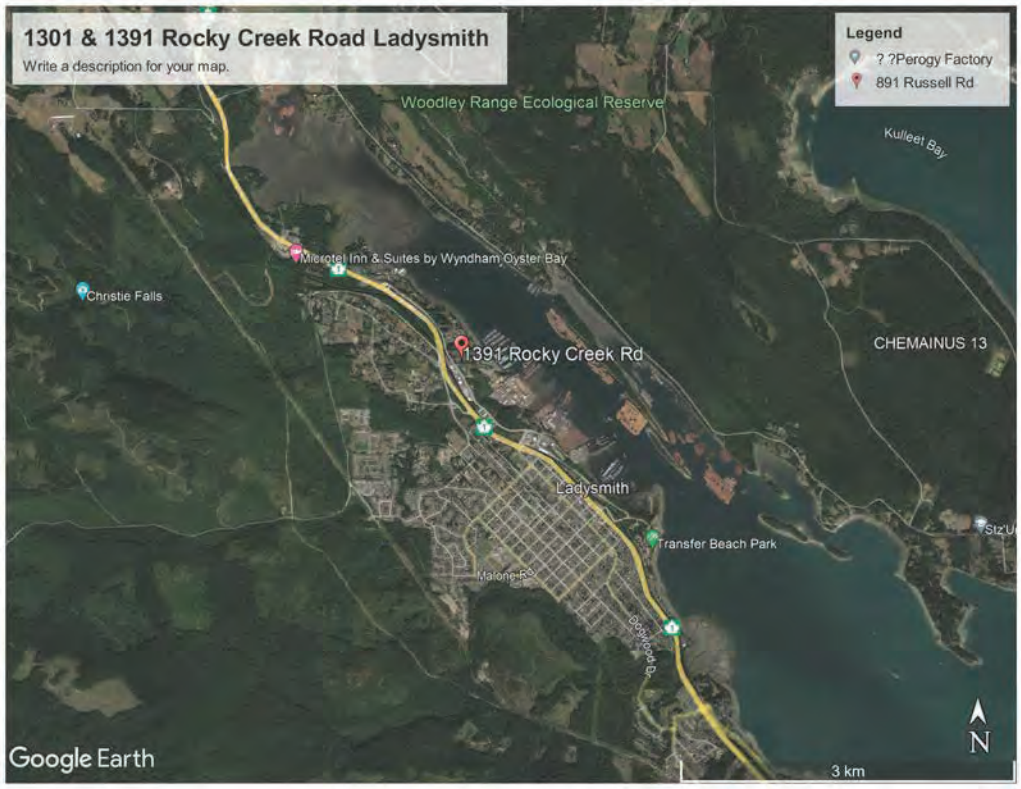
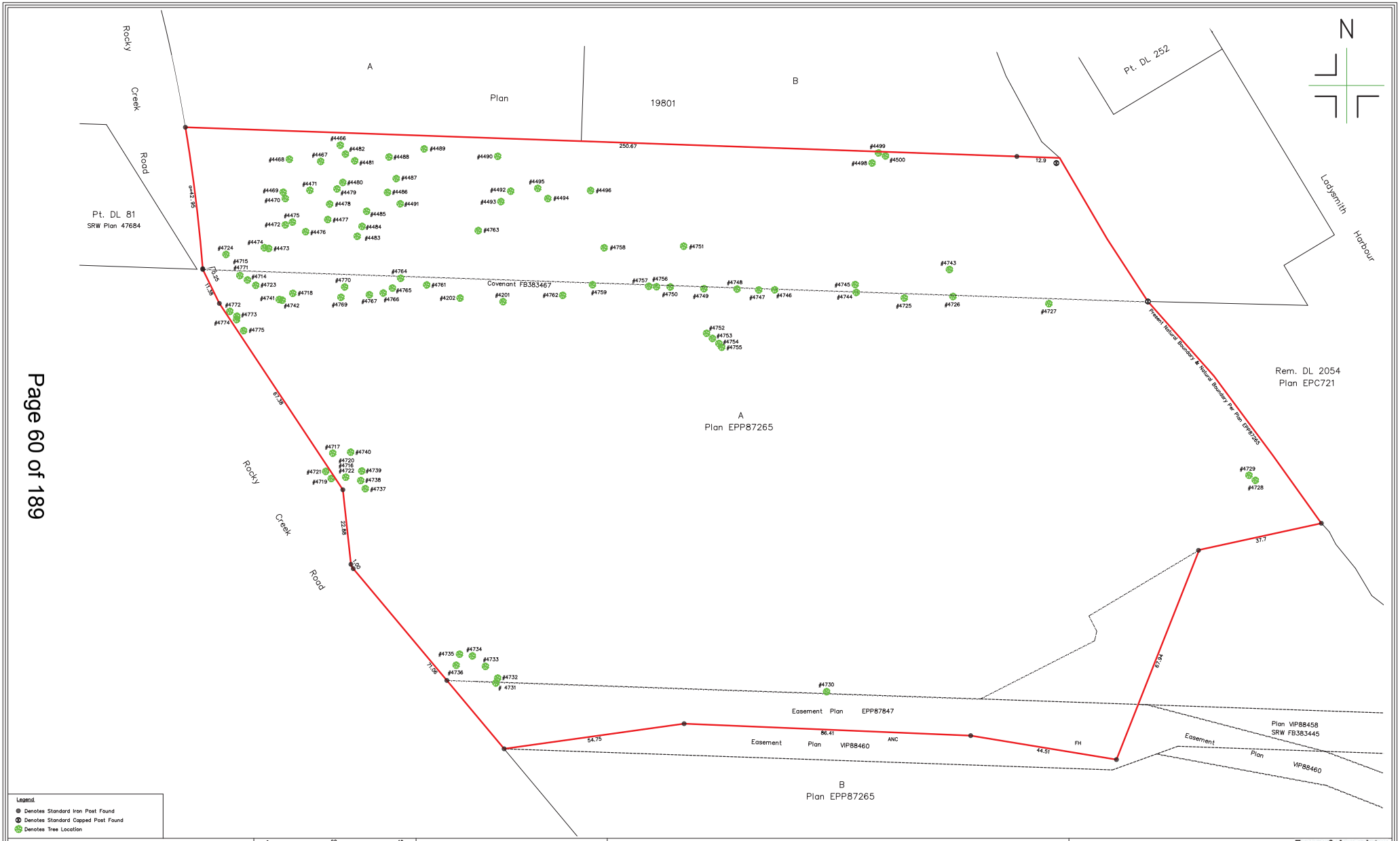



**FIGURE 2**

**SITE SURVEY OF 1301 & 1391 ROCKY CREEK ROAD**
**(TURNER & ASSOCIATES LAND SURVEYING)**




Page 60 of 189

Legend
- Denotes Standard Iron Post Found
- Denotes Standard Capped Post Found
- Denotes Tree Location

SITE PLAN SHOWING TREE LOCATIONS SITUATED ON:
LOT A, DISTRICT LOTS 81, 86 AND 98,
OYSTER DISTRICT, PLAN EPP87265.

| | | | |
|---|---|---|---|
| Client: FMI DEVELOPMENTS | | | Civic Address: 1301 & 1391 ROCKY CREEK ROAD |
| File: 19-153 | Scale: 1:500 | Drawn by: DRW | Property Zoning: RU-1 & R-1-B |

0 20 40
SCALE 1:500
DISTANCES AND ELEVATIONS ARE IN METRES.
GEODETIC ELEVATIONS ARE DERIVED FROM CONTROL MONUMENT 10H2643 (CVD28GC DATUM).

NOTE:
THIS PROPERTY IS AFFECTED BY
THE FOLLOWING REGISTERED DOCUMENTS:
M76300, EW61088, FB383434, FB383440, FB383445, FB383467, FB383468, FB396708, CA7488208, CA7488209, CA7488210, CA7488211, CA7488213, CA7488215, CA7488217, CA7488218, CA7488220 & CA7488221.

Certified correct this 22nd day of October, 2021.

_____ B.C.L.S.
(This document is not valid unless originally signed and sealed.)

Turner & Associates
land surveying
250.753.9778
435 Terminal Avenue North
Nanaimo, BC V9S 4J8
www.turnersurveys.ca

**FIGURE 3**

**EXISTING CANOPY COVER AND PROPOSED COVENANT AREA OVERLAY**

**1301 & 1391 ROCKY CREEK ROAD**
**EXISTING TREE COVER WITH PROPOSED COVENANT AREAS**


**Legend:**

89 Trees >50cm DBH on parcel; 16 Trees > 100cm DBH

Existing tree Canopy Cover 45% of Parcel (~2ha)

4 Proposed Covenant Areas ~0.4ha$^2$ (8.5% of Parcel; 20% of existing canopy);
retain 30 trees >50cm DBH in covenant areas

# APPENDIX A

# SITE PHOTOGRAPHS

**1301 & 1391 Rocky Creek Road Ladysmith**
**Photo Sheet 1**

Photos 1 & 2. Looking across the road frontage on Rocky Creek Road where there are clusters of mature trees and sub canopy layers with understory vegetation.

Photos 3 - 6. Showing the vegetation and tree canopy within the northwestern portion of the property where there is a stand of mature larger diameter Douglas fir and younger trees in the sub canopy. Photo 5 is showing an old access road leading toward the foreshore with a row of second growth Douglas fir on the north side. Photo 6 is looking north toward the adjacent single family residential property.

**Photo Sheet 2**

Photos 7 & 8. Continuing east along the old access road near the north boundary, the trees are comprised of a younger mixed stand.

Photos 9 - 12. Within the previously developed central portions of the property some vegetation is regenerating between the old mobile home pads and access roads.

**Photo Sheet 3**

Photos 13 - 18. Showing more areas within the property that were previously developed where some vegetation is regenerating between the old mobile home pads and access roads. Photo 18 is looking east along Gladden Road.

**Photo Sheet 4**

Photos 19 – 24. Showing the stand of maple trees along the steep bank to the foreshore. Many of these trees appear to have been topped in the past presumably to retain views of the ocean.

# APPENDIX B

# TREE INVENTORY

| TREE INVENTORY TABLE EXERPT FROM DRAFT TREE MANAGEMENT PLAN REPORT<br>BY VI TREE (PETER BRINSON, ARBORIST) DATED NOV 3, 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **#** | **Tree #** | **Species** | **DBH (cm)** | **LCR %** | **Crown Spread (m)** | **Height (m)** | **TPZ (m)** | **Condition & Notes** |
| 1 | 4466 | Douglas fir | 75 | 50 | 10 | 35 | 4.5 | Good |
| 2 | 4667 | Douglas fir | 110 | 60 | 14 | 40 | 6.6 | Good |
| 3 | 4468 | Douglas fir | 140 | 70 | 9 | 35 | 8.4 | Good |
| 4 | 4469 | Douglas fir | 75 | 45 | 9 | 35 | 4.5 | Good |
| 5 | 4470 | Douglas fir | 72 | 45 | 9 | 35 | 4.3 | Good |
| 6 | 4471 | Douglas fir | 52 | 50 | 8 | 33 | 3.1 | Good |
| 7 | 4472 | Douglas fir | 70 | 50 | 10 | 35 | 4.2 | Good |
| 8 | 4473 | Douglas fir | 65 | 60 | 11 | 35 | 3.9 | Good |
| 9 | 4474 | Douglas fir | 60 | 40 | 8 | 35 | 3.6 | Good |
| 10 | 4475 | Douglas fir | 61 | 30 | 8 | 35 | 3.7 | Good |
| 11 | 4476 | Douglas fir | 60 | 40 | 8 | 35 | 3.6 | Good |
| 12 | 4477 | Douglas fir | 63 | 40 | 8 | 34 | 3.8 | Good |
| 13 | 4478 | Douglas fir | 68 | 40 | 9 | 35 | 4.1 | Good |
| 14 | 4479 | Douglas fir | 65 | 40 | 8 | 35 | 3.9 | Good |
| 15 | 4480 | Douglas fir | 65 | 40 | 8 | 35 | 3.9 | Good |
| 16 | 4481 | Douglas fir | 60 | 40 | 8 | 35 | 3.6 | Good |
| 17 | 4482 | Douglas fir | 62 | 40 | 9 | 35 | 3.7 | Good |
| 18 | 4483 | Douglas fir | 75 | 50 | 10 | 35 | 4.5 | Good |
| 19 | 4484 | Douglas fir | 105 | 60 | 12 | 40 | 6.3 | Good |
| 20 | 4485 | Douglas fir | 80 | 50 | 11 | 35 | 4.8 | Good |
| 21 | 4486 | Douglas fir | 100 | 70 | 11 | 39 | 6 | Good |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 22 | 4487 | Douglas fir | 92 | 60 | 12 | 35 | 5.5 | Good; weeping sap, swelling at base |
| 23 | 4488 | Douglas fir | 105 | 60 | 10 | 35 | 6.3 | Good |
| 24 | 4489 | Douglas fir | 90 | 70 | 12 | 35 | 5.4 | Good |
| 25 | 4490 | Douglas fir | 75 | 60 | 12 | 35 | 4.5 | Good |
| 26 | 4491 | Douglas fir | 48 | 60 | 8 | 33 | 2.9 | Good |
| 27 | 4492 | Douglas fir | 102 | 70 | 12 | 35 | 6.1 | Good |
| 28 | 4493 | Douglas fir | 68 | 60 | 10 | 35 | 4.1 | Good |
| 29 | 4494 | Douglas fir | 68 | 60 | 12 | 35 | 4.1 | Good |
| 30 | 4495 | Douglas fir | 60 | 40 | 8 | 35 | 3.6 | Good |
| 31 | 4496 | Douglas fir | 80 | 75 | 12 | 35 | 4.8 | Good |
| 32 | 4497 | Douglas fir | 68 | 80 | 12 | 35 | 4.1 | Good |
| 33 | 4498 | Douglas fir | 58 | 60 | 11 | 30 | 3.5 | Good |
| 34 | 4499 | Douglas fir | 52 | 50 | 8 | 30 | 3.1 | Good; wire fence damage at base |
| 35 | 4500 | Douglas fir | 52 | 45 | 8 | 30 | 3.1 | Good |
| 36 | 4714 | Douglas fir | 75 | 60 | 12 | 35 | 4.5 | Good |
| 37 | 4715 | Big Leaf Maple | 150 | 40 | 18 | 25 | 9 | Good, Tree stems from the base |
| 38 | 4716 | Douglas fir | 80 | 60 | 14 | 33 | 4.8 | Fair, Tree # 4722, 4716, 4720 are in a group of 3 trees; conk & pitch weeping from the area. |
| 39 | 4717 | Douglas fir | 110 | 60 | 18 | 35 | 6.6 | Good; cat face at 3m |
| 40 | 4718 | Douglas fir | 92 | 40 | 11 | 35 | 5.5 | Good |
| 41 | 4719 | Big Leaf Maple | 100 | 70 | 20 | 30 | 6 | Good; 2 stems from base |
| 42 | 4720 | Douglas fir | 65 | 50 | 10 | 33 | 3.9 | Good; Tree # 4722, 4716, 4720 are in a group of 3 trees; conk & pitch weeping from the area. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 43 | 4721 | Big Leaf Maple | 150 | 80 | 24 | 30 | 9 | Good; utility pruned |
| 44 | 4722 | Douglas fir | 85 | 50 | 10 | 33 | 5.1 | Good; Tree # 4722, 4716, 4720 are in a group of 3 trees; conk & pitch weeping from the area. |
| 45 | 4723 | Douglas fir | 80 | 40 | 11 | 35 | 4.8 | Good |
| 46 | 4724 | Douglas fir | 65 | 45 | 8 | 33 | 3.9 | Good |
| 47 | 4725 | Big Leaf Maple | 130 | 75 | 22 | 30 | 7.8 | Good, 2 stems from the base; awesome tree. |
| 48 | 4726 | Douglas fir | 51 | 60 | 8 | 33 | 3.1 | Good |
| 49 | 4727 | Cherry | 33 | 30 | 7 | 12 | 2 | Good; previously topped; next to a 40 cm DBHY cherry not tagged. |
| 50 | 4731 | Douglas fir | 53 | 40 | 7 | 28 | 3.2 | Good; co-dominant at 5m. |
| 51 | 4254 | Douglas fir | 51 | 50 | 10 | 28 | 3.1 | Good |
| 52 | 4253 | Arbutus | 70 | 80 | 12 | 28 | 4.2 | Good |
| 53 | 4732 | Douglas fir | 50 | 40 | 7 | 30 | 3 | Good; suppressed by neighbouring trees. |
| 54 | 4733 | Douglas fir | 52 | 50 | 10 | 30 | 3.1 | Good; co-dominant at 7m. |
| 55 | 4734 | Douglas fir | 90 | 80 | 20 | 35 | 5.4 | Good; previously topped |
| 56 | 4735 | Douglas fir | 80 | 75 | 22 | 35 | 4.8 | Good |
| 57 | 4736 | Black Cottonwood | 120 | 60 | 24 | 30 | 7.2 | Good |
| 58 | 4737 | Douglas fir | 120 | 70 | 12 | 38 | 7.2 | Good; previously topped at 25m with 4 tops included bark. Pitch stream at ~20m. |
| 59 | 4738 | Douglas fir | 110 | 60 | 12 | 37 | 6.6 | Good; previously topped at 25m. |
| 60 | 4739 | Douglas fir | 58 | 60 | 8 | 28 | 3.5 | Good; suppressed by neighbouring trees; previously topped. |
| 61 | 4740 | Douglas fir | 70 | 80 | 12 | 28 | 4.2 | Good |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 62 | 4741 | Douglas fir | 60 | 60 | 10 | 33 | 3.6 | Good |
| 63 | 4742 | Douglas fir | 55 | 60 | 12 | 33 | 3.3 | Good |
| 64 | 4743 | Douglas fir | 68 | 70 | 14 | 35 | 4.1 | Good; open growth. |
| 65 | 4744 | Douglas fir | 52 | 60 | 8 | 33 | 3.1 | Good; small fir and small maple growing at base. |
| 66 | 4745 | Douglas fir | 63 | 60 | 9 | 33 | 3.8 | Good |
| 67 | 4746 | Douglas fir | 71 | 50 | 8 | 34 | 4.3 | Good; 2 stems co-dominant at the base. |
| 68 | 4747 | Big Leaf Maple | 48 | 40 | 7 | 25 | 2.9 | Good; asymmetrical canopy. |
| 69 | 4748 | Big Leaf Maple | 70 | 50 | 14 | 30 | 4.2 | Fair; 2 stems at 2m. |
| 70 | 4749 | Douglas fir | 62 | 70 | 10 | 33 | 3.7 | Good |
| 71 | 4750 | Big Leaf Maple | 145 | 75 | 18 | 25 | 8.1 | Good; 3 stems from the base. |
| 72 | 4751 | Douglas fir | 72 | 75 | 12 | 33 | 4.3 | Good |
| 73 | 4752 | Douglas fir | 58 | 75 | 8 | 33 | 3.5 | Good; 2 stems at 7m with significant included bark. |
| 74 | 4753 | Douglas fir | 50 | 60 | 8 | 33 | 3 | Good; asymmetrical canopy. |
| 75 | 4754 | Douglas fir | 65 | 60 | 12 | 33 | 3.9 | Good; conk at 2.5m |
| 76 | 4755 | Lodgepole Pine | 52 | 75 | 14 | 25 | 3.1 | Fair; pine pitch wasp. |
| 77 | 4756 | Big Leaf Maple | 60 | 50 | 10 | 30 | 3.6 | Good |
| 78 | 4757 | Douglas fir | 53 | 50 | 7 | 30 | 3.2 | Good |
| 79 | 4758 | Douglas fir | 38 | 80 | 8 | 30 | 2.3 | Good |
| 80 | 4763 | Douglas fir | 72 | 70 | 12 | 35 | 4.3 | Good |
| 81 | 4771 | Big Leaf Maple | 50 | 40 | 10 | 25 | 3 | Good |
| 82 | 4772 | Douglas fir | 61 | 30 | 8 | 30 | 3.7 | Good; utility topped. |
| 83 | 4773 | Douglas fir | 54 | 44 | 8 | 34 | 3.2 | Good |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 84 | 4774 | Douglas fir | 75 | 40 | 10 | 35 | 4.5 | Good |
| 85 | 4775 | Douglas fir | 220 | 70 | 17 | 35 | 13.2 | Good; 2 stems with included bark. |
| 86 | 4759 | Douglas fir | 65 | 70 | 12 | 33 | 3.9 | Good |
| 87 | 4762 | Douglas fir | 60 | 50 | 9 | 33 | 3.6 | Good |
| 88 | 4201 | Douglas fir | 73 | 70 | 14 | 35 | 4.4 | Good; open growth |
| 89 | 4202 | Douglas fir | 55 | 60 | 8 | 30 | 3.3 | Good; asymmetrical canopy |
| 90 | 4761 | Douglas fir | 61 | 70 | 10 | 33 | 3.7 | Good |
| 91 | 4764 | Douglas fir | 55 | 50 | 8 | 34 | 3.3 | Good |
| 92 | 4765 | Douglas fir | 60 | 50 | 10 | 34 | 3.6 | Good |
| 93 | 4766 | Douglas fir | 70 | 50 | 8 | 34 | 4.2 | Good; asymmetrical canopy |
| 94 | 4767 | Douglas fir | 70 | 60 | 11 | 34 | 4.2 | Good; asymmetrical canopy |
| 95 | 4769 | Douglas fir | 70 | 50 | 9 | 34 | 4.2 | Good; asymmetrical canopy |
| 96 | 4770 | Big Leaf Maple | 72 | 50 | 15 | 34 | 4.3 | Fair |
| 97 | 483 | Douglas fir | 65 | - | - | - | 3.9 | Good |
| 98 | 484 | Douglas fir | 50 | 50 | 7 | 28 | 3 | Good; 2 stems; at the top of the bank |
| 99 | 485 | Douglas fir | 50 | - | - | - | 3 | Good |
| 100 | 486 | Douglas fir | 70 | - | - | - | 4.2 | Good |
| 101 | 487 | Arbutus | 80 | 50 | 17 | 20 | 4.8 | Good; multiple stems; some dieback. |
| 102 | 450 | Douglas fir | 50 | - | - | - | 3 | Good |
| 103 | 4730 | Douglas fir | 50 | 50 | 9 | 22 | 3 | Good; next to maples on bank not tagged. |
| 104 | 4728 | Lodgepole Pine | 50 | 50 | 12 | 25 | 3 | Good; co-dominant at 8m. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 105 | 4729 | Lodgepole Pine | 54 | 40 | 10 | 25 | 3.2 | Good; co-dominant at 7m. |

**Definitions:**

DBH – Stem Diameter at Breast Height (1.5m)

LCR – Live Crown Ratio – the percent of the tree height with foliage; crown length to total tree height ratio

TPZ – Tree Protection Zone based on 6 times the DBH

Attachment G

Lewkowich Engineering Associates Ltd.
geotechnical • health, safety & environmental • materials testing

1183866 BC Ltd.
1890 Schoolhouse Road
Victoria, BC
V9X 1T4

File Number: F7706.02
Date: February 27, 2020

Attention: Mr. Toby Seward

**PROJECT:** **PROPOSED MULTI-FAMILY DEVELOPMENT**
**1301, 1391 ROCKY CREEK ROAD, LADYSMITH, BC**

**SUBJECT:** **GEOTECHNICAL ASSESSMENT**

Dear Mr. Seward:

## 1. INTRODUCTION

As requested, Lewkowich Engineering Associates Ltd. (LEA) has carried out a geotechnical assessment with respect to the above noted proposed development. This report provides a summary of our findings and recommendations.

## 2. BACKGROUND

a. No conceptual layout plan was provided; however, based off phone/email correspondences with the Client, we understand that the development will require a rezoning application to allow for a variety of residential uses, understood to consist of: condo(s) with underground parking along Rocky Creek Road, single-family lots in the centre of the property, and townhouses near the waterfront with surface parking.

b. The development will also include the installation of associated civil works and services including on site pavements and roadways. We understand the proposed development will likely be constructed through a series of phases.

c. We examined the Official Community Plan (OCP) to determine whether the proposed development lies within any Environmentally Sensitive Area (ESA), Natural Hazard Area (NHA) or Development Permit Area (DPA). The Ladysmith OCP indicates that the development properties are within a Development Permit Area DPA1 "Maritime" (Form and Character).

## 3. ASSESSMENT OBJECTIVES

Our assessment, as summarized within this report, is intended to meet the following objectives:

i. Determine whether the property is considered safe for the use intended (defined for the purposes of this report as a multi-family development), with the probability of a geotechnical failure resulting in property damage of less than:

- 2% in 50 years for geotechnical hazards due to seismic events, including slope stability; and,
- 10% in 50 years for all other geotechnical hazards.

ii. Identify any geotechnical deficiency that might impact the design and construction of the development, and prescribe the geotechnical works and any changes in the standards of the design and construction of the development that are required to ensure the land, buildings, and works and services are developed and maintained safely for the use intended.

iii. Acknowledge that Approving and/or Building Inspection Officers may rely on this report when making a decision on applications for the development of the land.

## 4. ASSESSMENT METHODOLOGY

a. A subsurface assessment was carried out on November 12, 2019 using a Caterpillar Backhoe provided by Graf Concrete and Iron. A total of ten (10) test pits (TP 19-01 to TP 19-10) were advanced at locations chosen by the client throughout the proposed development area.

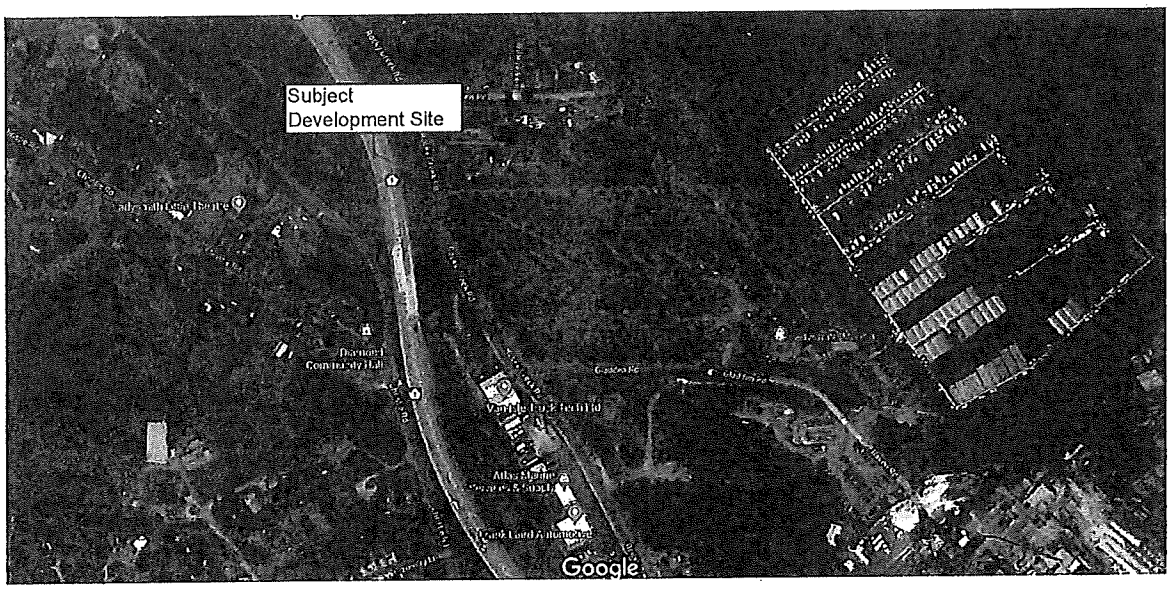
b. All test pits were backfilled upon completion.

c. A site plan showing the location of the test pits (Drawing F7706-01) is attached, following the text of this report.

## 5. SITE CONDITIONS

### 5.1 General

a. The proposed development property is located in the northeast region of the Town of Ladysmith. The subject development area is situated on the east side of Rocky Creek Road, and on the north side of Gladden Road. The subject area is bound to the east by the Ladysmith Inlet (Salish Sea). See Picture No. 1 below.




Picture No.1 – Site Location

b. Gladden Road currently services and provides access to the Ladysmith Marina property, as well as to the Western Forest Products (WFP) sawmill; however, a new roadway to the south of the subject development is currently being constructed as part of a future development project for the adjacent neighbouring property (Ladysmith Marina). The new roadway will provide a more direct route to the marina/ sawmill as well address the increased traffic demand once the future development is completed. We understand that Gladden Road will be decommissioned once the new roadway is completed.

c. The subject property was previously a residential mobile home park. At the time of our field investigation the residential units had been removed and all civil works and services abandoned. The concrete foundations for some of the residential mobile homes were still present throughout the site.

d. In reviewing LIDAR mapping, the proposed development has an approximate geodetic elevation of 32m along the Rocky Creek Road frontage, and slopes downhill from west to east towards the ocean frontage.

e. The subject property contains a steep slope (inclination >20%) up to 9m along the eastern extent/ foreshore. The slope configuration is inconsistent as a result of previous manipulation (end dumping of fills over the crest). A pocket inclinometer revealed slope sections ranging as steep as 40°, not including small, near vertical failure scarps in proximity to the toe of the slope as a result of tidal influence.

## 5.2 Soil Conditions – North of Gladden Road (Abandoned Mobile Home Park)

a. Reasonably consistent subgrade soil conditions were encountered in the area of the abandoned mobile home park.

b. In general, the subgrade soil conditions consisted of a layer of miscellaneous fills/ re-worked materials underlain by naturally deposited granular soils. Miscellaneous fills/ re-worked materials were encountered to a maximum depth of 0.8m, and a mean depth of 0.55m.

c. The underlying naturally deposited granular soils varied from a fine, medium grey sand, to a well-graded grey or brown sand and gravel. The encountered granular soils were generally moist, and varied from compact to dense in consistency.

Detailed descriptions of the subsurface conditions are provided on the attached test pit logs (TP 19-01 to TP 19-07, and TP19-10).

d. Depths are referenced to the existing ground surface at the time of our field investigation. Soil classification terminology is based on the Modified Unified classification system. The

relative proportions of the major and minor soil constituents are indicated by the use of appropriate Group Names as provided in ASTM D2487 Figures 1a, 1b, and 2. Other descriptive terms generally follow conventions of the Canadian Foundation Engineering Manual.

### 5.3 Soil Conditions – Proximity to Slope Crest

a. Two test pits (TP 19-08 and TP 19-09) were advanced approximately 10 – 15m from the crest of the slope.

b. The test pits revealed upwards of 3.1m of miscellaneous stratified fills overlying naturally deposited sands/ silts. The encountered fill materials were loose to compact in consistency, and contained trace amounts of organics.

### 5.4 Flooding

The subject parcel abuts the natural boundary of the Ladysmith Harbour to the east. We understand the DPA shows that a minimum 8m set back from the natural boundary is applied to marine foreshore areas. The foreshore is well protected from wave action and/or storm surge events. See picture No. 2 Below.

Picture No. 2

Foreshore Condition

## 5.5 Steep Slopes

a. The subject property contains a steep slope (inclination >20%) up to 9m high along the eastern extent/ foreshore. The slope configuration is inconsistent and is a result of previous manipulation (end dumping of fills over the crest). A pocket inclinometer revealed slope sections ranging as steep as 40°, not including small, near vertical failure scarp failures in proximity to the toe of the slope as a result of tidal influence.

b. The slope was lightly vegetated with immature alders, and low-lying vegetation (ferns, blackberry vines). The alders observed at the base of the slope exhibited J-channel/ tilting trunks; which is a visual sign of surficial creep. See Picture No.3 below.

Picture No. 3- Steep Slope

c. Two (2) stormwater outlets (300mm Ø PVC, and a 300mm Ø CSP) were observed approximately 1.5m below the crest of the slope (see Picture No. 4). Stormwater was only emanating from the PVC outlet. The discharging of storm water onto the slope has resulted in the incision of a shallow ravine feature. We assume that the outlets are part of the stormwater infrastructure throughout the previous residential mobile home park.

Picture No. 4 : Twin Storm Outlets Observed from the Shoreline

## 5.6 Groundwater

a. Groundwater was not observed in any of the test pits during the investigation.

b. We expect that observed groundwater flows are indicative of a seasonally "perched" water table. This extent of this perched condition would likely be dependent on and directly related to the frequency and volume of storm events.

c. Groundwater levels can be expected to fluctuate seasonally with cycles of precipitation. Groundwater conditions at other times and locations can differ from those observed within the test pits at the time of our assessment. If groundwater flows or conditions are different than those encountered during the test pitting investigation, additional measures may be required during construction. Contact our office immediately if unanticipated conditions are encountered at any point during construction.

## 5.7 Review of Available Mine Information

a. We considered the potential impact to the proposed development by abandoned coal mines. As part of this assignment, we have reviewed historical documents with respect to coal mining activities in the area.

b. Based on our review, there was no underground coal mining activities in proximity to the subject development area. Historical information indicates that the closest underground mining activities were located approximately 13-15km to the north. Documented mines in this area of Extension and South Wellington included the "Reserve Mine," the "Morden Mine," and the "Black Track Mines." The only direct impact the mines have on the subject property is the possible manipulation of surface soils relating to the transport of Coal and later Lumber via railway's to Ladysmith Harbour.

## 6. CONCLUSIONS AND RECOMMENDATIONS

### 6.1 General

From a geotechnical point of view, the land is considered safe for the use intended (defined for the purposes of this report as a multi-unit development), with the probability of a geotechnical failure resulting in property damage of less than:

- 2% in 50 years for geotechnical hazards due to seismic events, including slope stability; and,
- 10% in 50 years for all other geotechnical hazards.
- One in 200 year flood event

### 6.2 Slope Stability

a. We understand that townhomes are being proposed throughout the eastern extent of the site but we do not know their exact proximity to the slope crest. As discussed, the test pitting investigation revealed up to 3.1m (TP19-08 & TP19-09) of stratified fills in proximity to the crest of the slope. The fill materials identified in proximity to the crest are likely present throughout the slope given the varying inclination observed throughout.

b. We have concluded that a safe setback from the crest of the slope is required to ensure that future development is not impacted during a seismic event. A comprehensive stability analysis of the slope was not conducted or part of this assessment; therefore, we have determined a safe setback based on a conservative approach.

c. A conservative method of determining a safe set back is to propagate an imaginary 2(H):1(V) line from the toe of the slope up into the slope, and ensuring any buildings are set back of the line where it intersects the ground surface above the crest of the slope. Building behind the 2(H):1(V) intersection is generally considered safe due to the fact that (excluding circumstances where indicators of global instability are present) the internal friction angle of most soils found on Vancouver Island are appreciably greater than 26.6°, or 2(H):1(V).

d. Based on the overall height of the slope (approximately 8 – 9 metres tall), and the maximum recorded inclination (40°), a 9m building setback is required from the crest of the slope.

e. If this setback is deemed too restrictive for future building construction, a deeper foundation (i.e. deep crawl or basement) would safely allow for a reduction of the setback; pending further review and approval by a Geotechnical Engineer.

f. We understand that a pedestrian trail is being proposed along the proximity to the top of the bank. It is our opinion that a trail system will not negatively impact the slope as long as it remains above and at least 3m from the edge of the crest.

### 6.3 Flooding

The subject parcel abuts the ocean foreshore (Ladysmith Harbour) to the east. A historical pictorial review indicates that shoreline slope has remained relatively consistent over the last decade. The foreshore includes a 9m slope consisting of compact to dense silts, sand and gravels that is well protected due to its proximity behind the Ladysmith Marina Docks. Considering the set back noted in 6.2d above we conclude that the steep slope set back will supercede the foreshore flood set back of 8.0m.

### 6.4 Seismic

a. No compressible or liquefiable soils were encountered during the test pitting investigation.

b. Based on the 2018 British Columbia Building Code, Division B, Part 4, Table 4.1.8.4.A, "Site Classification for Seismic Site Response," the soils and strata encountered during the test pitting investigation would be "Site Class D" (Stiff Soil).

### 6.5 Modulus of Subgrade Reaction

The Modulus of Subgrade Reaction, $k_s$ , while typically a constant, yields variable amounts of "reaction" based on the mass being supported and the thickness of the soil. Due to the varying depths to dense soil within the possible building areas, the amount of movement a slab or foundation may experience will vary. For preliminary design purposes, a lower value of 40,000 kN/m$^3$ may be employed. It is recommended that foundations for specific

location be designed in consultation with the Geotechnical Engineer.

### 6.5 Undermining

a. Based on a review of the available information, there was no underground coal mining activity in proximity to the proposed development area.

b. The only impact from Coal mining (or Logging) activities is due to the old railways and the manipulation of surface soils for their installation. We did not encounter any direct evidence of these activates at the subject site from the test pitting investigation.

## 7. DESIGN AND CONSTRUCTION DETAILS

### 7.1. Removal of Unsuitable Materials and General Excavation Recommendations

a. Prior to construction, all unsuitable materials should be removed to provide a suitable base in areas of structural support. Unsuitable materials include any non-mineral material such as vegetation, topsoil, peat, fill or other materials containing organic matter, as well as any soft, loose, or disturbed soils.

b. Unsuitable material was encountered in each of the test pits. The total depth, composition, and consistency of the encountered unsuitable materials varied across the proposed development area. The upper testpits showed undisturbed soils (silts, sands and gravels) within 1.0m of the current surface with a 3.1m depth to undisturbed soils near the crest of the foreshore slope (TP-08, TP-09).

c. Ground water ingressing into any excavations should be controlled with a perimeter ditch located just outside of the building areas, connected to positive drainage with appropriate measures in place to prevent turbid flows of water entering the aquatic habitat.

d. The Geotechnical Engineer is to confirm the removal of unsuitable materials and approve the exposed competent inorganic subgrade prior to the addition of footings and or roadways.

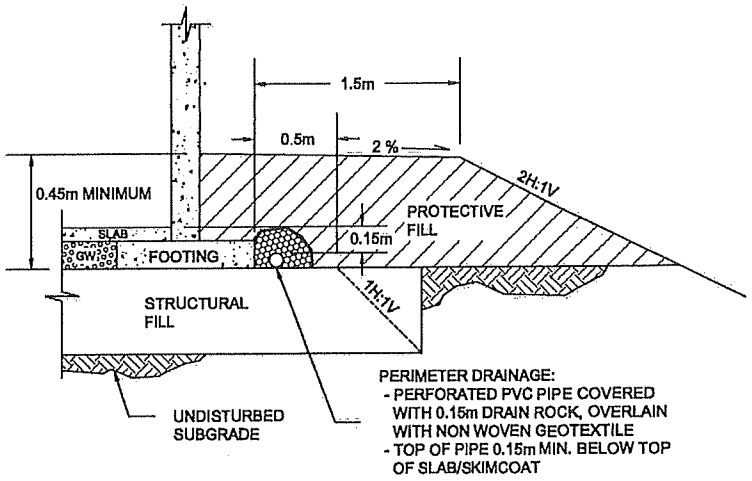
## 7.2 Structural Fill

a. Where fill is required to raise areas that will support buildings, slabs, or pavements, structural fill should be used. The Geotechnical Engineer should first approve the exposed subgrade in fill areas, to confirm the removal of all unsuitable materials.

b. Structural fill should be inorganic sand and gravel. If structural fill placement is to be carried out in the wet season, material with a fines content limited to 5% passing the 75μm sieve should be used, as such a material will not be overly sensitive to moisture, allowing compaction during rainy periods of weather.

c. Structural fill should be compacted to a minimum of 95% of Modified Proctor maximum dry density (ASTM D1557) in foundation and floor slab areas, as well as in paved roadway and parking areas.

d. Structural fills under foundations, roadways, and pavements should include the zone defined by a plane extending down and outward a minimum 0.5m from the outer edge of the foundation at an angle of 45 degrees from horizontal to ensure adequate subjacent support. This support zone is shown in the adjacent figure.




e. Compaction of fill should include moisture conditioning as needed to bring the soils to the optimum moisture content and compacted using vibratory compaction equipment in lift thicknesses appropriate for the size and type of compaction equipment used.

f. A general guideline for maximum lift thickness is no more than 100mm for light hand

equipment such as a "jumping-jack," 150mm for a small roller and 300mm for a large roller or heavy (>500 kg) vibratory plate compactor or a backhoe mounted hoe-pac or a large excavator mounted hoe-pac, as measured loose.

g. It should be emphasized that the long-term performance of buildings, slabs, and pavements is highly dependent on the correct placement and compaction of underlying structural fills. Consequently, we recommend that structural fills be observed and approved by the Geotechnical Engineer. This would include approval of the proposed fill materials and performing a suitable program of compaction testing during construction.

### 7.3 Foundation Design & Construction – Typical Preparation Methods

a. Prior to construction, the building areas should be stripped to remove all unsuitable materials to provide an undisturbed natural subgrade for the footing support.

b. Foundation loads should be supported on natural undisturbed material approved for use as a bearing stratum by our office, or structural fill, and may be designed using the following values:

i. For foundations constructed on structural fill, as outlined in Section 6.3 of this report, a Service Limit State (SLS) bearing pressure of 125 kPa, and an Ultimate Limit State (ULS) of 166 kPa may be used for design purposes. These values assume a minimum 0.45m depth of confinement or cover.

ii. For foundations constructed on a minimum thickness of 0.45m of structural fill as outlined in Section 6.3 of this report, an SLS bearing pressure of 150 kPa, and a ULS bearing pressure of 200 kPa may be used for design purposes. These values assume a minimum 0.45m depth of confinement or cover.

iii. Modulus of subgrade reaction for the undisturbed stiff silt/sand, gravel layer is estimated at 40,000 kN/m$^3$.

c. Exterior footings should be provided with a minimum 0.45m depth of ground cover for frost protection purposes.

d. Prior to placement of concrete footings, any bearing soils that have been softened, loosened, or otherwise disturbed during the course of construction should be removed, or else compacted following our recommendations for structural fill. Compaction will only be feasible if the soil has suitable moisture content and if there is access to heavy compaction equipment. If no structural fill is placed, a smooth-bladed clean up bucket should be used to finish the excavation.

e. The Geotechnical Engineer should evaluate the bearing soils at the time of construction to confirm that footings are based on appropriate and properly prepared founding material.

### 7.4 Retaining Walls

We understand that retaining walls will be utilized as part of the development in order to support abrupt grade changes for roadways and trails. In general; walls below 3.0m in height are relatively easy to achieve from an engineering perspective. Walls over 1.2m in height will require an engineering review for internal and global stability. All engineered walls will reference the new EGBC professional practice guidelines for "Retaining Wall Design" Version 1.0 November 19, 2019.

### 7.5 Permanent Dewatering

Conventional requirements of the 2018 British Columbia Building Code pertaining to building drainage are considered suitable at this site. Once final plans and tentative elevations are determined, the Geotechnical Engineer should be consulted to provide further dewatering data.

## 7.6 Pavement Design – On Site Roadways & Parking Areas

a. Any organic or deleterious material should be removed from beneath the designated roadway, driveway, or parking areas prior to subgrade preparation. If fill is required to bring the subgrade up to the desired elevation, structural fill should be used.

b. The subgrade should be proof rolled after final compaction and any areas showing visible deflections should be inspected and repaired. The parking lot subgrade and pavement should be sloped to provide adequate drainage.

c. An estimated soaked California bearing ratio of 3.0 and a 20 year design life have been used in the following recommended pavement designs.

i. Areas subject to car and light truck vehicles and occasional heavy trucks:

Estimated E.S.A.L. = $2 \times 10^4$

| | |
|---|---|
| Asphaltic Concrete Pavement | = 50 mm |
| Granular Base Course (19mm crush) | = 100 mm |
| Standard Subbase Preparation (SGSB) | = 250 mm |

ii. Areas subject to daily delivery trucks

Estimated E.S.A.L. = $1 \times 10^5$

| | |
|---|---|
| Asphaltic Concrete Pavement | = 75 mm |
| Granular Base Course (19mm crush) | = 150 mm |
| Standard Subbase Preparation (SGSB) | = 300 mm |

c. It is recommended that a reinforced concrete slab be utilized where garbage dumpsters are located. The slab should be large enough to contain the disposal unit and front tires of the garbage truck during disposal operations.

## 7.7 Lateral Earth Pressures

a. We understand that the proposed development will include the construction of pour-in-place concrete retaining walls, and that the total height and overall scope of wall construction has yet to be determined. Below are typical lateral earth pressures for conventional pour-in-place concrete retaining walls. If other types of retaining wall structures are being considered, please contact our office for additional design information.

b. Lateral earth pressure coefficients (K) for the design of the foundation walls are outlined in the Table 1. It is assumed that there will be a horizontal backfill surface and no additional surcharge on the slope. It should be noted that the methods employed are estimates and further analysis may be required after dimensions of the proposed structure have been determined.

c. An average soil friction angle of 36 degrees has been used to calculate the lateral earth pressure coefficients. It is assumed that retained soils are well compacted, cohesionless sands and gravels, well drained, with a unit weight of 21 kN/m$^3$.

d. The Mononobe-Okabe (M-O) Method has been used to calculate the active seismic lateral earth pressure coefficients. The static active lateral earth pressure has been calculated using Coulomb's theory. The results for the passive earth pressures have been calculated using Rankine theory.

e. The seismic thrust coefficient provides a value that combines both dynamic and static forces. Seismic forces used reflect values from the 2015 National Building Code interpolated seismic hazard values for the Ladysmith area (Site Coordinates: **49.005657°, -123.830146°**) which is 0.475 Peak Ground Acceleration (PGA) (2% in 50year probability) and 0.251 PGA (10% in 50year probability).

b. The total thrust for the static case acts through a point that is approximately H/3 above the toe of the wall. The dynamic component of the seismic thrust acts through a point at approximately 0.6H above the toe of the wall.

Table 1 Lateral Earth Pressure Coefficients (ULS)

| Lateral Earth Pressure Condition | Earth Pressure Coefficient (K) | |
|---|---|---|
| At Rest | $K_O$ | 0.42 |
| Static Passive | $K_P$ | 3.85 |
| Static Active | $K_A$ | 0.26 |
| Seismic Active | $K_{AE}$ | 0.44 |

The total thrust resulting from lateral earth pressures under each of the conditions outlined in Table 1 may be calculated using the following relationship:

$$P = 0.5\, K\, \gamma\, H^2$$

Where: P = total thrust (kN/m length of wall)

K = Earth Pressure Coefficient

$\gamma$ = Soil Unit Weight ($kN/m^3$)

H = Height of Wall (m)

## 8. GEOTECHNICAL ASSURANCE AND QUALITY ASSURANCE

The 2018 British Columbia Building Code requires that a geotechnical engineer be retained to provide Geotechnical Assurance services for the proposed development works. Geotechnical Assurance services include review of the geotechnical components of the plans and supporting documents, and responsibility for field reviews of these components during construction.

## 9. ACKNOWLEDGEMENTS

Lewkowich Engineering Associates Ltd. acknowledges that this report may be requested by the building inspector (or equivalent) of the Town of Ladysmith as a precondition to the issuance of a building permit. It is acknowledged that the Approving Officers and Building Officials may rely on this report when making a decision on application for development of the land. We acknowledge that this report has been prepared solely for, and at the expense of the 1183866 BC Ltd. We have not acted for or as an agent of the Town of Ladysmith in the preparation of this report.

## 10. LIMITATIONS

The conclusions and recommendations submitted in this report are based upon the data obtained from a limited number of widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction or further investigation. The recommendations given are based on the subsurface soil conditions encountered during the test pitting and drilling programs, current construction techniques, and generally accepted engineering practices. No other warrantee, expressed or implied, is made. Subgrade conditions are known only at the test pit and borehole locations and have been used to infer conditions throughout the site in preparation of this report. If unanticipated conditions become known during construction or other information pertinent to the development become available, the recommendations may be altered or modified in writing by the undersigned.

## 11. CLOSURE

Lewkowich Engineering Associates Ltd. appreciates the opportunity to be of service on this project. If you have any comments, or additional requirements at this time, please contact us at your convenience.

Respectfully Submitted,
**Lewkowich Engineering Associates Ltd.**

John Hessels, AScT
Senior Technologist

Chris Hudec, M.A.Sc., P.Eng.
Senior Project Engineer

Attachments:

1. LEA, Test Pit Site Plan (Drawing F7706-01)
2. LEA, Test Pit Logs (TP 19-01 to TP 19-10)


| REV No. | DATE | BY | P.Eng. | REVISION DESCRIPTION |
|---|---|---|---|---|
| | | | | |

DRAWING TITLE
TEST PIT LOCATION PLAN

PROJECT NAME
1301 & 1391 ROCKY CREEK ROAD
LADYSMITH, BC

LEGAL DESCRIPTION

ENGINEER'S SEAL

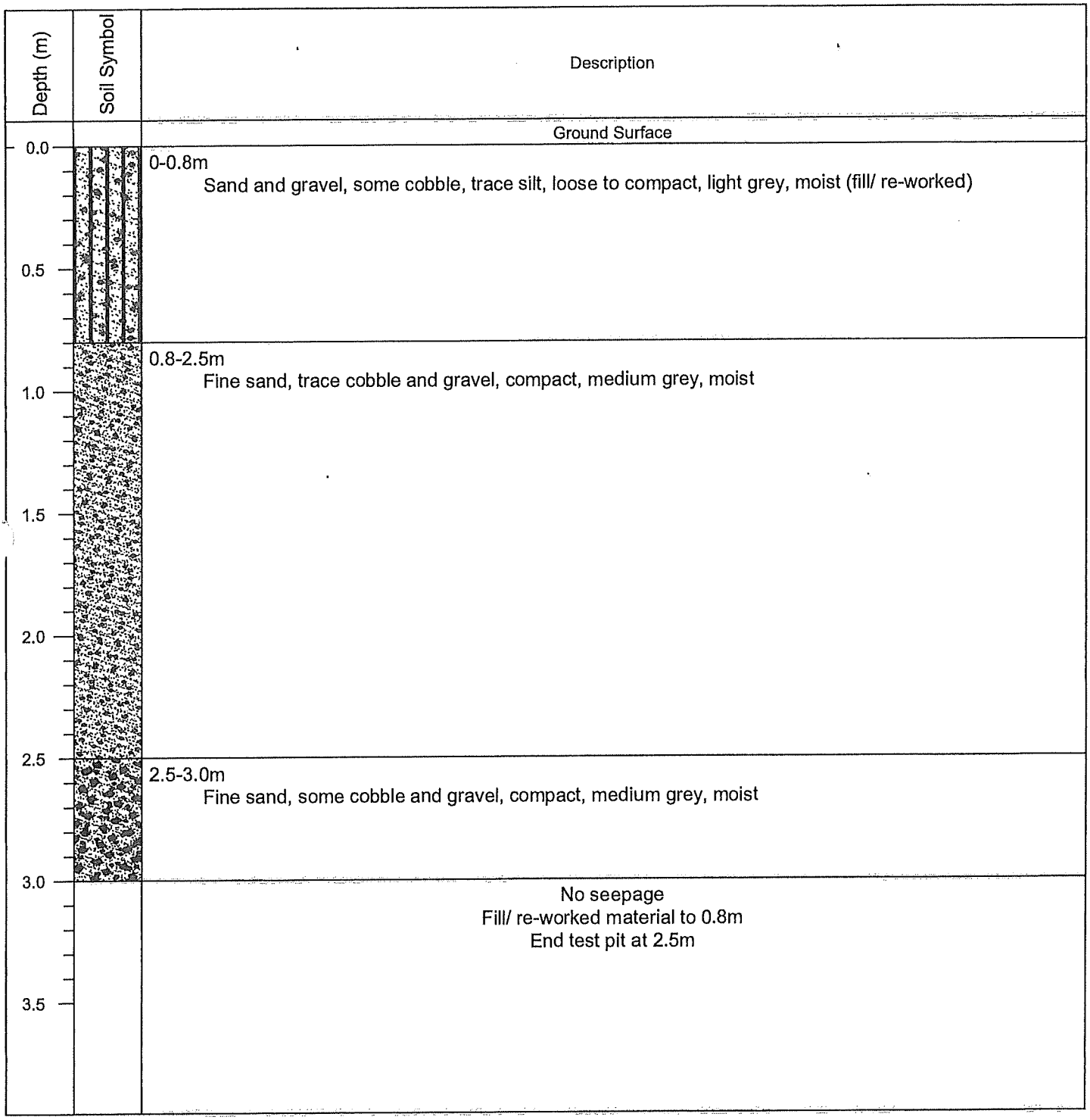
| PLOT DATE | DRAWN BY |
|---|---|
| 2019-12-23 | NV |
| REVIEWED BY | SCALE |
| CH | 1:1500 |
| PROJECT No. | DRAWING No. |
| F7706 | F7706-01 |

LEA
Lewkowich Engineering Associates Ltd.

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-01
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC




Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-02
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.45m<br>Sand and gravel, some cobble, trace silt, loose to compact, light grey, moist (fill/ re-worked) |
| 0.5 | | 0.45-1.4m<br>Gravelly sand, some cobble, compact, medium grey, moist |
| 1.0 | | |
| 1.5 | | 1.4-2.5m<br>Fine sand, trace cobble and gravel, compact, medium grey, moist |
| 2.0 | | |
| 2.5 | | No seepage<br>Fill/ re-worked material to 0.45m<br>End test pit at 2.5m |
| 3.0 | | |
| 3.5 | | |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

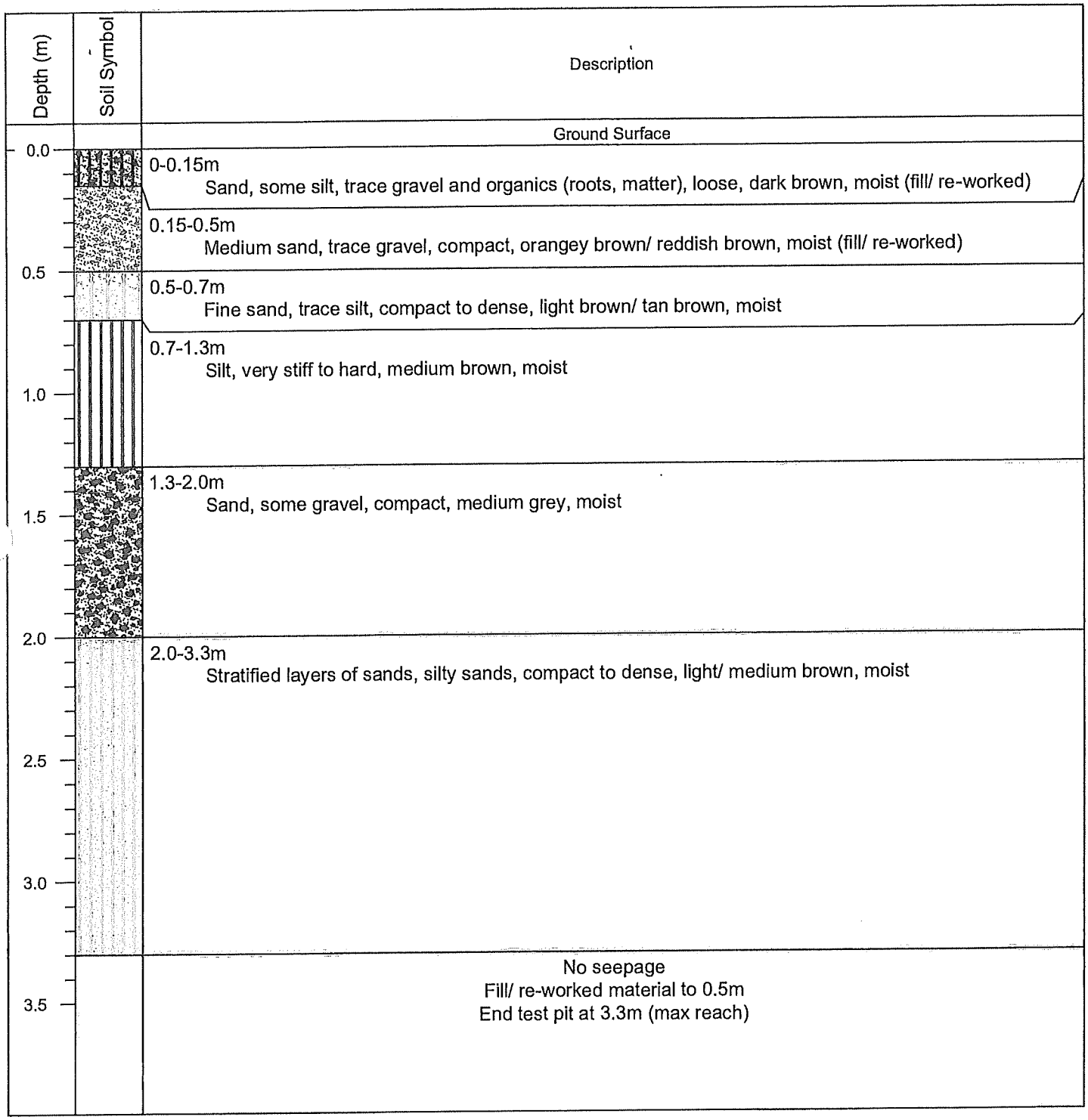
Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

Lewkowich Engineering Associates Ltd.

# TEST PIT LOG

File Number: F7706 TP19-03
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC




Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-04
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.1m<br>Crushed gravel with sand, trace silt, loose, medium grey, moist (19mm crushed drain rock) |
| | | 0.1-0.45m<br>Sand, trace gravel, silt and organics (roots, rootlets, matter), loose to compact, light brown, moist (fill) |
| 0.5 | | 0.45-0.8m<br>Fine sand, trace gravel and cobble, light grey, moist |
| | | 0.8-3.0m<br>Medium to coarse sand, trace gravel and cobble, compact, medium grey, moist |
| 1.0 | | |
| 1.5 | | |
| 2.0 | | |
| 2.5 | | |
| 3.0 | | No seepage<br>Fill/ re-worked material to 0.45m<br>End test pit at 3.0m |
| 3.5 | | |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

Lewkowich Engineering Associates Ltd.

# TEST PIT LOG

File Number: F7706 TP19-05
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.15m<br>Crushed gravel with sand, trace silt, loose, medium grey, moist (19mm crushed drain rock) |
| 0.5 | | 0.15-0.7m<br>Sand and gravel, trace silt, cobble and organics (roots, rootlets, matter), loose, orangey brown, moist (fill/ re-worked) |
| 1.0 | | 0.7-1.1m<br>Fine sand, some silt, dense, medium brown, moist |
| 1.5 | | No seepage<br>Fill/ re-worked material to 0.7m<br>End test pit at 1.1m |
| 2.0 | | |
| 2.5 | | |
| 3.0 | | |
| 3.5 | | |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

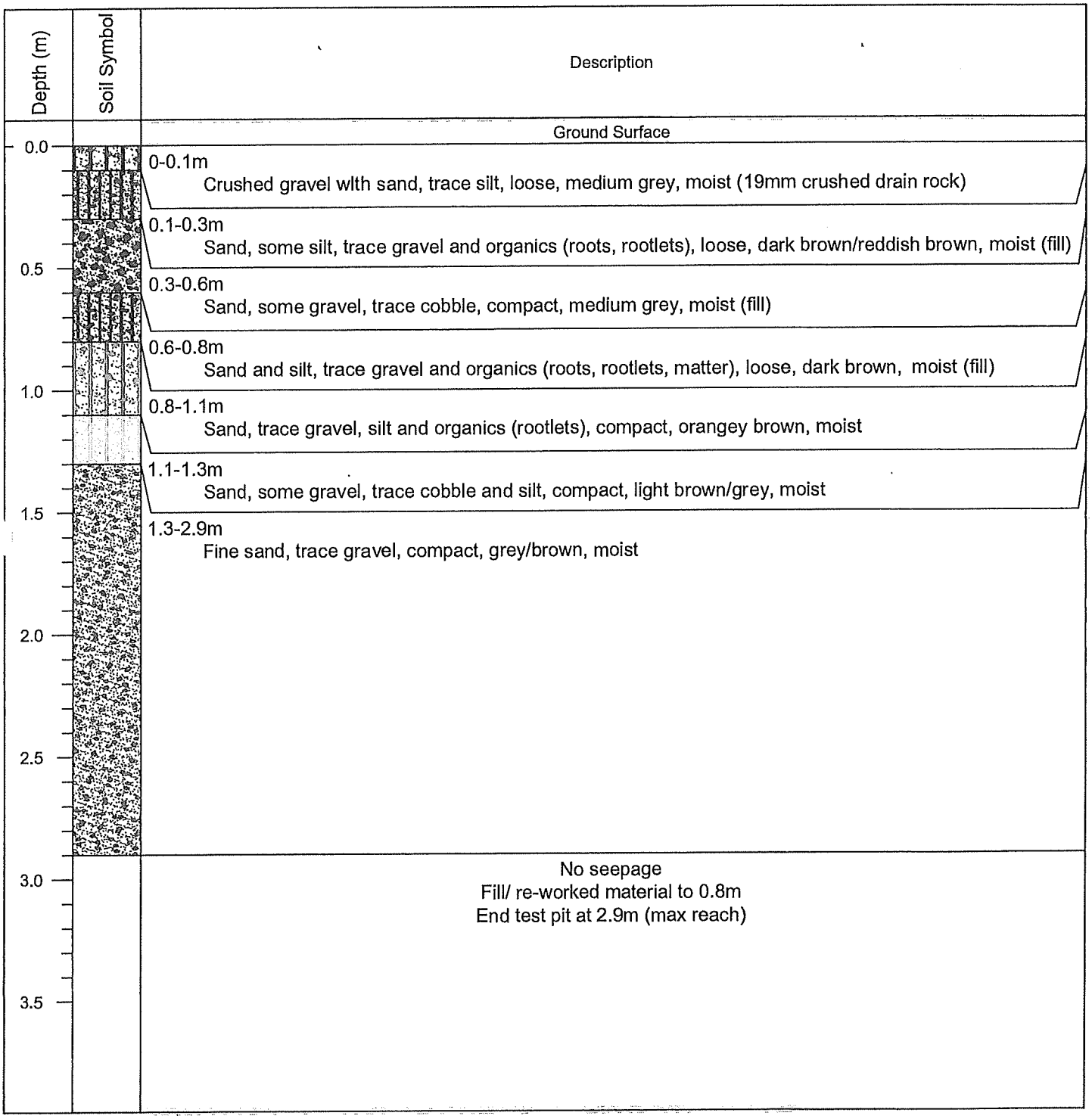
Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

Lewkowich Engineering Associates Ltd.

# TEST PIT LOG

File Number: F7706 TP19-06
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC




Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-07
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.4m<br>Fine sand, some silt, trace gravel and organics (roots, rootlets, matter), loose, dark brown, moist (fill) |
| 0.5 | | 0.4-0.7m<br>Sand, some gravel, trace cobble, silt, and organics (rootlets, matter), loose, orangey brown, moist |
| 1.0 | | 0.7-1.1m<br>Fine sand, trace gravel and cobble, compact, light grey, moist |
| 1.5 | | 1.1-2.5m<br>Medium sand, some gravel and cobble, compact to dense, medium grey, moist |
| 2.0 | | |
| 2.5 | | No seepage<br>Fill/ re-worked material to 0.4m<br>End test pit at 2.5m |
| 3.0 | | |
| 3.5 | | |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-08
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.9m<br>Sand, trace to some gravel and silt, trace cobble, compact, medium brown, moist (fill) |
| 1.0 | | 0.9-1.4m<br>Sand, some gravel and cobble, trace to some silt, compact, medium grey, moist (fill) |
| 1.5 | | 1.4-1.7m<br>Sand, some silt, trace gravel, compact, light brown/grey, moist (fill) |
| 2.0 | | 1.7-3.1m<br>Sand, some silt, trace gravel, cobble and organics (roots, rootlets, matter), loose to compact, reddish brown, moist (fill) |
| 3.0 | | 3.1-3.5m<br>Silt, stiff, light brown/grey, moist (possibly native) |
| 3.5 | | No seepage<br>Fill/ re-worked material to 3.1m, possibly deeper<br>End test pit at 3.5m (max reach) |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-09
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-1.15m<br>Sand, some gravel and silt, trace cobble, compact, light brown/ grey, moist (fill) |
| 1.0 | | 1.15-1.9m<br>Coarse sand, some gravel and cobble, compact, medium to dark brown/ grey, moist (fill) |
| 2.0 | | 1.9-2.9m<br>Silt with some sand and gravel, trace organics (roots, rootlets, matter), firm, dark brown/ reddish brown, moist (fill) |
| 3.0 | | 2.9-3.3m<br>Fine sand, trace gravel and cobble, grey/ brown, moist (possibly native) |
| 3.5 | | No seepage<br>Fill/ re-worked material to 2.9m, possibly deeper<br>End test pit at 3.3m (max reach) |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

# TEST PIT LOG

Lewkowich Engineering Associates Ltd.

File Number: F7706 TP19-10
Project: 1301 & 1391 Rocky Creek Road
Location: Ladysmith, BC

| Depth (m) | Soil Symbol | Description |
|---|---|---|
| | | Ground Surface |
| 0.0 | | 0-0.35m<br>Fine sand, trace silt and cobble compact, medium grey/brown, moist (fill) |
| 0.5 | | 0.35-0.9m<br>Fine sand, trace gravel and cobble, compact, light grey with oxidation staining, moist |
| 1.0 | | 0.9-1.5m<br>Medium sand, some gravel, trace cobble, compact, medium grey, moist |
| 1.5 | | 1.5-2.9m<br>Medium sand with some gravel and cobble, compact, medium grey, moist |
| 2.0 | | |
| 2.5 | | |
| 3.0 | | No seepage<br>Fill/ re-worked material to 0.35m<br>End test pit at 2.9m |
| 3.5 | | |

Logged By: PS
Reviewed By: CH
Digging Method: Cat 420E Backhoe

Date: November 12, 2019
Sheet: 1 of 1

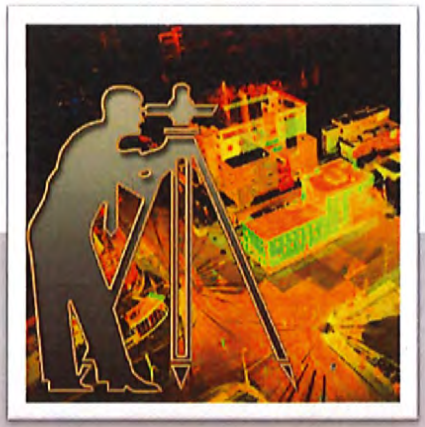
1900 Boxwood Road
Nanaimo, British Columbia, V9S 5Y2
Phone: (250) 756-0355
Fax: (250) 756-3831
Email: geotech@lewkowich.com

Attachment H

# 1301/1391 Rocky Creek Road Development

## Transportation Impact Assessment

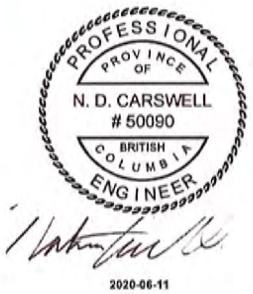
June 11, 2020



#501, 740 Hillside Avenue
Victoria, BC V8T 1Z4
Phone: 205.388.9877
F 250.388.9879
wattconsultinggroup.com

# 1301/1391 ROCKY CREEK ROAD DEVELOPMENT

## Traffic Impact Assessment




Author: Mustafa. Al-Mirmar,C.E.T
Transportation Technologist

Reviewer: Nathan Carswell,P.Eng
Regional Lead

Prepared for: 1163866 BC Ltd.
Our File: 2816.B01
Date: June 11, 2020

#501-740 Hillside Avenue
Victoria, BC V8T 1Z4
T 250.388.9877
F 250.388.9879

wattconsultinggroup.com

# TABLE OF CONTENTS

## APPENDICES



## LIST OF FIGURES



## LIST OF TABLES

# 1.0 INTRODUCTION

## 1.1 STUDY BACKGROUND

Watt Consulting Group Ltd was retained by 1163866 BC Ltd c/o Seward Developments Inc. to undertake a traffic impact assessment (TIA) for the proposed 1301/1391 Rocky Creek Road mix-use development in the town of Ladysmith, British Columbia. The proposed land use redesignation is to change the zoning to allow for a mixed use project. It is anticipated the development, upon completion, will contain 22 Townhouses, 30 single family houses, 190 condo units and 4500 $ft^2$ commercial space. This report examines the existing and long-term conditions within the study area, highlights any potential operational issues, and (if necessary) recommends mitigation measures to ensure accommodation of development traffic. The study also includes a review of the alternative transportation networks (pedestrian, cycling, and transit) within the vicinity of the development site.

## 1.2 STUDY AREA

The development site is along Rocky Creek Road in Ladysmith, BC. The proposed site access will be onto Rocky Creek Road. The study area includes the following key intersection:

- Rocky Creek Road / Ludlow Road


**Figure 1: Development Site and Key Intersection**

## 2.0 EXISTING CONDITIONS

### 2.1 LAND USE

The development site is currently zoned as Rural Residential (RU-1) and Single Dwelling Residential (R-1-B). The surrounding land use is comprised of Marine Residential Moorage (W-1), Marine Harvesting (W-4), Marina (W-2), Tourist Service Commercial (C-4), and Light Industrial (I-1).

### 2.2 EXISTING ROAD NETWORK

There are two roadways within the study area as described below:

- **Rocky Creek Road** is an undivided two lane Urban Collector road bordering the west side of the development site. On-street parking is permitted along Rocky Creek Road. For this study it is considered the roadway runs in a east-west direction. The segment of Rocky Creek Road near the site has commercial frontage and a speed limit of 50 km/h.
- **Ludlow Road** is an undivided two lane Urban Collector road. On-street parking is not permitted along Ludlow Road. The roadway is considered to run in a north-south direction. Posted speed limit of 50 km/h.

**Figure 2** illustrates the existing lane configuration and traffic controls in the study area.

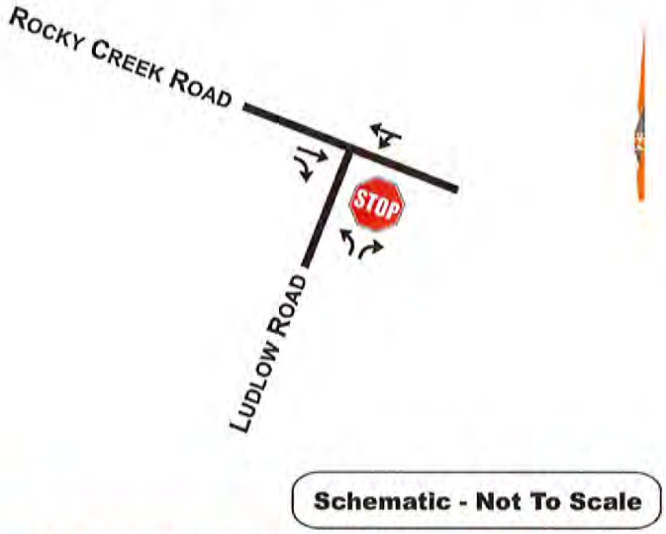



**Figure 2: Existing Lane Configuration and Traffic Controls**

It should be noted that the eastbound lane at the intersection of Rocky Creek Road and Ludlow Road will be analyzed as through lane and a right turn lane. The road is approximately 8m wide and would operate as two lanes.

## 2.3 EXISTING TRAFFIC VOLUMES

Intersection turning movement counts at the intersections of Rocky Creek Road & Ludlow Road were undertaken on Wednesday, March 3rd, 2020 (Prior to Covid19 impacts). Passenger cars, trucks, bicycles, and pedestrian movements were recorded at the intersection.

The raw traffic data for the survey is included in **Appendix A** of this report. **Figure 3** shows the peak AM (PM) hour traffic volumes.

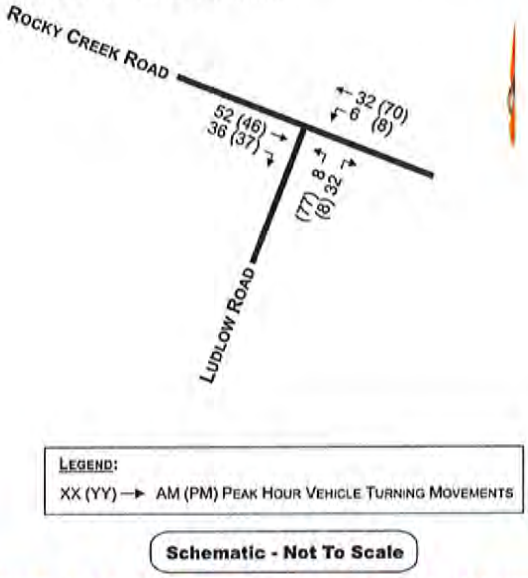



**Figure 3: Existing Peak Hour Traffic Volumes**

## 2.4 TRAFFIC MODELLING – BACKGROUND INFORMATION

Analysis of the traffic conditions at the study intersections was undertaken using Synchro Studio (Version 9). Synchro / SimTraffic is a two-part traffic modelling software that provides analysis of the traffic conditions based on the Highway Capacity Manual (2010) evaluation methodology.

For unsignalized (stop-controlled) intersections, the level of service (LOS) is based on the computed delay on each of the critical movements. LOS A represents minimal delays for minor street traffic movements, and LOS F represents a scenario with an insufficient number of gaps on the major street for minor street motorists to complete their movements without significant delays.

For signalized intersections, the methodology considers the intersection geometry, traffic volumes, the traffic signal phasing/timing plan, and pedestrian volumes. The average delay for each lane group is calculated, as well as the delay for the overall intersection.

TABLE 1: LEVEL OF SERVICE CRITERIA

| Level of Service (LOS) | Average Delay for UNSIGNALIZED Intersection Movements | Average Delay for SIGNALIZED Intersection Movements |
|---|---|---|
| A | 0 – 10 seconds per vehicle | 0 – 10 seconds per vehicle |
| B | > 10 – 15 seconds per vehicle | > 10 – 20 seconds per vehicle |
| C | > 15 – 25 seconds per vehicle | > 20 – 35 seconds per vehicle |
| D | > 25 – 35 seconds per vehicle | > 35 – 55 seconds per vehicle |
| E | > 35 – 50 seconds per vehicle | > 55 – 80 seconds per vehicle |
| F | > 50 seconds per vehicle | > 80 seconds per vehicle |

## 2.5 EXISTING TRAFFIC CONDITIONS

A capacity analysis was conducted for the existing AM and PM peak hours using the existing configurations and traffic controls as shown in **Figure 2** for the road network and the volumes shown in **Figure 3**. The results of the existing intersection operation analysis are provided in **Table 2**. All software outputs for this analysis, and any subsequent analysis, are included in **Appendix B** of this report.

TABLE 2: EXISTING CONDITIONS

| INTERSECTION / MOVEMENT | | | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | v/c Ratio | LOS | Delay (s) | Queue (m) | v/c Ratio | LOS | Delay (s) | Queue (m) |
| Rocky Creek Rd / Ludlow Rd (Stop Controlled) | EB | Through | 0.03 | A | 0.0 | 0.0 | 0.03 | A | 0.0 | 0.0 |
| | | Right | 0.02 | A | 0.0 | 0.0 | 0.02 | A | 0.0 | 0.0 |
| | WB | Left/Through | 0.00 | A | 2.0 | 1.0 | 0.01 | A | 1.0 | 1.0 |
| | NB | Left | 0.01 | A | 10.0 | 1.0 | 0.10 | A | 10.0 | 3.0 |
| | | Right | 0.04 | A | 9.0 | 1.0 | 0.01 | A | 9.0 | 1.0 |
| | Intersection Summary | | - | A | 3.0 | - | - | A | 4.0 | - |

The existing intersection capacity analysis results indicate that the study area intersections are currently operating within acceptable parameters during the AM and PM peak hours, and no improvements or expansions are needed. All intersections are operating at a LOS A and a maximum vol/ capacity ratio of 0.10 during the PM peak hours.

# 3.0 PROPOSED DEVELOPMENT

## 3.1 PROPOSED LAND USE & SITE ACCESS

The 1301/1391 Rocky Creek Road development is proposed to have 22 Townhouses, 30 single family houses, 190 condo units and 4500 ft$^2$ commercial space. The site is

proposed to have full movement accesses onto Rocky Creek Road. The site plan is shown below in **Figure 4**.


Figure 4: Site Plan

## 3.2 TRIP GENERATION

Site trips were estimated from the Institute of Transportation Engineers' (ITE) *Trip Generation Manual (10th Edition)*. The *Trip Generation Manual* provides trip rates for a wide variety of land uses gathered from actual sites across North America over the past 40 years.

The proposed developments will generate 130 trips (42 inbound / 88 outbound) during the AM peak hour and 152 trips (91 inbound / 61 outbound) during the PM peak hour. The trip generation results for the proposed development in the AM and PM peak hour are summarized in **Table 3**.

It should be noted that the proposed Coffee Shop ITE rate used was the lower end of the typical ITE range for the rate. This was used because of the size of the town. which would generate a reasonable 19 trips in the AM peak hour. The rest of the traffic to the coffee shop is assumed to be internal trips within the development.

## TABLE 3: PROPOSED DEVELOPMENT TRIP GENERATION

| Land use | Total Area sqft | Units | TRIP GENERATION RATE | | | | | | | | TRIPS GENERATED AM PEAK HOUR | | | TRIPS GENERATED PM PEAK HOUR | | | ITE Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | AM | | | | PM | | | | TOTAL | IB | OB | TOTAL | IB | OB | |
| | | | RATE | | IB | OB | RATE | | IB | OB | | | | | | | |
| Residential (Single-Family) | | 30 | 0.74 | / unit | 25% | 75% | 0.99 | / 1000 sqft | 63% | 37% | 22 | 6 | 17 | 30 | 19 | 11 | 210 |
| Residential Town house (Multi-Family) | | 22 | 0.36 | / unit | 26% | 74% | 0.44 | / 1000 sqft | 61% | 39% | 8 | 2 | 6 | 10 | 6 | 4 | 220 |
| Residential Condo(Multi-Family) | | 190 | 0.36 | / unit | 26% | 74% | 0.44 | / 1000 sqft | 61% | 39% | 69 | 18 | 51 | 84 | 51 | 33 | 221 |
| Restraunt | 1000 | | 9.94 | / 1000 sqft | 55% | 45% | 9.77 | / 1000 sqft | 62% | 38% | 10 | 5 | 5 | 10 | 6 | 4 | 932 |
| Coffee Shop | 500 | | 38.8 | / 1000 sqft | 51% | 49% | 15.5 | / 1000 sqft | 50% | 50% | 19 | 10 | 9 | 8 | 4 | 4 | 936 |
| Strip Mall | 3000 | | 0.94 | / 1000 sqft | 62% | 38% | 3.81 | / 1000 sqft | 48% | 52% | 3 | 2 | 1 | 11 | 5 | 6 | 820 |
| | | | | | | | | | Total | | 131 | 42 | 89 | 152 | 91 | 61 | |

*IB-OB refers to inbound and outbound movements

## 3.3 TRIP ASSIGNMENT

The trip distribution pattern for the proposed development was based on the existing traffic patterns and the existing and future land uses in the vicinity of the site. Based on these assumptions, the following traffic distribution pattern was estimated for the proposed development as summarized in **Figure 5**.


Figure 5: Trip Distribution

The development related traffic, based on the trip generation shown in **Table 3** and the distribution pattern indicated in **Figure 5**, is shown in **Figure 6**.


Figure 6: Site Generated Traffic Volumes

# 4.0 POST DEVELOPMENT OPERATING CONDITIONS

## 4.1 OPENING DAY TRAFFIC VOLUMES

The opening day vehicular traffic volumes were determined by superimposing the site generated volumes as shown in **Figure 6** on existing traffic volumes as shown in **Figure 3**. The resulting post development AM and PM peak hour volumes are illustrated in **Figure 7**.


Figure 7: Opening Day Traffic Volumes

## 4.2 OPENING DAY ANALYSIS

The post development operating conditions were assessed based on the traffic volumes shown in **Figure 7**, and the road network as indicated in **Figure 2**. The results of the post development intersection capacity analysis using the existing lane configuration and traffic controls are summarized in **Table 4**.

## TABLE 4: OPENING DAY OPERATING CONDITIONS

| INTERSECTION / MOVEMENT | | | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | v/c Ratio | LOS | Delay (s) | Queue (m) | v/c Ratio | LOS | Delay (s) | Queue (m) |
| Rocky Creek Rd / North Access (Stop Controlled) | WB | Left/Right | 0.06 | A | 10.0 | 2.0 | 0.04 | A | 10.0 | 2.0 |
| | NB | Through/Right | 0.04 | A | 0.0 | 0.0 | 0.12 | A | 0.0 | 0.0 |
| | SB | Left/Through | 0.01 | A | 1.0 | 1.0 | 0.01 | A | 2.0 | 1.0 |
| | Intersection Summary | | - | A | 3.0 | - | - | A | 2.0 | - |
| Rocky Creek Rd / South Access (Stop Controlled) | WB | Left/Right | 0.06 | A | 10.0 | 2.0 | 0.05 | A | 10.0 | 2.0 |
| | NB | Through/Right | 0.03 | A | 0.0 | 0.0 | 0.13 | A | 0.0 | 0.0 |
| | SB | Left/Through | 0.01 | A | 1.0 | 1.0 | 0.01 | A | 2.0 | 1.0 |
| | Intersection Summary | | - | A | | - | - | A | 2.0 | - |
| Rocky Creek Rd / Ludlow Rd (Stop Controlled) | EB | Through | 0.06 | A | 0.0 | 0.0 | 0.04 | A | 0.0 | 0.0 |
| | | Right | 0.04 | A | 0.0 | 0.0 | 0.03 | A | 0.0 | 0.0 |
| | WB | Left/Through | 0.01 | A | 2.0 | 1.0 | 0.01 | A | 0.7 | 1.0 |
| | NB | Left | 0.01 | A | 10.0 | 1.0 | 0.15 | B | 11.0 | 5.0 |
| | | Right | 0.04 | A | 9.0 | 1.0 | 0.01 | A | 9.0 | 1.0 |
| | Intersection Summary | | - | A | 2.0 | - | - | A | 4.0 | - |

The opening day intersection capacity analysis results indicate that the study area intersections are currently operating within acceptable parameters during the AM and PM peak hours, and no improvements or mitigation is needed. All intersections are operating at a LOS B or better and a maximum capacity ratio of 0.15 during the PM peak hours.

# 5.0 LONG TERM CONDITIONS – 20 YEAR HORIZON

The long term conditions were analyzed assuming the existing roadway network. An annual growth rate was estimated at 2.0%. Therefore, the 2020 existing traffic volumes were projected with a 2.0% annual growth rate to obtain the 20 year background traffic volumes.

## 5.1 20 YEAR BACKGROUND VOLUMES

The expected future background 20-year volumes, using a 2.0% growth factor, are shown in **Figure 8** below.


Figure 8: 20 Year Background Development Traffic Volumes

## 5.2 20 YEAR BACKGROUND OPERATING CONDITIONS

The 20 year background operating conditions of the existing road network were evaluated without the proposed development and the analysis was carried out using Synchro software and the existing lane configurations as shown in **Figure 2** and the future background traffic volumes as shown in **Figure 8**. The results are summarized in **Table 5**.

TABLE 5: 20 YEAR BACKGROUND CONDITIONS

| INTERSECTION / MOVEMENT | | | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | v/c Ratio | LOS | Delay (s) | Queue (m) | v/c Ratio | LOS | Delay (s) | Queue (m) |
| Rocky Creek Rd / Ludlow Rd (Stop Controlled) | EB | Through | 0.05 | A | 0 | 0 | 0.04 | A | 0 | 0 |
| | | Right | 0.03 | A | 0 | 0 | 0.03 | A | 0 | 0 |
| | WB | Left/Through | 0.01 | A | 2 | 1 | 0.01 | A | 1 | 1 |
| | NB | Left | 0.02 | A | 10 | 1 | 0.16 | B | 11 | 5 |
| | | Right | 0.05 | A | 9 | 2 | 0.01 | A | 9 | 1 |
| | Intersection Summary | | - | A | 3 | - | - | A | 4 | - |

The 20 year background intersection capacity analysis results indicate that the study area intersections are currently operating within acceptable parameters during the AM and PM peak hours. All intersections are operating at a LOS B or better and a maximum capacity ratio of 0.16 during the PM peak hours.

## 5.3 20 YEAR POST DEVELOPMENT

The 20-year horizon post development vehicular traffic volumes were determined by superimposing the site generated volumes as shown in **Figure 6** on the 20-year

background traffic volumes as shown in **Figure 8**. The resulting post development AM and PM peak hour volumes are illustrated in **Figure 9**.


**Figure 9: 20 Year Horizon Traffic Volumes**

The 20-year horizon operating conditions were reviewed using the traffic volumes shown in **Figure 9**. The results of the post development intersection capacity analysis using the existing lane configuration and traffic controls are summarized in **Table 6**.

**TABLE 6: 20 YEAR POST DEVELOPMENT CONDITIONS**

| INTERSECTION / MOVEMENT | | | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | v/c Ratio | LOS | Delay (s) | Queue (m) | v/c Ratio | LOS | Delay (s) | Queue (m) |
| Rocky Creek Rd / North Access (Stop Controlled) | WB | Left/Right | 0.06 | A | 10 | 2 | 0.05 | B | 11 | 2 |
| | NB | Through/Right | 0.05 | A | 0 | 0 | 0.17 | A | 0 | 0 |
| | SB | Left/Through | 0.01 | A | 1 | 1 | 0.02 | A | 2 | 1 |
| | Intersection Summary | | - | A | 2 | - | - | A | 2 | - |
| Rocky Creek Rd / South Access (Stop Controlled) | WB | Left/Right | 0.06 | A | 10 | 2 | 0.05 | B | 11 | 2 |
| | NB | Through/Right | 0.05 | A | 0 | 0 | 0.17 | A | 0 | 0 |
| | SB | Left/Through | 0.01 | A | 1 | 1 | 0.02 | A | 2 | 1 |
| | Intersection Summary | | - | A | 2 | - | - | A | 2 | - |
| Rocky Creek Rd / Ludlow Rd (Stop Controlled) | EB | Through | 0.07 | A | 0 | 0 | 0.05 | A | 0 | 0 |
| | | Right | 0.05 | A | 0 | 0 | 0.04 | A | 0 | 0 |
| | WB | Left/Through | 0.01 | A | 1 | 1 | 0.01 | A | 1 | 1 |
| | NB | Left | 0.02 | A | 10 | 1 | 0.22 | B | 12 | 7 |
| | | Right | 0.06 | A | 10 | 2 | 0.01 | A | 9 | 1 |
| | Intersection Summary | | - | A | 2 | - | - | A | 5 | - |

The 20 year post development intersection capacity analysis results indicate that the study area intersections are currently operating within acceptable parameters during the AM and PM peak hours. All intersections are operating at a LOS B or better and a maximum capacity ratio of 0.22 during the PM peak hours.

## 6.0 ACCESS REVIEW

The developments proposed access locations on Rocky Creek Road are utilizing the previous access locations used by the previous development. The access location on Rocky Creek Road exceeds the TAC's suggested minimum corner clearance of 5m between commercial access and an unsignalized minor intersection.

For 20 year post development volumes, no left hand turn lanes are warranted at either access. Given the above, the proposed accesses would allow for all turning movements to and from the site. The proposed access should conform to the Town's Engineering Specifications for a two-way driveway for commercial and multi-use residential vehicles.

## 7.0 ALTERNATIVE TRANSPORTATION MODES

### 7.1 PEDESTRIAN NETWORK

Rocky Creek Road has a sidewalk along the south side of the road for the length of the commercial properties. Adding a sidewalk on the west side(north side of Rocky Creek Road) along the site frontage and a marked crosswalk (if warranted in the future) at Rocky Creek Road and Gladden Road would provide a direct pedestrian connection to the commercial buildings across the street from the development.

### 7.2 CYCLING NETWORK

Currently, the section of Rocky Creek Road adjacent to the proposed development site has no dedicated space for cycling, nor pavement markings or signage indicating it is a bicycle route.

Rocky Creek Road has been identified as a Future Bicycle Facility in the 2009 Ladysmith Bicycle Plan. A future improvement bicycle facility will likely be built in the 10+ year time frame. The proposed development is not proposing a change to the existing roadway cross-section and could still allow for the creation of on-street bike lanes adjacent to the site.

No additional cycling network upgrades are recommended as a result of the proposed development.

### 7.3 TRANSIT NETWORK

Currently, no transit operations exist on Rocky Creek Road and the closest transit stop is at Symonds Street and 1st Avenue, which is approximately 1.30 km away. As the site reaches full build-out, the Town of Ladysmith / BC transit may consider extending routes to serve this area of Ladysmith.

## 8.0 CONCLUSIONS

Based on the results of the analysis presented in this report, the following conclusions were reached with respect to 1301/1391 Rocky Creek Road:

- The results of the capacity analysis indicate that all of the individual movements at all the studied intersections should operate at LOS B or better with v/c ratios less than 0.22 for post development conditions.
- The additional traffic generated by the proposed development can be accommodated by the existing adjacent road network.
- A sidewalk on the north side of Rocky Creek Road along the site frontage and adding a marked crosswalk (if warranted in the future) at Rocky Creek Road and Gladden Road would provide a direct pedestrian connection to the commercial buildings across the street from the development.
- The Town of Ladysmith / BC transit may consider extending routes to serve this area of Ladysmith as the site reaches full build out.
- No additional transportation improvements are required to support the proposed development.

## 9.0 RECOMMENDATIONS

The developer is recommended to:

- Install a sidewalk on the north side of Rocky Creek along the site frontage.

The Town of Ladysmith should consider:

- Conduct a pedestrian count after full build out, to determine if a marked crosswalk is warranted at Rocky Creek Road and Gladden Road intersection.

- Extend transit routes to serve this area of Ladysmith as the site reaches full build out.

# APPENDIX A: RAW TRAFFIC DATA

## Intersection Turning Movement Count Summary

| | | | |
|---|---|---|---|
| N/S Street: | Rocky Creek Road | Observer: | Matthew Lilly |
| E/W Street: | Ludlow Road | Notes: | |
| LOCATION: | Ladysmith | | |
| DATE: | March 3, 2020 | | |
| WEATHER: | Sun | TOTAL HOURS = | 1 |
| JOB # : | 2816.B01 | | |

| | |
|---|---|
| Speed Limit Major Street: | 50 km/h |
| Speed Limit Minor Street: | 50 km/h |

### Vehicles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total | Hourly | Pedestrians | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | Volume | Volume | N | S | E | W |
| 8:00 | 8:15 | | | | 1 | | 7 | 2 | 2 | | | 5 | 6 | 23 | | 0 | 0 | 0 | 0 |
| 8:15 | 8:30 | | | | 1 | | 11 | 1 | 3 | | | 9 | 14 | 39 | | 0 | 0 | 0 | 0 |
| 8:30 | 8:45 | | | | 1 | | 9 | 0 | 11 | | | 16 | 6 | 43 | | 0 | 0 | 0 | 0 |
| 8:45 | 9:00 | | | | 5 | | 5 | 3 | 16 | | | 22 | 10 | 61 | 166 | 0 | 0 | 0 | 0 |
| Peak Hour | | 0 | 0 | 0 | 8 | 0 | 32 | 6 | 32 | 0 | 0 | 52 | 36 | | | 0 | 0 | 0 | 0 |
| PHF | | 0.00 | 0.00 | 0.00 | 0.40 | 0.00 | 0.73 | 0.50 | 0.50 | 0.00 | 0.00 | 0.59 | 0.64 | | | | | | |

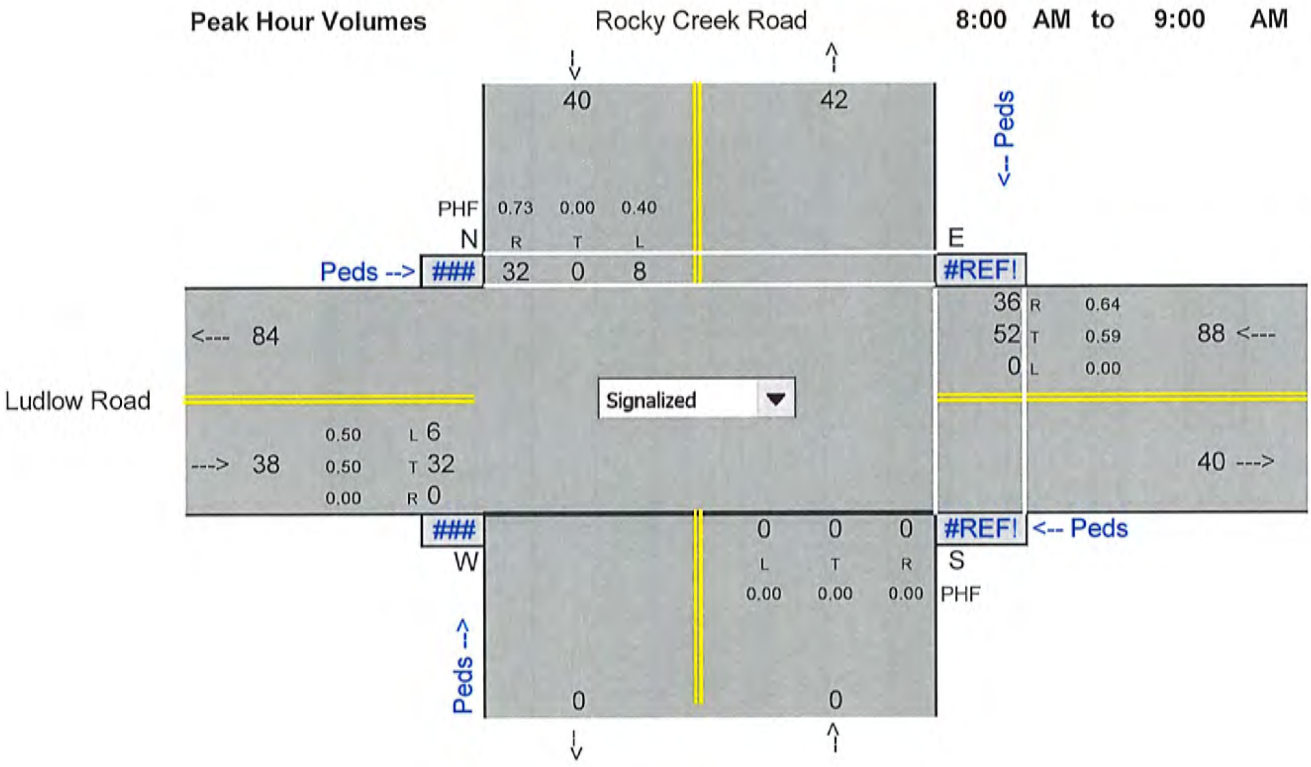
### Heavy Vehicles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT |
| 8:00 | 8:15 | | | | 0 | | 1 | 0 | 0 | | | 3 | 2 |
| 8:15 | 8:30 | | | | 0 | | 0 | 0 | 1 | | | 1 | 1 |
| 8:30 | 8:45 | | | | 0 | | 0 | 0 | 3 | | | 2 | 0 |
| 8:45 | 9:00 | | | | 0 | | 1 | 1 | 5 | | | 6 | 0 |
| Peak Hour | | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 9 | 0 | 0 | 12 | 3 |
| % Heavy Vehicles | | 0% | 0% | 0% | 0% | 0% | 6% | 17% | 28% | 0% | 0% | 23% | 8% |

### Bicycles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT |
| 8:00 | 8:15 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| 8:15 | 8:30 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| 8:30 | 8:45 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| 8:45 | 9:00 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| Peak Hour | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

# Peak Hour Volumes



## Intersection Turning Movement Count Summary

N/S Street: Rocky Creek Road
E/W Street: Ludlow Road
LOCATION: Ladysmith
DATE: March 3, 2020
WEATHER: Sun
JOB # : 2816.B01

TOTAL HOURS = 1

Observer: Matthew Lilly
Notes:

| | |
|---|---|
| Speed Limit Major Street: | 50 km/h |
| Speed Limit Minor Street: | 50 km/h |

### Vehicles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | Total | Hourly | Pedestrians | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | Volume | Volume | N | S | E | W |
| 16:00 | 16:15 | | | | 23 | | 1 | 0 | 24 | | | 17 | 12 | 77 | | 0 | 0 | 0 | 0 |
| 16:15 | 16:30 | | | | 21 | | 1 | 3 | 18 | | | 11 | 11 | 65 | | 0 | 0 | 0 | 0 |
| 16:30 | 16:45 | | | | 27 | | 4 | 3 | 12 | | | 14 | 12 | 72 | | 0 | 0 | 0 | 0 |
| 16:45 | 17:00 | | | | 6 | | 2 | 2 | 16 | | | 4 | 2 | 32 | 246 | 0 | 0 | 0 | 0 |
| Peak Hour | | 0 | 0 | 0 | 77 | 0 | 8 | 8 | 70 | 0 | 0 | 46 | 37 | | | 0 | 0 | 0 | 0 |
| PHF | | 0.00 | 0.00 | 0.00 | 0.71 | 0.00 | 0.50 | 0.67 | 0.73 | 0.00 | 0.00 | 0.68 | 0.77 | | | | | | |

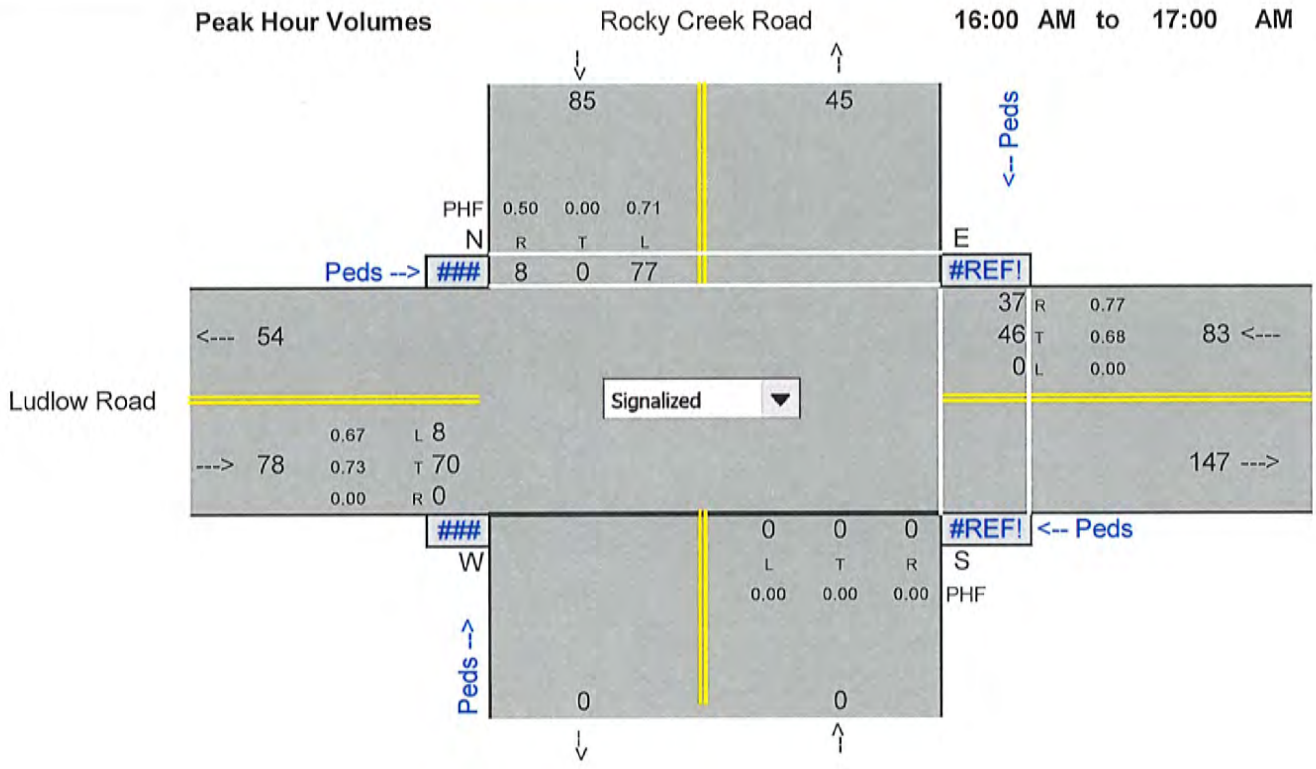
### Heavy Vehicles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT |
| 16:00 | 16:15 | | | | 0 | | 0 | 0 | 1 | | | 3 | 0 |
| 16:15 | 16:30 | | | | 1 | | 0 | 0 | 2 | | | 3 | 0 |
| 16:30 | 16:45 | | | | 0 | | 1 | 1 | 3 | | | 1 | 1 |
| 16:45 | 17:00 | | | | 0 | | 0 | 0 | 2 | | | 0 | 0 |
| Peak Hour | | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 8 | 0 | 0 | 7 | 1 |
| % Heavy Vehicles | | 0% | 0% | 0% | 1% | 0% | 13% | 13% | 11% | 0% | 0% | 15% | 3% |

### Bicycles

| TIME | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| From | To | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT | LEFT | THRU | RIGHT |
| 16:00 | 16:15 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| 16:15 | 16:30 | | | | 0 | | 0 | 0 | 0 | | | 0 | 1 |
| 16:30 | 16:45 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| 16:45 | 17:00 | | | | 0 | | 0 | 0 | 0 | | | 0 | 0 |
| Peak Hour | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

# Peak Hour Volumes



# APPENDIX B: CAPACITY ANALYSIS OUTPUT

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 52 | 36 | 6 | 32 | 8 | 32 |
| Future Volume (Veh/h) | 52 | 36 | 6 | 32 | 8 | 32 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 57 | 39 | 7 | 35 | 9 | 35 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 96 | | 106 | 57 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 96 | | 106 | 57 |
| tC, single (s) | | | 4.3 | | 6.4 | 6.3 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.4 | | 3.5 | 3.4 |
| p0 queue free % | | | 100 | | 99 | 96 |
| cM capacity (veh/h) | | | 1409 | | 890 | 998 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 |
|---|---|---|---|---|---|
| Volume Total | 57 | 39 | 42 | 9 | 35 |
| Volume Left | 0 | 0 | 7 | 9 | 0 |
| Volume Right | 0 | 39 | 0 | 0 | 35 |
| cSH | 1700 | 1700 | 1409 | 890 | 998 |
| Volume to Capacity | 0.03 | 0.02 | 0.00 | 0.01 | 0.04 |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.1 | 0.2 | 0.9 |
| Control Delay (s) | 0.0 | 0.0 | 1.3 | 9.1 | 8.7 |
| Lane LOS | | | A | A | A |
| Approach Delay (s) | 0.0 | | 1.3 | 8.8 | |
| Approach LOS | | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 16.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 46 | 37 | 8 | 70 | 77 | 8 |
| Future Volume (Veh/h) | 46 | 37 | 8 | 70 | 77 | 8 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 50 | 40 | 9 | 76 | 84 | 9 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 90 | | 144 | 50 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 90 | | 144 | 50 |
| tC, single (s) | | | 4.2 | | 6.4 | 6.3 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.3 | | 3.5 | 3.4 |
| p0 queue free % | | | 99 | | 90 | 99 |
| cM capacity (veh/h) | | | 1439 | | 843 | 988 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 |
|---|---|---|---|---|---|
| Volume Total | 50 | 40 | 85 | 84 | 9 |
| Volume Left | 0 | 0 | 9 | 84 | 0 |
| Volume Right | 0 | 40 | 0 | 0 | 9 |
| cSH | 1700 | 1700 | 1439 | 843 | 988 |
| Volume to Capacity | 0.03 | 0.02 | 0.01 | 0.10 | 0.01 |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.2 | 2.6 | 0.2 |
| Control Delay (s) | 0.0 | 0.0 | 0.8 | 9.7 | 8.7 |
| Lane LOS | | | A | A | A |
| Approach Delay (s) | 0.0 | | 0.8 | 9.6 | |
| Approach LOS | | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.6 | | |
| Intersection Capacity Utilization | 21.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 89 | 61 | 6 | 42 | 10 | 32 |
| Future Volume (Veh/h) | 89 | 61 | 6 | 42 | 10 | 32 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 97 | 66 | 7 | 46 | 11 | 35 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 163 | | 157 | 97 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 163 | | 157 | 97 |
| tC, single (s) | | | 4.3 | | 6.4 | 6.3 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.4 | | 3.5 | 3.4 |
| p0 queue free % | | | 99 | | 99 | 96 |
| cM capacity (veh/h) | | | 1329 | | 832 | 948 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 |
|---|---|---|---|---|---|
| Volume Total | 97 | 66 | 53 | 11 | 35 |
| Volume Left | 0 | 0 | 7 | 11 | 0 |
| Volume Right | 0 | 66 | 0 | 0 | 35 |
| cSH | 1700 | 1700 | 1329 | 832 | 948 |
| Volume to Capacity | 0.06 | 0.04 | 0.01 | 0.01 | 0.04 |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.1 | 0.3 | 0.9 |
| Control Delay (s) | 0.0 | 0.0 | 1.1 | 9.4 | 8.9 |
| Lane LOS | | | A | A | A |
| Approach Delay (s) | 0.0 | | 1.1 | 9.0 | |
| Approach LOS | | | | A | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.8 | | |
| Intersection Capacity Utilization | 17.3% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 13 | 53 | 6 | 15 | 103 |
| Future Volume (Veh/h) | 31 | 13 | 53 | 6 | 15 | 103 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 14 | 58 | 7 | 16 | 112 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 206 | 62 | | | 65 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 206 | 62 | | | 65 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 96 | 99 | | | 99 | |
| cM capacity (veh/h) | 775 | 1004 | | | 1537 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 48 | 65 | 128 |
| Volume Left | 34 | 0 | 16 |
| Volume Right | 14 | 7 | 0 |
| cSH | 830 | 1700 | 1537 |
| Volume to Capacity | 0.06 | 0.04 | 0.01 |
| Queue Length 95th (m) | 1.5 | 0.0 | 0.3 |
| Control Delay (s) | 9.6 | 0.0 | 1.0 |
| Lane LOS | A | | A |
| Approach Delay (s) | 9.6 | 0.0 | 1.0 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 22.9% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 31 | 13 | 46 | 6 | 15 | 119 |
| Future Volume (Veh/h) | 31 | 13 | 46 | 6 | 15 | 119 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 34 | 14 | 50 | 7 | 16 | 129 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 214 | 54 | | | 57 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 214 | 54 | | | 57 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 96 | 99 | | | 99 | |
| cM capacity (veh/h) | 766 | 1014 | | | 1547 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 48 | 57 | 145 |
| Volume Left | 34 | 0 | 16 |
| Volume Right | 14 | 7 | 0 |
| cSH | 825 | 1700 | 1547 |
| Volume to Capacity | 0.06 | 0.03 | 0.01 |
| Queue Length 95th (m) | 1.5 | 0.0 | 0.3 |
| Control Delay (s) | 9.6 | 0.0 | 0.9 |
| Lane LOS | A | | A |
| Approach Delay (s) | 9.6 | 0.0 | 0.9 |
| Approach LOS | A | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 2.4 | | |
| Intersection Capacity Utilization | 23.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 59 | 48 | 8 | 95 | 107 | 8 |
| Future Volume (Veh/h) | 59 | 48 | 8 | 95 | 107 | 8 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 64 | 52 | 9 | 103 | 116 | 9 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | | | 116 | | 185 | 64 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 116 | | 185 | 64 |
| tC, single (s) | | | 4.2 | | 6.4 | 6.3 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | | | 2.3 | | 3.5 | 3.4 |
| p0 queue free % | | | 99 | | 85 | 99 |
| cM capacity (veh/h) | | | 1407 | | 799 | 970 |

| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | NB 2 |
|---|---|---|---|---|---|
| Volume Total | 64 | 52 | 112 | 116 | 9 |
| Volume Left | 0 | 0 | 9 | 116 | 0 |
| Volume Right | 0 | 52 | 0 | 0 | 9 |
| cSH | 1700 | 1700 | 1407 | 799 | 970 |
| Volume to Capacity | 0.04 | 0.03 | 0.01 | 0.15 | 0.01 |
| Queue Length 95th (m) | 0.0 | 0.0 | 0.2 | 4.1 | 0.2 |
| Control Delay (s) | 0.0 | 0.0 | 0.7 | 10.3 | 8.7 |
| Lane LOS | | | A | B | A |
| Approach Delay (s) | 0.0 | | 0.7 | 10.2 | |
| Approach LOS | | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 3.8 | | |
| Intersection Capacity Utilization | 24.2% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 12 | 18 | 166 | 27 | 18 | 101 |
| Future Volume (Veh/h) | 12 | 18 | 166 | 27 | 18 | 101 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 13 | 20 | 180 | 29 | 20 | 110 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 344 | 194 | | | 209 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 344 | 194 | | | 209 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 98 | | | 99 | |
| cM capacity (veh/h) | 642 | 847 | | | 1362 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 33 | 209 | 130 |
| Volume Left | 13 | 0 | 20 |
| Volume Right | 20 | 29 | 0 |
| cSH | 753 | 1700 | 1362 |
| Volume to Capacity | 0.04 | 0.12 | 0.01 |
| Queue Length 95th (m) | 1.1 | 0.0 | 0.4 |
| Control Delay (s) | 10.0 | 0.0 | 1.3 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.0 | 0.0 | 1.3 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 1.3 | |
| Intersection Capacity Utilization | | 30.0% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 12 | 19 | 174 | 28 | 18 | 95 |
| Future Volume (Veh/h) | 12 | 19 | 174 | 28 | 18 | 95 |
| Sign Control | Stop | | Free | | | Free |
| Grade | 0% | | 0% | | | 0% |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 13 | 21 | 189 | 30 | 20 | 103 |
| Pedestrians | | | | | | |
| Lane Width (m) | | | | | | |
| Walking Speed (m/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | None | | | None |
| Median storage veh) | | | | | | |
| Upstream signal (m) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 347 | 204 | | | 219 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 347 | 204 | | | 219 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 98 | 97 | | | 99 | |
| cM capacity (veh/h) | 640 | 837 | | | 1350 | |

| Direction, Lane # | WB 1 | NB 1 | SB 1 |
|---|---|---|---|
| Volume Total | 34 | 219 | 123 |
| Volume Left | 13 | 0 | 20 |
| Volume Right | 21 | 30 | 0 |
| cSH | 749 | 1700 | 1350 |
| Volume to Capacity | 0.05 | 0.13 | 0.01 |
| Queue Length 95th (m) | 1.1 | 0.0 | 0.4 |
| Control Delay (s) | 10.0 | 0.0 | 1.4 |
| Lane LOS | B | | A |
| Approach Delay (s) | 10.0 | 0.0 | 1.4 |
| Approach LOS | B | | |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | | 1.4 | |
| Intersection Capacity Utilization | | 30.2% | ICU Level of Service A |
| Analysis Period (min) | | 15 | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 77 | 54 | 8 | 47 | 12 | 47 |
| Future Volume (vph) | 77 | 54 | 8 | 47 | 12 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.993 | 0.950 | |
| Satd. Flow (prot) | 1545 | 1495 | 0 | 1493 | 1787 | 1524 |
| Flt Permitted | | | | 0.993 | 0.950 | |
| Satd. Flow (perm) | 1545 | 1495 | 0 | 1493 | 1787 | 1524 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 23% | 8% | 17% | 28% | 1% | 6% |
| Adj. Flow (vph) | 84 | 59 | 9 | 51 | 13 | 51 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 84 | 59 | 0 | 60 | 13 | 51 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 19.3% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 68 | 54 | 12 | 104 | 115 | 12 |
| Future Volume (vph) | 68 | 54 | 12 | 104 | 115 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.995 | 0.950 | |
| Satd. Flow (prot) | 1652 | 1568 | 0 | 1700 | 1770 | 1429 |
| Flt Permitted | | | | 0.995 | 0.950 | |
| Satd. Flow (perm) | 1652 | 1568 | 0 | 1700 | 1770 | 1429 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 15% | 3% | 13% | 11% | 2% | 13% |
| Adj. Flow (vph) | 74 | 59 | 13 | 113 | 125 | 13 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 74 | 59 | 0 | 126 | 125 | 13 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 25.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 114 | 79 | 8 | 57 | 14 | 47 |
| Future Volume (vph) | 114 | 79 | 8 | 57 | 14 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.994 | 0.950 | |
| Satd. Flow (prot) | 1545 | 1495 | 0 | 1492 | 1787 | 1524 |
| Flt Permitted | | | | 0.994 | 0.950 | |
| Satd. Flow (perm) | 1545 | 1495 | 0 | 1492 | 1787 | 1524 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 23% | 8% | 17% | 28% | 1% | 6% |
| Adj. Flow (vph) | 124 | 86 | 9 | 62 | 15 | 51 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 124 | 86 | 0 | 71 | 15 | 51 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 19.7% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 31 | 13 | 72 | 6 | 15 | 146 |
| Future Volume (vph) | 31 | 13 | 72 | 6 | 15 | 146 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.961 | | 0.989 | | | |
| Flt Protected | 0.966 | | | | | 0.995 |
| Satd. Flow (prot) | 1729 | 0 | 1842 | 0 | 0 | 1853 |
| Flt Permitted | 0.966 | | | | | 0.995 |
| Satd. Flow (perm) | 1729 | 0 | 1842 | 0 | 0 | 1853 |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 254.9 | | 58.8 | | | 81.6 |
| Travel Time (s) | 18.4 | | 4.2 | | | 5.9 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 34 | 14 | 78 | 7 | 16 | 159 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 48 | 0 | 85 | 0 | 0 | 175 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(m) | 3.6 | | 0.0 | | | 0.0 |
| Link Offset(m) | 0.0 | | 0.0 | | | 0.0 |
| Crosswalk Width(m) | 4.8 | | 4.8 | | | 4.8 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | 15 | | 15 | 25 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 25.2% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 31 | 13 | 65 | 6 | 15 | 162 |
| Future Volume (vph) | 31 | 13 | 65 | 6 | 15 | 162 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.961 | | 0.988 | | | |
| Flt Protected | 0.966 | | | | | 0.996 |
| Satd. Flow (prot) | 1729 | 0 | 1840 | 0 | 0 | 1855 |
| Flt Permitted | 0.966 | | | | | 0.996 |
| Satd. Flow (perm) | 1729 | 0 | 1840 | 0 | 0 | 1855 |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 224.8 | | 96.8 | | | 58.8 |
| Travel Time (s) | 16.2 | | 7.0 | | | 4.2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 34 | 14 | 71 | 7 | 16 | 176 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 48 | 0 | 78 | 0 | 0 | 192 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(m) | 3.6 | | 0.0 | | | 0.0 |
| Link Offset(m) | 0.0 | | 0.0 | | | 0.0 |
| Crosswalk Width(m) | 4.8 | | 4.8 | | | 4.8 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | 15 | | 15 | 25 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 26.0% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 81 | 65 | 12 | 129 | 145 | 12 |
| Future Volume (vph) | 81 | 65 | 12 | 129 | 145 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.996 | 0.950 | |
| Satd. Flow (prot) | 1652 | 1568 | 0 | 1702 | 1770 | 1429 |
| Flt Permitted | | | | 0.996 | 0.950 | |
| Satd. Flow (perm) | 1652 | 1568 | 0 | 1702 | 1770 | 1429 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 15% | 3% | 13% | 11% | 2% | 13% |
| Adj. Flow (vph) | 88 | 71 | 13 | 140 | 158 | 13 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 88 | 71 | 0 | 153 | 158 | 13 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 28.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 12 | 18 | 238 | 27 | 18 | 140 |
| Future Volume (vph) | 12 | 18 | 238 | 27 | 18 | 140 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.918 | | 0.986 | | | |
| Flt Protected | 0.981 | | | | | 0.994 |
| Satd. Flow (prot) | 1678 | 0 | 1837 | 0 | 0 | 1852 |
| Flt Permitted | 0.981 | | | | | 0.994 |
| Satd. Flow (perm) | 1678 | 0 | 1837 | 0 | 0 | 1852 |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 249.4 | | 98.2 | | | 96.9 |
| Travel Time (s) | 18.0 | | 7.1 | | | 7.0 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 13 | 20 | 259 | 29 | 20 | 152 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 33 | 0 | 288 | 0 | 0 | 172 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(m) | 3.6 | | 0.0 | | | 0.0 |
| Link Offset(m) | 0.0 | | 0.0 | | | 0.0 |
| Crosswalk Width(m) | 4.8 | | 4.8 | | | 4.8 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | 15 | | 15 | 25 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 32.5% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 12 | 19 | 246 | 28 | 18 | 134 |
| Future Volume (vph) | 12 | 19 | 246 | 28 | 18 | 134 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | 0.917 | | 0.986 | | | |
| Flt Protected | 0.981 | | | | | 0.994 |
| Satd. Flow (prot) | 1676 | 0 | 1837 | 0 | 0 | 1852 |
| Flt Permitted | 0.981 | | | | | 0.994 |
| Satd. Flow (perm) | 1676 | 0 | 1837 | 0 | 0 | 1852 |
| Link Speed (k/h) | 50 | | 50 | | | 50 |
| Link Distance (m) | 259.9 | | 91.6 | | | 98.2 |
| Travel Time (s) | 18.7 | | 6.6 | | | 7.1 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 13 | 21 | 267 | 30 | 20 | 146 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 34 | 0 | 297 | 0 | 0 | 166 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Right | Left | Left |
| Median Width(m) | 3.6 | | 0.0 | | | 0.0 |
| Link Offset(m) | 0.0 | | 0.0 | | | 0.0 |
| Crosswalk Width(m) | 4.8 | | 4.8 | | | 4.8 |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | 25 | 15 | | 15 | 25 | |
| Sign Control | Stop | | Free | | | Free |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization 32.2% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

WATT OKANAGAN
305 – 1350 St Paul St
Kelowna, BC V1Y 2E1
778-313-1014

Seward Developments Inc.
1820 Argyle Avenue,
Nanaimo, B.C., V9S 3K7
toby.seward@shaw.ca

January 18, 2022
Our File No: 2816.B01

To: Toby Seward

**Re: Comments Received from MoTI and Town of Ladysmith**

Dear Toby,

We are pleased to provide you with this letter summarizing the response to comments received from the Ministry of Transportation and Infrastructure and the Town of Ladysmith, regarding a Transportation Impact Assessment (TIA) completed for the development at 1301/1391 Rocky Creek Road, Ladysmith, British Columbia.

As illustrated in **Figure 1**, the site is located near the perimeter of Ladysmith, on Rocky Creek Road that parallels Highway 1. Access to this site is accommodated by the primary access of Rocky Creek Road / Ludlow Road (circled in yellow).


Figure 1: Site Context

**Northbound Traffic**

As illustrated in **Figure 1** Rocky Creek Road parallels Highway 1 between the analyzed intersection and the intersection of Rocky Creek Road / Malamos Road / Highway 1 (not shown on the figure), with the Town of Ladysmith serving as the primary trip destination to and from the site. Northbound site generated traffic is expected to be destined for the Town of Nanaimo, with an associated right turn movement at the north intersection of Rocky Creek Road / Malmos Road / Highway 1.

Right turning traffic at this location is not expected to have a significant impact on the overall intersection operating conditions, given the configuration of the intersection and relatively low northbound site generated traffic volume of 26 vehicles / hour (vph) during the AM peak and 37 vph in the PM peak. The expected Annual Average Daily Traffic (AADT) for Rocky Creek Road north of the site is approximately 4,100 vpd under post development conditions. Given this, it is of our opinion that the proposed development would not provide further impact to that of background volume traffic already present on Rocky Creek Road, north of the proposed development.

### Roundabout Performance

Intersection operating conditions were assessed for the proposed roundabout at the intersection of Rocky Creek Road / Ludlow Road. Analysis was completed using the SIDRA and Synchro software packages on the anticipated roundabout configuration as illustrated in **Figure 2**.

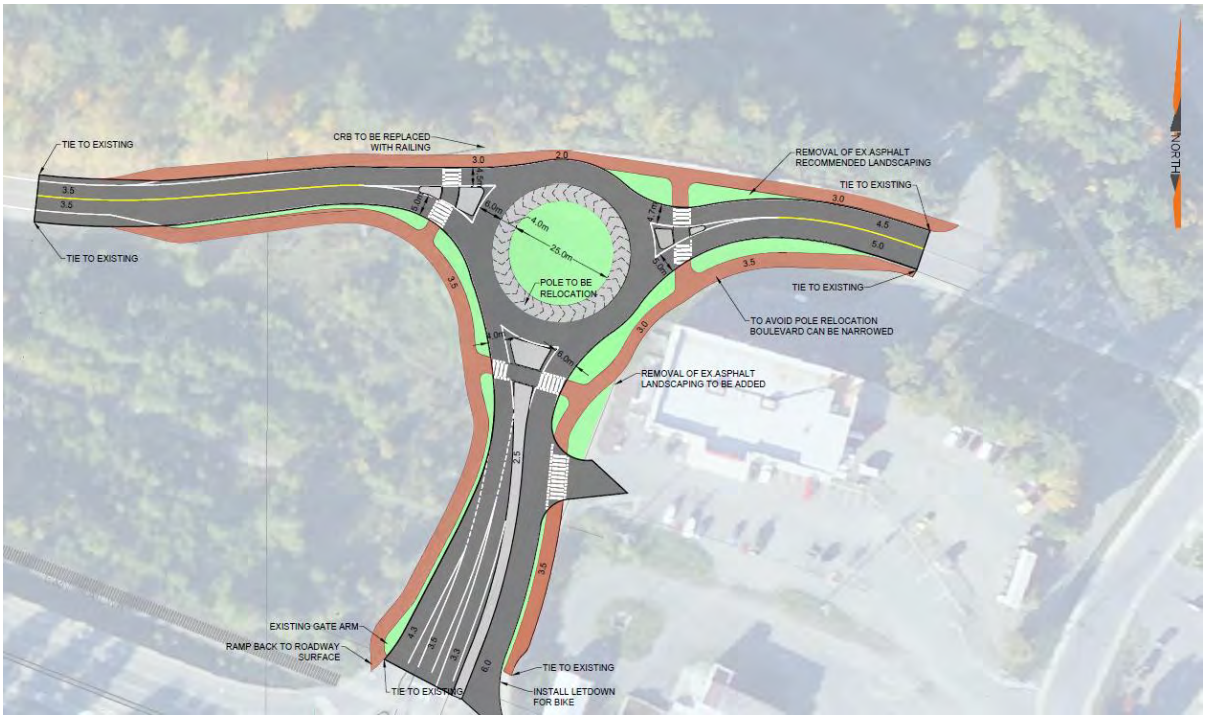



**Figure 2: Roundabout Design Geometry**

Turning movement volumes for the 20-year horizon were obtained from the 1301/1391 Rocky Creek Development TIA[1], as summarized in **Figure 3**. These volumes were applied in the following SIDRA and Synchro analysis as presented in **Table 1** accompanied by complete reports in **Appendix A**.

[1] WATT Consulting Group, June 11, 2020

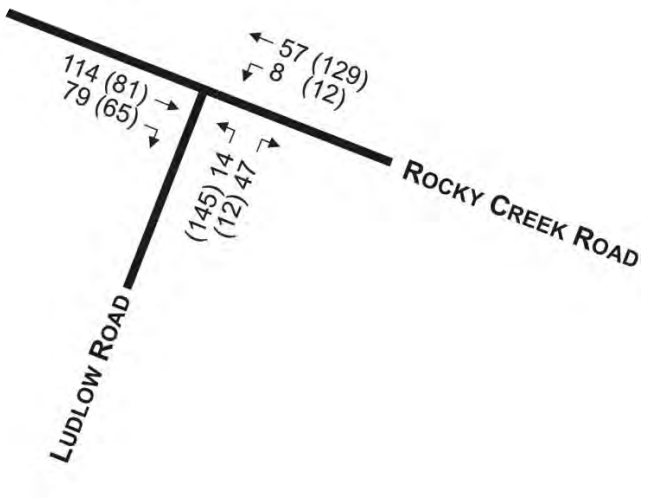



**Figure 3: 20-Year Horizon Turning Movement Volumes**

**Table 1: Comparison of Operating Conditions**

| INTERSECTION / MOVEMENT | | | AM PEAK HOUR | | | | PM PEAK HOUR | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | v/c Ratio | LOS | Delay (s) | Queue (m) | v/c Ratio | LOS | Delay (s) | Queue (m) |
| Rocky Creek Rd / Ludlow Rd (Stop Controlled) | EB | Through | 0.07 | A | 0 | 0 | 0.05 | A | 0 | 0 |
| | | Right | 0.05 | A | 0 | 0 | 0.04 | A | 0 | 0 |
| | WB | Left/Through | 0.01 | A | 1 | 1 | 0.01 | A | 1 | 1 |
| | NB | Left | 0.02 | A | 10 | 1 | 0.22 | B | 12 | 7 |
| | | Right | 0.06 | A | 10 | 2 | 0.01 | A | 9 | 1 |
| | **Intersection Summary** | | - | **A** | **2** | - | - | **A** | **5** | - |
| Rocky Creek Rd / Ludlow Rd (Roundabout) | EB | Through | 0.16 | A | 4 | 0 | 0.12 | A | 4 | 1 |
| | | Right | 0.16 | A | 4 | 0 | 0.12 | A | 4 | 1 |
| | WB | Left/Through | 0.05 | A | 3 | 0 | 0.14 | A | 4 | 1 |
| | NB | Left | 0.06 | A | 4 | 1 | 0.14 | A | 4 | 1 |
| | | Right | 0.06 | A | 4 | 1 | 0.14 | A | 4 | 1 |
| | **Intersection Summary** | | - | **A** | **4** | - | - | **A** | **4** | - |

Considering the results summarized in **Table 1**, the roundabout is expected to provide an excellent level of service (LOS) for all turning movements during both the AM and PM peak hours. Compared with the current stop-controlled configuration, the northbound left turn movement experiences an improved LOS from A to B during the PM peak hour, with associated reduction in v/c ratio from 0.22 to 0.14 correlating with the roundabout.

Observing the low v/c ratios and minimal delay, there is significant capacity at this proposed roundabout, which would be able to accommodate additional traffic if other properties develop or there is a change in zoning for higher density use. It is important to note that (385m$_2$) of property is required from 1130 Rocky Creek Road to accommodate the design as well as the relocation of one utility pole (and anchor).

We trust this memo provides you with the information requested. Please feel free to reach out to me directly if you have any questions or require more information.

Sincerely,
**WATT Consulting Group**

**Nathan Carswell,** *P.Eng.*
*Regional Lead, Transportation*

**T** 778-313-1014 ext. 431
**D** 778-313-1060 **C** 250-215-0544
**E** ncarswell@wattconsultinggroup.com

#WEAREWATT

WATT OKANAGAN
305 – 1350 St Paul St
Kelowna, BC V1Y 2E1
778-313-1014

# APPENDIX A: CAPACITY ANALYSIS REPORTS

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 114 | 79 | 8 | 57 | 14 | 47 |
| Future Volume (vph) | 114 | 79 | 8 | 57 | 14 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.994 | 0.950 | |
| Satd. Flow (prot) | 1545 | 1495 | 0 | 1492 | 1787 | 1524 |
| Flt Permitted | | | | 0.994 | 0.950 | |
| Satd. Flow (perm) | 1545 | 1495 | 0 | 1492 | 1787 | 1524 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 23% | 8% | 17% | 28% | 1% | 6% |
| Adj. Flow (vph) | 124 | 86 | 9 | 62 | 15 | 51 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 124 | 86 | 0 | 71 | 15 | 51 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 19.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 81 | 65 | 12 | 129 | 145 | 12 |
| Future Volume (vph) | 81 | 65 | 12 | 129 | 145 | 12 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (m) | | 60.0 | 0.0 | | 40.0 | 0.0 |
| Storage Lanes | | 1 | 0 | | 1 | 1 |
| Taper Length (m) | | | 7.5 | | 7.5 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | 0.850 | | | | 0.850 |
| Flt Protected | | | | 0.996 | 0.950 | |
| Satd. Flow (prot) | 1652 | 1568 | 0 | 1702 | 1770 | 1429 |
| Flt Permitted | | | | 0.996 | 0.950 | |
| Satd. Flow (perm) | 1652 | 1568 | 0 | 1702 | 1770 | 1429 |
| Link Speed (k/h) | 50 | | | 50 | 50 | |
| Link Distance (m) | 199.6 | | | 199.8 | 158.6 | |
| Travel Time (s) | 14.4 | | | 14.4 | 11.4 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Heavy Vehicles (%) | 15% | 3% | 13% | 11% | 2% | 13% |
| Adj. Flow (vph) | 88 | 71 | 13 | 140 | 158 | 13 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 88 | 71 | 0 | 153 | 158 | 13 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Right | Left | Left | Left | Right |
| Median Width(m) | 0.0 | | | 0.0 | 3.6 | |
| Link Offset(m) | 0.0 | | | 0.0 | 0.0 | |
| Crosswalk Width(m) | 4.8 | | | 4.8 | 4.8 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (k/h) | | 15 | 25 | | 25 | 15 |
| Sign Control | Free | | | Free | Stop | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Control Type: Unsignalized | | | |
| Intersection Capacity Utilization | 28.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

# MOVEMENT SUMMARY

## Site: 101 [Rocky Creek - AM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Ludlow Road | | | | | | | | | | | | |
| 3 | L2 | 15 | 3.0 | 0.056 | 3.5 | LOS A | 0.2 | 1.8 | 0.26 | 0.13 | 0.26 | 57.3 |
| 18 | R2 | 51 | 3.0 | 0.056 | 3.5 | LOS A | 0.2 | 1.8 | 0.26 | 0.13 | 0.26 | 55.5 |
| Approach | | 66 | 3.0 | 0.056 | 3.5 | LOS A | 0.2 | 1.8 | 0.26 | 0.13 | 0.26 | 55.9 |
| East: Rocky Creek Road | | | | | | | | | | | | |
| 1 | L2 | 9 | 3.0 | 0.054 | 3.2 | LOS A | 0.2 | 1.8 | 0.08 | 0.02 | 0.08 | 58.3 |
| 6 | T1 | 62 | 3.0 | 0.054 | 3.2 | LOS A | 0.2 | 1.8 | 0.08 | 0.02 | 0.08 | 58.2 |
| Approach | | 71 | 3.0 | 0.054 | 3.2 | LOS A | 0.2 | 1.8 | 0.08 | 0.02 | 0.08 | 58.2 |
| West: Rocky Creek Road | | | | | | | | | | | | |
| 2 | T1 | 124 | 3.0 | 0.158 | 4.0 | LOS A | 0.8 | 5.9 | 0.06 | 0.01 | 0.06 | 58.0 |
| 12 | R2 | 86 | 3.0 | 0.158 | 4.0 | LOS A | 0.8 | 5.9 | 0.06 | 0.01 | 0.06 | 56.3 |
| Approach | | 210 | 3.0 | 0.158 | 4.0 | LOS A | 0.8 | 5.9 | 0.06 | 0.01 | 0.06 | 57.3 |
| All Vehicles | | 347 | 3.0 | 0.158 | 3.7 | LOS A | 0.8 | 5.9 | 0.10 | 0.04 | 0.10 | 57.2 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# MOVEMENT SUMMARY

## Site: 101 [Rocky Creek - PM]

New Site
Site Category: (None)
Roundabout

| Movement Performance - Vehicles | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mov ID | Turn | Demand Flows Total veh/h | HV % | Deg. Satn v/c | Average Delay sec | Level of Service | 95% Back of Queue Vehicles veh | Distance m | Prop. Queued | Effective Stop Rate | Aver. No. Cycles | Average Speed km/h |
| South: Ludlow Road | | | | | | | | | | | | |
| 3 | L2 | 158 | 3.0 | 0.140 | 4.1 | LOS A | 0.6 | 5.0 | 0.24 | 0.11 | 0.24 | 53.7 |
| 18 | R2 | 13 | 3.0 | 0.140 | 4.1 | LOS A | 0.6 | 5.0 | 0.24 | 0.11 | 0.24 | 52.2 |
| Approach | | 171 | 3.0 | 0.140 | 4.1 | LOS A | 0.6 | 5.0 | 0.24 | 0.11 | 0.24 | 53.6 |
| East: Rocky Creek Road | | | | | | | | | | | | |
| 1 | L2 | 13 | 3.0 | 0.135 | 4.3 | LOS A | 0.6 | 4.7 | 0.32 | 0.19 | 0.32 | 57.4 |
| 6 | T1 | 140 | 3.0 | 0.135 | 4.3 | LOS A | 0.6 | 4.7 | 0.32 | 0.19 | 0.32 | 57.3 |
| Approach | | 153 | 3.0 | 0.135 | 4.3 | LOS A | 0.6 | 4.7 | 0.32 | 0.19 | 0.32 | 57.3 |
| West: Rocky Creek Road | | | | | | | | | | | | |
| 2 | T1 | 88 | 3.0 | 0.120 | 3.7 | LOS A | 0.6 | 4.3 | 0.08 | 0.02 | 0.08 | 58.3 |
| 12 | R2 | 71 | 3.0 | 0.120 | 3.7 | LOS A | 0.6 | 4.3 | 0.08 | 0.02 | 0.08 | 56.6 |
| Approach | | 159 | 3.0 | 0.120 | 3.7 | LOS A | 0.6 | 4.3 | 0.08 | 0.02 | 0.08 | 57.5 |
| All Vehicles | | 483 | 3.0 | 0.140 | 4.1 | LOS A | 0.6 | 5.0 | 0.21 | 0.10 | 0.21 | 56.0 |

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

# Relative Density of Proposed Development at 1301/1391 Rocky Creek Road

The following table provides a comparison between the proposed development and other multi-dwelling residential zones and developments in Ladysmith.

**Multiple-Dwelling Residential Zones in Ladysmith**

| Zone | Permitted Density | Maximum Height | Context |
|---|---|---|---|
| Multi-Family Mixed Use (R-4) | 100-180 units per hectare with amenities | 19.0m | Near Downtown (Dalby's). |
| **Proposed for subject property** | **130 units per hectare** | **21.0m** | **Adjacent to northern boundary of Town of Ladysmith.** |
| Downtown Commercial (C-2) | 75 units per hectare | 12.0m | Downtown. |
| Medium Density Residential (R-3) | 60 units per hectare | 12.0m | Near Downtown, with a few exceptions.[1] |
| Low Density Residential (R-3-A) | 37 units per hectare | 10.0m | Peripheral areas including at the very boundaries of Town – most recently a portion of the rezoning at 670 Farrell Road/Lot 20 TCH. |

**Specific Multiple-Dwelling Residential Developments in Ladysmith with Density Greater than 60 Units Per Hectare (based on a review of site specific zoning provisions)[2]**

| Address | Permitted Density | Maximum Height | Details | Proximity to Downtown Core (distance "as the crow flies" as measured using ArcGIS online mapping) |
|---|---|---|---|---|
| 201-203 Dogwood "Dalby's" | 180 units per hectare (with amenity bonus) | 19.0m | R-4 zone, a 25 unit building is proposed | 325m from the Downtown Core. |

[1] 303 Chemainus is approximately 1.7km from the Downtown Core and is currently used as a single-detached dwelling. Several properties on Malone Road are within the R-3 zone, the furthest is approximately 1.1km from the downtown, these properties all contain townhomes the density ranges from approximately 17 to 40 units per hectare.

[2] Note the "Westmark" building (94 units, four storeys) located on Rollie Rose Drive is not included in this list. It is within the R-3-A zone which permits a maximum of 37 units per hectare.

| Address | Permitted Density | Maximum Height | Details | Proximity to Downtown Core (distance "as the crow flies" as measured using ArcGIS online mapping) |
|---|---|---|---|---|
| 314 Buller Street (LRCA) | 180 units per hectare | 12.5m | CD-5 zone, a 36 unit affordable housing building (LRCA) | 160m from the Downtown Core. |
| **Proposed for subject property** | **130 units per hectare** | **21.0m** | **R-3 zone, 7 buildings 24-30 units each (total 168-210 units)** | **950m from the Downtown Core.** |
| "The Jewel" Transfer Beach Boulevard | 115 units per hectare | 18.0m | R-3 zone, will allow approximately 220 units. | 165m from the Downtown Core. |
| 8 White Street | 115 units per hectare | 12.0m | R-3 zone, 15 unit building | 65m from the Downtown Core |
| 109 and 17 Buller Street | 93 units per hectare | 12.0m | R-3 zone, currently two single dwellings | Within the Downtown Core. |
| 336 Belaire Street "Jailhouse" | 78.5 units per hectare (with amenity bonus) | 14.5m | CD-6 zone, commercial main storey with 12 dwelling units above | 305m from the Downtown Core. |
| 9 White Street | 76 units per hectare | 12.0m | R-3 zone, 11 unit building | 125m from the Downtown Core. |
| 340 2nd Avenue | 69 units per hectare (with amenity bonus) | 10.4m | R-3 zone, 5 unit townhouse building | 30m from the Downtown Core. |

Meeting Summary

# Neighbourhood Information Meetings; 2021-July-07 and 2021-September-01

## 1301/1391 Rocky Creek Road, Ladysmith

## Proposed OCP Amendment and Rezoning

On 2021-July-07 and 2021-September-01 Neighbourhood Information Meetings (NIM) were held on site from 4.00 to 6.00 PM. Both meetings were advertised via a mail out of an information bulletin to the eight property owners who live within 60 m of the subject property. Also the 2021-September-01 meeting was advertised in the Ladysmith Chronicle 2021-August-19 (copy attached).

Sign in sheets, feedback forms, information bulletin, site plans and consultants reports were available at the meetings. To address any safety concerns, masks and hand sanitizer were available at both meetings.

In addition to the NIM, the information bulletin noted that if attendance at the NIM was not possible, neighbours could send written responses to the owners representative regarding the proposed OCP amendment and rezoning. Also it was noted in the information bulletin for the 2021-July-07 meeting that a zoom call would be scheduled for 2021-July-08 from 4:30 to 5:30. No one requested to participate in the zoom call, however a number of area residents forwarded written responses, as noted below.

### 2021-July-07 Neighbourhood Information Meeting

A total of 13 people attended this meeting, of which nine people listed their name on the sign in sheet (copy attached). After the meeting, nine written responses were received (feedback copies attached). A number of the meeting participants requested information regarding the proposed development, density, traffic, height of buildings, proposed housing types and servicing available to the property. Also, a number of people asked about the OCP and rezoning processes

for this project, where they could direct feedback and when a public hearing would be scheduled.

**2021-September-01 Neighbourhood Information Meeting**

A total of seven people attended this meeting, of which five people listed their name on the sign in sheet (copy attached). Five of the people who attended this meeting also attended the previous meeting on 2021-July-07. No written responses were received following this meeting. The meeting participants raised a number of points, including impact of the development on neighbours to the north, height of buildings, density, parking, traffic, fencing and protection of the waterfront.

The meeting was hosted by Toby Seward, Seward Developments Inc, who represents the owners of the project.

# Stock the Lockers raising money in time for back-to-school in SD68

Karl Yu
Black Press

Nanaimo-Ladysmith Schools Foundation's Stock the Lockers campaign is on until Aug. 31. Pictured here are Crystal Dennison, foundation executive director, and John Eivindson, assistant manager of Coastal Community Credit Union's Labieux Road location in Nanaimo. (Karl Yu/News Bulletin)

With children across Nanaimo-Ladysmith district expected to be returning to educational normalcy in September, a campaign to raise money for students suffering from poverty has begun.

Nanaimo-Ladysmith Schools Foundation's Stock the Lockers campaign runs until Aug. 31. Crystal Dennison, foundation executive director, said last year's campaign was affected by COVID-19, and not as much money was raised. The goal for this year is $50,000.

Money raised goes toward supplies, meal and student support programs and other school expenses. A number of students learned via distance education last year and it is anticipated many will return to bricks-and-mortar schools in September, something the foundation is preparing for. Dennison said it is looking at steady or increasing numbers of students requiring school supply support or support from the foundation's student support fund.

"It's a continual thing, whether there's COVID or not, we have a number of students who are requiring support," said Dennison. "Whether it's with the basics of their school supplies and runners, emergency medical and dental, glasses and grad fees, all of those things, we continue to see that need exists and that's something that needs to happen year-over-year. There isn't really any major positive shift where we're seeing less need from students in our district."

While fundraising events throughout the year couldn't be held due to health restrictions, Dennison did say there was a positive coming out of the pandemic.

"We did receive some support from COVID relief funding, which was very specific to our Food4Schools program," said Dennison. "We were able to purchase equipment and set up a food depot, which is now allowing us to be more effective, permanently with our food program."

People can donate to Stock the Lockers at Coastal Community Credit Unions in Nanaimo and on Gabriola Island, as well as Nanaimo-area Staples and Country Grocer stores.

"One thing with Stock the Lockers is, it's an annual campaign that we really try and raise awareness regarding the work that we do," said Dennison. "The month of August this year, we're doing that, however, the need doesn't stop in September. It continues throughout the school year."

For more information, visit http://nlsf.ca.

reporter@nanaimobulletin.com



## Notice of Neighbourhood Information Meeting

Members of the public are invited to attend an information meeting regarding:
The proposed Official Community Plan (OCP) amendment and rezoning of 1301 and 1391 Rocky Creek Road, Ladysmith

The proposed OCP amendment and rezoning would allow for the site to be developed with a mixture of single-family dwellings, town houses and condominium buildings. The meeting will be held;

**Date:** Wednesday, 2021-September-01

**Time:** 4.00 - 6.00 PM

**Location:** On Site at 1301/1391 Rocky Creek Road

For further information regarding the proposed OCP amendment and rezoning, please contact: Toby Seward, Seward Developments Inc, email: toby.seward@shaw.ca or at 250-713-6595

**Neighbourhood Information Meeting July 7, 2021**

**1301/1391 Rocky Creek Road, Ladysmith**

**Participant Sign in Sheet**

| Name | Address | Email/Telephone No. |
|---|---|---|
| Rosa Sorgiovanni | 12375 - Rocky Creek Rd. | |
| Bob & April Robinson | 12385 Rocky Creek Rd | |
| P. & S. Leandre. | 4911 Harbourview Rd. | |
| J. Ford | 4910 Harbourview Rd | |
| A. Iransen | 4931 HARBOURVIEW RD. | |
| S. Gilligan | 137B Methuen ct. | |
| JOHN MULLIN | 4930 HARBOUR VIEW | |
| John Plecas | 5054 Jones Rd | |

**Neighbourhood Information Meeting September 01, 2021**

**1301/1391 Rocky Creek Road, Ladysmith**

**Participant Sign in Sheet**

| Name | Address | Email/Telephone No. |
|---|---|---|
| SANTO Sorgiovanni | 12375 Rocky Creek | |
| (FORD) | 4910 HARBOUR VIEW | |
| JOHN MULLIN | 4930 HARBOUR VIEW | |
| April & BOB ROBINSON | 12385 Rocky Creek Rd | |

To whom it may concern

I am the owner of a 1.4-acre property at 12375 Rocky Creek Road. It has come to my attention, via my neighbour, that the owners of the 11.6-acre parcel 1301/1391 Rocky Creek Road next to my property are seeking a rezoning permit that will take it from a single-family dwelling to a multi-family dwelling. From what I understand they intend to build some multi-story complexes totalling up to 200 units, just a few feet away from my fence. My neighbours also informed me that I have until the 14th July to express my concerns.

Firstly, I am bewildered that as one of the only properties that will be directly impacted by such a development, I was never formally informed nor consulted. Can you please explain how and why this occurred? I am equally surprised that myself and the others in the neighbourhood have only been given a week to voice our concerns. This seems odd and not in -line with previous experiences dealing with the town of Ladysmith.

**The new development**

I would like to begin by saying that I am in favour of development in our community, and I hope we can create a solution that will enable the growth of the area, whilst keeping the country-style community and precious natural habitats that have been intact for the last 100 years.

**My concerns**

**Aesthetics, Privacy and Property value**

Being the only complex of its kind in the area, the location of the multi-story unit complexes will drastically change the landscape of the neighbourhood. Not only will this look jarring next to country-style, single-family homes and gardens, due the proximity, the balconies/windows of the proposed 6 story complexes will directly overlook my property mere feet away.

This loss of privacy is immense and not to be devalued. It will not only invade my privacy, I am afraid it will devalue the property. I imagine it will be difficult for someone to purchase a country-style home that is overlooked by tall condos. It will also change our view from the beautiful natural environment to tall structures.

We purchased this land and built our forever home knowing that the parcel beside us 1391 Rocky Creek Road is zoned RU1. Zoning showed that this area had been designated for single-family dwellings for the last century and we are surprised of the extreme change, and question the speed at which this rezoning is being rushed through.

Again, I am not against development, but the drastic difference between my property and the proposed complex on my fence-line feels irrational. A more gradual development of the site where double-family dwellings are build next to single family dwellings and work up to the multi-story properties closer to the industrial side of the land, seems more reasonable.

**Traffic**

The new complex will increase the traffic immensely, possibly introducing 200-400 new cars to Rocky Creek Road, a road that was never designed for that volume. For me personally, I already struggle to exit my driveway, due to the overgrown vegetation, with the added traffic it will make exiting my property safely, nearly impossible.

**Water Consumption**

The neighbourhood is already restricted with our water supply. A complex like this will be incredibly taxing on the Ladysmith watershed. Can you please explain what the proposed action for this will be? I imagine it will impact all of us greatly. How will you manage the increase demand to the water supply in an already limited area?

**Large trees**

The area for the proposed complex is host to many 100–200-year-old trees. Aside from the impact on nature in our ever-increasing climate crisis, the trees are already at risk of toppling onto my home due to the current windstorms. The proposal is that they remove some and leave some, I am afraid that with the trees being more sparse, it will increase the likelihood of them toppling over onto my home.

**Impact on the community**

Finally, my main concern is the impact on our community. With the increased number of families, in a relatively isolated area, I am afraid that our local crime rate will increase. This is the type of complex that is better suited to central Ladysmith. Placed in our more remote area, it could invite criminal activity or nuisance behaviours in what is currently a safe, quiet and tight-knit neighbourhood.

As mentioned, the speed of this re-zoning is alarming. It could set a precedent that will impact Ladysmith and surrounding areas. Turning the area from a wonderful place to live that has balanced nature, community and growth, to one that favours growth and money above all else. The risk is that our communities will be destroyed for future generations.

Please consider our concerns before granting a zoning change for 1301/1391 Rocky Creek Road. We welcome the opportunity to discuss the above in person, along with other members of our community, so that we can come to a mutually beneficial agreement.

Kind regards,
Santo Sorgiovanni

**From:** **april robinson**
**Subject:** Rocky Creek Rd development plan
**Date:** July 14, 2021 at 4:51 PM
**To:** toby.seward

Thank you for your presentation July 7.2021. It was very little notice ,only 5 days. And then expecting replies in 7 days.
I have not received the list of residents , the town asked you to notify as you said you would at meeting.
My primary concerns are:
Safety on Rocky Creek Rd
Already a hazard with vehicles parked on west side and more on east side shoulder.

The transportation impact statement done March 3, 2020 is misleading at best. Done in slow season for marina and tourist season. At this time traffic is busy with boaters going to marina and Fisherman's wharf.
It does not address shift workers racing to and from mill.
It does not address the new mall development at Lucile and Rocky Creek Rd. Or the many more businesses and residences along west side of Rocky Creek rd., including the marijuana operation.
It does not address that Rocky Creek Rd is the only alternate route available when highway is closed which happens at least twice a year.
Also it doesn't account for trips as families drive kids to school and other activities . 250
Homes will have children assuming these are permanent family homes.
There are no parks or green spaces for families, which is strange as development is located in an industrial area, the mill, marina, lot for building boat houses and multiple industries immediately across the road.
It is also unknown how many residential stories are above the commercial spaces.

OCP with most recent revisions , March 15;2021 allows 4 stories for condo towers. Why should the developer even be allowed to change the OCP and infringe on neighbours . Who have followed the rules and maintained their properties.
Also there is confusion about the number of condo towers. On the plan presented there are 6 lots in yellow along north boundary labelled as A multi family residential . You stated these should be labelled D single family. This is a serious misrepresentation as these same drawings were used by different agencies doing their reports. It is a huge concern to residents north of development.

Parking:
There does not appear to be enough onsite parking. Multi residential homes are known to have multiple vehicles. We know they will be parking on Rocky Creek rd. Further aggravating an already unsafe situation.

The waterfront . There is no mention of preserving fish habitat, otters den, quail, eagles, herons, deer and other wildlife. It is unclear how the bank will be protected from erosion.

I hope the developers will give consideration to our legitimate concerns as we will be

neighbours for many years.

April and Bob Robinson
12385 Rocky Creek Rd.
Ladysmith, BC

Sent from my iPad

RECEIVED
JUL 23 2021

12395 Rocky Creek Rd
Ladysmith, BC

July 22, 2021

Christina Hovey
Planner
Town of Ladysmith
re Rocky Creek Development Rezoning.

Christina

Enclosed are two letters sent to Toby Steward following the July 7th neighbourhood meeting. As addressed in these letters (emails) are concerns are.

1. Six Storey condominiums contravene OCP of 4 storeys. Does fire dept. have equipment for this.
2. Traffic congestion on Rocky Creek Rd is already an issue. The traffic impact statement is inaccurate and does not address the new mine, Marijuana business and further business since May 3, 2020. Now to add 250 300 homes and businesses.
3. This is too aggresive a development in between industrial zoning, marine zoning and rural residential.
4. There is much confusion about areas labelled A on plan but colour coded single family residential.

Thank you for your consideration

April Robinson

From: John Mullin
Subject: Concerns regarding 1301/1391 Rocky Creek Road Project
Date: Jul 14, 2021 at 3:10:35 PM
To: toby.seward

Hello Toby

My name is John Mullin. I live at 4930 Harbour View Road. I met you at the on-site meeting.

I have a few concerns.

1. I'm very concerned about the plan having multi residential buildings along the North property line as the existing established neighborhood is entirely single level, single family homes. You have single family homes in the project. Is it not possible to have the single family homes, or even townhouses, along the North side just not 6 floor, 60 foot plus high buildings? The existing plan would have a completely unnecessary, very negative impact on our neighborhood.

2. I can foresee possible serious parking issues. Ive lived in condos that only have one parking space per unit. They always end up with dozens of owners second cars parking throughout the neighborhood. You should supply sufficient parking for all residential and visitor requirements as well as business customers and staff.

3. I strongly disagree with the rezoning application. If you have to go up six floors in order to make money, I would appreciate you finding an alternate location.

Please don't get the wrong impression. I am all for progress, just please show some respect and consideration for your neighbors.

Thank you for your time.

From: Art & Cheryl
Subject: 1301/1391 Rocky Creek Road Ladysmith B.C.
Date: Jul 13, 2021 at 5:33:16 PM
To: toby.seward
Cc: art & Cheryl

Traffic congestion on Rocky Creek Road is already bad at times,now you want to add another 150 t0 200 more vechicles and the new mall on the southend .along with two marinas and all the other industrial buildings and buissnesses that we already have. We are already waitng two to three lights just to go in town to Ladysmith. This is where the bottle neck will take place, also the detour when there is an accident uses Rocky Creek Road. Not very well thought out at all.
Six story buildings will have people looking right into peoples yards All of peoples privacey will be gone.
Ladysmith already has water problems now they talk about climate change and hotter summers expected. Should we be adding more people to the system I say NO

From: David Heidebrecht
Subject: 1301/1391 Rocky Creek Road Development
Date: Jul 11, 2021 at 8:49:16 PM
To: toby.seward

Hi Toby, nice to have met you on July 7.

I do have concerns over the increased traffic on Rocky Creek Road. Currently there are commercial trucks and cars that vastly exceed the speed limit. I would be supportive of any initiative like speed bumps that would reduce the traffic's speed. Many residents in the area walk Rocky Creek Road. Speed limit is 40km at the north section of Rocky Creek Road.

Please send me any updates or new information on your development.

Thanks,

David Heidebrecht
12435 Rocky Creek Road

**From:** "RACHEL MULLER"
**To:** "Toby Seward"
**Cc:** "Ladysmith Mayor and Council" <towncouncil@ladysmith.ca>
**Sent:** Monday, July 12, 2021 8:15:45 AM
**Subject:** New Neighbourhood Information Meeting Date for proposed Rocky Creek Rd. rezoning application?

Hi Toby,

I am a 25 year resident of Rocky Creek Rd, just a few blocks north of your proposed development at 1301/1391 Rocky Creek Rd. A next door neighbour of the proposed development brought over a copy of your Information Bulletin yesterday (on July 11), which she received **after** the two meetings it announces, in person on July 7 and via Zoom on July 8.

I am not opposed to the idea of development in principle, however I would like to learn more and be part of the feedback process that your information bulletin purports to seek from area residents. As area residents we **did NOT receive a notice either via mail or hand delivered in advance of these two information sessions** as your notice says we would. Given that the sessions were not advertised to neighbours as indicated, when will you be hosting the next information sessions?

Respectfully,
Rachel Muller

**From:** RACHEL MULLER
**Subject:** Re: Feedback Rocky Creek Road Development
**Date:** July 19, 2021 at 12:39 PM
**To:** toby seward

Hi Toby,

Thank you for forwarding my concerns for the new development on Rocky Creek Rd.

While I treasure the quiet, semi-rural nature of my Rocky Creek Rd. neighbourhood as it is, I am not opposed in principle to the proposed development of the former trailer park at 1301/1391 Rocky Creek Rd. I am concerned with the increased traffic, however, and the enforcement of the existing speed limits on Rocky Creek Rd. My own home at 12425 Rocky Creek Rd is one of the original houses in the neighbourhood and is now positioned only a few meters from the road. Given the nature of the road in this vicinity, the poor visibility coming around the corner from the south or climbing the hill from the north, the use of the road by pedestrians, and the frequent presence of young grandchildren visiting our own home and the house immediately next door, we petitioned for and were granted a speed limit of 40 km/hour. Currently this speed limit is not enforced, and is regularly ignored by employees of the sawmill at the end of the road and employees and customers of the commercial services on the west side of the road - especially trucks.

With a proposed 150-300 new residents in the neighbourhood, a safe speed limit will be even more important - and so I would ask that for the safety of area residents the speed limit be enforced and supported by the addition of speed bumps to the north and south of the 40 km/per hour stretch of road. My husband and I are happy to petition for this addition to whatever department or level of government necessary, but it would be extremely helpful and a show of goodwill and responsibility if the developers of this proposed project would join us in this petition.

With respect,

Rachel Dunstan Muller

12425 Rocky Creek Rd
Ladysmith, BC,

**OAK BAY MARINE GROUP**
1327 Beach Drive, Victoria, B.C., Canada V8S 2N4
Toll Free: 1-800-663-7090
Ph: 250-598-3368 Fax: 250-598-3014
info@obmg.com • www.obmg.com

August 31, 2021

Mayor Stone and Members of Council
Town of Ladysmith
410 Esplanade, PO Box 220
Ladysmith, British Columbia
V9G 1A2

Dear Mayor and Council

**Re: OCP and Rezoning Amendment located at 1301/1391 Rocky Creek Rd**

The purpose of this letter is to support the OCP and rezoning amendment application proposed by Rocky Creek Ventures for property located at 1301/1391 Rocky Creek Road.

Oak Bay Marine Group owns and operates Ladysmith Marina, the neighbouring property to the proposed development captioned above. We believe the proposed development will complement the marina activities and provide new investment and significantly revitalize this part of Town.

Ladysmith Marina has about 450 vessels in the marina. We have received feedback from our current moorage customers and potential new customers who say they would like to relocate and live next-door to the marina, where they have their boat. The ability to be able to purchase a townhouse, condominium, or detached dwelling would be very attractive them. This would not only benefit the marina but the entire Ladysmith community, with a new diverse group of residents becoming active contributors to the community including the use of the commercial services in downtown Ladysmith as well as through a new taxation base for the Town.

We believe that the proposed development will make a positive impact on the community and complement our future plans for improvements to the marina and fully support the OCP and rezoning amendment requested.

Best regards,
Oak Bay Marine Group

Brook Castelsky
Chief Executive Office

Cc. Rocky Creek Ventures

**Received September 7, 2021**

**Within Circulation Area**

On Sep 7, 2021, at 12:03 PM, april robinson wrote:
>
> Toby
> Than you for updated plan showing the 7 lots along north perimeter as single family homes, as discussed at neighbourhood meeting.
>
> Recognizing the town of Ladysmith will benefit from this development
> ,as discussed yesterday, here is a summary of rural neighbours concerns:
>
> 1. 6 storey Condos too invasive and contravene the OCP both over 4 storeys and not respecting bylaw 1891 DPA4, insuring that multi residential developments integrate with existing residential neighbourhoods. Also concerns about local fire departments ability to respond to fires as neighbouring properties are treed and department does not have ladders to go up 6 storeys.
>
> 2. Requesting a good quality high fence be installed along full length of north boundary when development started.
> Immediately adjoining neighbours would appreciate being notified as this starts.
> This is for safety, noise and dust and debris reduction.
>
> 3. Increased traffic on Rocky Creek Rd is already a hazard at times, due to multiple vehicles parking on side of road, especially big trucks. The bylaw of 2 parking spaces per unit must be maintained. Please no variance request.
> And please accommodate onsite parking for construction crews.
> The Traffic Advisory Report has many deficiencies. Done In March
> before boating season has increased traffic to marina, peak times do
> not address mill workers racing to and from work. It also does not
> address the new mall at corner of Ludlow and Rocky Creek as well as
> multiple new businesses on industrial lots , including marijuana
> operation ‘
>
> April Robinson

Information Bulletin 2021 – June – 28

# 1301/1391 Rocky Creek Road, Ladysmith

## Information Meetings Regarding Proposed OCP Amendment and Rezoning

**Background** - The property at 1301/1391 Rocky Creek Road totals 11.6 acres, is vacant and is currently zoned Rural Residential (RU-1) and Single Dwelling Residential, Small Lot (R-1-B). The owners have made application to the Town of Ladysmith to amend the Official Community Plan (OCP) and rezone the property to allow a mixture of single-family dwellings, town houses and condominiums, which may include some commercial uses on the ground floor. The current OCP designation is single-family residential and it is proposed to change the OCP designation to multi- family residential.

The OCP amendment and rezoning will be considered by the Town of Ladysmith during the summer and fall of 2021. Providing the amendments are approved, a further application is planned to subdivide the property, to allow for building construction to proceed in phases starting in 2023.

**Information Meetings –** As part of OCP and rezoning process, the owners are holding information meetings to seek feedback from neighbourhood residents and businesses regarding the proposed development. Given the safety restrictions relating to COVID-19, three different processes are planned, including;

-A Neighbourhood Information Meeting will be held Wednesday, 2021-July-07 from 4.00-6.00 PM, outdoors, at the property frontage on Rocky Creek Road

-A zoom meeting will be held online Thursday, 2021-July-08 from 4.30-5.30 PM (area residents and businesses can sign up for the zoom meeting by forwarding their email address to the contact noted below)

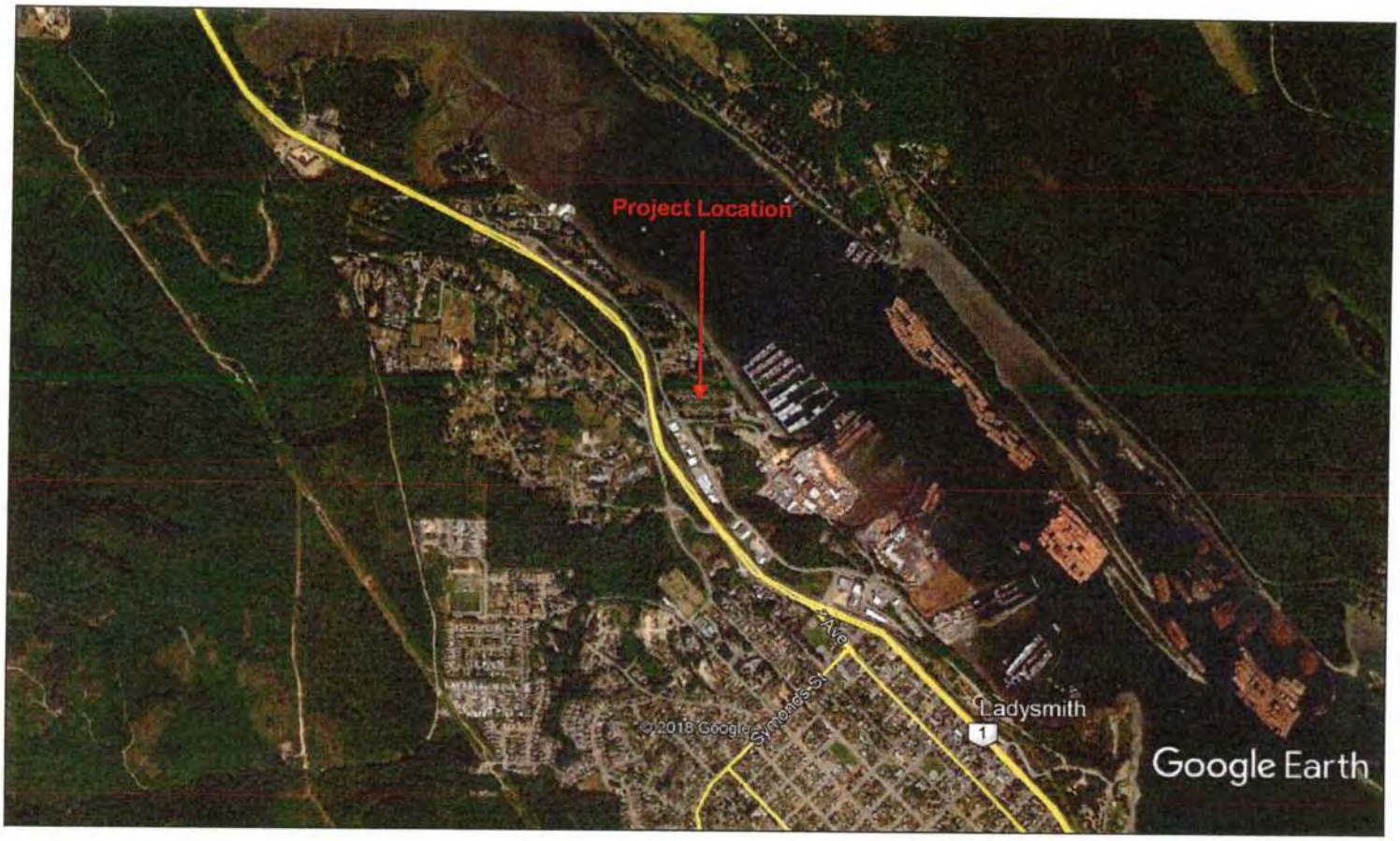
-Notices will be mailed out or hand delivered to area residents and businesses, who can provide input by email or telephone to the contact noted below

If you wish to receive further information regarding the proposed future use of the property, please telephone or email the contact noted below.

**Neighbourhood Feedback –** Included with the information bulletin is a map of the property location and a neighbourhood feedback sheet, if you wish to provide comments regarding the proposed amendments. Please email or mail feedback sheets to the addresses noted below, by 2021-July-14.

**Contact\Questions** – If you have any questions or require further information, please contact the owner's representative, Toby Seward, who is available to provide information to area residents throughout the OCP and rezoning processes. Please contact Toby by email at toby.seward@shaw.ca or by telephone at 250-713-6595. Mailing address for feedback sheets is 1820 Argyle Ave, Nanaimo, BC, V9S 3K7.

Figure 1. Site Location Map
1301 & 1391 Rocky Creek Road, Ladysmith, BC




Neighbourhood Information Meeting: July 07, 2021`
1301/1391 Rocky Creek Road, Ladysmith, Feedback Form

Please provide your comments regarding the proposed OCP amendment and rezoning at the above noted address. Please email or mail your comments by July 14, to the following addresses: email toby.seward@shaw.ca or mail to Toby Seward, 1820 Argyle Ave, Nanaimo, BC, V9S 3K7.

Contact Information (optional)

Name

Address

Phone Number/Email Address

# MINUTES
# Community Planning Advisory Committee
**Wednesday, October 6, 2021 at 7:00 p.m.**
**Council Chambers, City Hall**

---

**PRESENT:** Chair – Jason Harrison; Members – Brian Childs, Abbas Farahbakhsh, Jason Robertson; Council Liaison – Tricia McKay; Senior Planner & Recorder – Christina Hovey; Planner – Julie Thompson

**ABSENT:** Members – Jennifer Sibbald, Steve Frankel, Tamara Hutchinson

**GUESTS:** Applicant – Darren Isaac (3360-21-03 & 3060-21-16); and
Applicants – Toby Seward and Mike Crucil (3360-20-10)

---

**The meeting was called to order at 7:06pm, acknowledging with gratitude that Ladysmith is located on the traditional unceded territories of the Stz'uminus People.**

**1. AGENDA APPROVAL**

**It was moved, seconded and carried that the Agenda of October 6, 2021 be approved as amended.**

**2. ADOPTION OF MINUTES**

**It was moved, seconded and carried that the Minutes of September 1, 2021 be approved.**

**3. COUNCIL REFERRALS**

**a. Zoning Bylaw Amendment application 3360-21-10 and Development Permit application 3060-21-16 – 431 1st Avenue**

Staff provided a brief introduction. The builder explained the details of the proposed renovations, including information about the interior stairway. CPAC members discussed the proposed building renovations and expressed their support.

**It was moved, seconded and carried that CPAC recommend that Zoning Amendment Application 3360-21-10 and Development Permit Application 3060-21-16 for 431 1st Avenue be approved.**

**b. Official Community Plan & Zoning Bylaw Amendment application 3360-20-10 – 1301 & 1391 Rocky Creek Road**

Staff briefly introduced the proposal. The applicant provided a presentation including some background on the property and other developments they have done in the Town. The applicant described the tree preservation proposal and the proposed development. The proposed development consists of three types of residential uses and some commercial. The applicant has hosted two neighbourhood information meetings, the neighbours have expressed concerns about the proposed height of the multi-dwelling residential buildings, traffic, and tree preservation.

CPAC asked a number of questions of the applicant who provided the following additional information:

- The multi-unit buildings are proposed to contain 24-30 units each and be up to six storeys high. For the mixed-use buildings the first storey would be commercial with residential units above.
- They are required to provide 20m of public access to the waterfront.
- Anticipated tenure:
    - The single dwelling parcels would be freehold.
    - Most of the multi-family will be stratified.
    - Possibility for purpose built rental units depending on market conditions.

Staff clarified that the proposed amendment to the OCP would add the property to the Commercial and Multi-Unit Residential Development Permit Areas to address form and character.

CPAC also had a discussion and provided comments on the proposal:

- Considering the remoteness of the site, the site may be considered as a "satellite" community:
    - A neighbourhood park should be provided so families do not need to drive to access a park.
    - Concern about developing a "car oriented" community where people do not have access to services as is the case for South Ladysmith.
- Discussion on proximity of the mill. Some members felt the proposed residential uses were not appropriate given to the location. Some members noted that there are other municipalities where industrial and residential uses co-exist along the waterfront. The noise of the mill can be considered as part of the culture of a "working harbour".
- In addition to tree preservation, rain water management and landscaping will be important.

**It was moved, seconded and carried that the Community Planning Advisory Committee supports OCP and Zoning Amendment Application 3360-20-10 (1301 & 1391 Rocky Creek Road) in principle and recommends that development be subject to the following conditions:**

- **Provision of a recreational park for families.**
- **Assurance that commercial space will be provided.**
- **Assurance of a high standard of form and character.**
- **Assurance that tree preservation be maximized.**

**It was moved, seconded and carried that the Community Planning Advisory Committee requests that Council consider referring the application for 1301 & 1391 Rocky Creek Road back to CPAC at the Development Permit stage to review form and character.**

## 4. NEW BUSINESS

**a. <u>Review of updated CPAC Terms of Reference</u>**

On September 21, 2021 Council approved an amendment to the CPAC Terms of Reference which allows CPAC meetings to be held in locations other than Council Chambers with proper notice. The Town is looking into options for larger venues and electronic meetings may also be an option in specific circumstances.

**b. <u>COVID Meeting Protocols</u>**

The question was raised as to whether in-person meetings are the most appropriate option, given the ongoing risk from COVID-19 and given that CPAC is made up of volunteers. The members expressed a preference for in-person meetings if possible. Council and Town Staff are working on an amendment to the Council Procedures Bylaw which would allow for electronic meetings.

Going forward, staff will add a note to the CPAC meeting invitation asking members to reach out privately regarding their comfort with the "in-person" meeting. Staff will provide an opportunity for members to practice calling in to the meeting via teleconference prior to the next meeting.

## 5. MONTHLY BRIEFING

**File Updates:**

The following files that CPAC previously reviewed have been approved by Council:

- 670 Farrell Road & Lot 20 Trans-Canada Highway (File No. 3360-19-02)
- 630 Farrell Road (File No. 3360-20-05)

CPAC members are invited to review the Council Agendas and Minutes or contact staff for further details.

## 6. NEXT MEETING – TBD

## 7. ADJOURNMENT

**It was moved, seconded and carried that the meeting be adjourned at 8:34 pm.**

_____
Chair (J. Harrison)

**RECEIVED:**

_____
Corporate Officer (D. Smith)

# STAFF REPORT TO COUNCIL

**Report Prepared By**: Donna Smith, Manager of Corporate Services
**Reviewed By:** Allison McCarrick, Chief Administrative Officer
**Meeting Date:** February 1, 2022
**File No:**
**Re:** **Appointment of Chief Election Officer and Deputy Chief Election Officers – 2022 General Local Election**

---

## RECOMMENDATION:

That Council appoint the following individuals as officers for the Town of Ladysmith 2022 General Local Election:

- Donna Smith, Manager of Corporate Services, as Chief Election Officer;
- Sue Bouma, Administrative Coordinator, as Deputy Chief Election Officer; and
- Andrea Hainrich, Legislative Services Administrative Assistant, as Deputy Chief Election Officer.

## EXECUTIVE SUMMARY:

The *Local Government Act* (LGA) requires that local governments appoint a Chief Election Officer (CEO) and a Deputy Chief Election Officer (DCEO) to carry out the responsibilities associated with conducting general local elections. Staff are recommending the above individuals be appointed to those positions. The CEO has had previous experience as both CEO and DCEO in numerous elections; Ms. Hainrich was DCEO in the 2018 election; and Ms. Bouma has expressed a desire to learn the role of DCEO. The DCEO positions are an excellent opportunity for Corporate Services staff to expand their knowledge and gain experience.

## PREVIOUS COUNCIL DIRECTION:

| Resolution | Meeting Date | Resolution Details |
|---|---|---|
| CS 2018-036 | 02/13/2018 | That Council appoint the following election officers for the upcoming 2018 Local Government Elections:<br>• Joanna Winter, Manager of Legislative Services Chief Election Officer<br>• Donna Smith, Executive Liaison Deputy Chief Election Officer<br>• Andrea Hainrich, Legislative Services Administrative Assistant Deputy Chief Election Officer |

## INTRODUCTION/BACKGROUND:

The legislated requirement to appoint both a CEO and a DCEO is in place to ensure that if one is unable to carry out their duties the other is authorized to act in their place. The LGA also allows the CEO to appoint election officials required for the administration and conduct of an election.

In accordance with the *School Act*, the City also conducts the election of Trustees as part of the election process. A cost sharing agreement with School District No. 68 is negotiated each election to cost share some election expenses.

The roles of CEO and DCEO have traditionally been filled by the Corporate Officer and Corporate Services staff, and it is recommended that this practice continue. Preliminary preparation for the 2022 election began in 2021, with staff participating in training offered through LGMA, securing support related to ballots and voting machines, as well as reviewing new legislation and how it affects the existing election bylaw. The workload related to elections is extensive and election staff spend several hours of overtime to ensure a smooth election process. Even with the extra work, it is an excellent training ground for employees looking to expand their knowledge of Provincial legislation as well as the roles and functions of elected officials. This is also a key part of succession planning in the department to ensure that the corporate memory is retained.

**ALTERNATIVES:**

Council can choose to:

1. Appoint individuals other than those listed.
2. Direct that staff investigate the possibility of hiring an outside contractor to run the 2022 election. *Note that the available pool appears to be depleted as most contractors were booked immediately after the 2018 election.*

**FINANCIAL IMPLICATIONS:**

The election budget, including compensation for election officials and workers is included in the Financial Plan.

**LEGAL IMPLICATIONS:**

The LGA requires that local governments appoint a CEO and DCEO to carry out the responsibilities of conducting general local elections.

**CITIZEN/PUBLIC RELATIONS IMPLICATIONS:**

The CEO and DCEOs will be responsible for ensuring the public and potential candidates are aware of important dates and requirements related to the election.

**INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS:**

N/A

**ALIGNMENT WITH SUSTAINABILITY VISIONING REPORT:**

☐Complete Community Land Use
☐Green Buildings
☐Innovative Infrastructure
☐Healthy Community
☒ Not Applicable
☐ Low Impact Transportation
☐ Multi-Use Landscapes
☐ Local Food Systems
☐ Local, Diverse Economy

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

☐Infrastructure
☐Community
☐Waterfront
☐ Economy
☒ Not Applicable

***I approve the report and recommendation.***

**Allison McCarrick, Chief Administrative Officer**

# STAFF REPORT TO COUNCIL

**Report Prepared By**: Camelia Copp, Revenue Accountant
**Report Approve by:** Erin Anderson, Director of Financial Services
**Meeting Date:** February 1, 2022
**File No:** 1820-01
**RE:** **Adjustment to Water Billing Account**

---

## RECOMMENDATION:

That Council provide:

1. A full bill adjustment in the amount of $5,674.76 to billing account #000-1002252 due to a water leak; and
2. A partial bill adjustment in the amount of $3,338.23 to billing account #001-0083000 due to a water leak.

## EXECUTIVE SUMMARY:

The purpose of this staff report is to present to Council a request for a water bill adjustment due to a water leak over $3,000. Usually property owners repair leaks on their property within the 45 days. Staff are suggesting that Council authorize a full bill adjustment for one of the properties that completed the repair within 45 days and a partial bill reduction for the other property that took 62 days to complete the repair. The dollar amount of the adjustment is greater than the $3,000 authorized by the Director of Finance and requires the approval of Council to adjust the billing amount.

## PREVIOUS COUNCIL DIRECTION:

In 2017, Council amended "Waterworks Regulation Bylaw 1999, No. 1298" as follows:

> *39(3) Where any account is rendered pursuant to this section, the Director of Finance, in estimating the account, shall consider previous billing periods when such meter was registering correctly, seasonal variations, changes in occupancy, and any other factors which, in the opinion of the Director, may affect the consumption of water. The maximum adjustment amount is $3,000 per account.*

## INTRODUCTION/BACKGROUND:

Water billing adjustments due to water breaks or leaks are permitted under Bylaw No. 1298. The adjustments are calculated using the consumption during the same period in the previous year as the baseline consumption.

Property owners are to repair the leak on their property within 45 days of the high consumption notification. The notification could be in the form of a notice placed at the

property during the meter reading, a letter sent from the Town or the utility bill. Property owners can apply for one leak adjustment within a ten-year period.

Account #000-1002252 was notified by Town staff on Dec 17, 2021 of a higher than usual meter reading for the third quarter in 2021. The property owner repaired the water leak on Jan 13, 2022 within the required 45 days, and provided receipts. Town staff confirmed the leak has been repaired. The adjustment amount is for the fourth quarter of 2021 and the first quarter of 2022. There is no insurance claim at this time.

Account #001-0083000 was notified by Town staff on Sep 29, 2021 of a higher than usual meter reading for the third quarter in 2021. The property owner stated he repaired the leak in the pipe on November 30th, 62 days after he was made aware of the issue. No receipts were provided with the application and the owner advised he repaired the leak himself. Staff calculated the bill amount as if it was repaired within the 45 day limit and suggest that Council authorize the lower amount of $ 3,338.23 for adjustment; a full adjustment for the 62 days would be $3,909.64. The adjustment amount is for the third and fourth quarter of 2021. There is no insurance claim at this time.

**ALTERNATIVES:**

Council can choose to:

1. Not provide an adjustment to the water billing account.
2. Provide a full adjustment for property 001-0083000 in the amount of $3,909.64.
3. Increase the threshold amount delegated to staff.

**FINANCIAL IMPLICATIONS:**

Adjustments to water billing accounts affect the water revenues. To date in 2021, there were 56 water billing adjustments totaling over $82,500 – the largest being $11,758 and the smallest being $154 and the average being $1,473.32.

**LEGAL IMPLICATIONS:**

N/A

**CITIZEN/PUBLIC RELATIONS IMPLICATIONS:**

Citizens are encouraged to repair any water leak quickly when it is discovered. The incentive of a potential adjustment supports repairs made in a timely manner.

**INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS:**

The Public Works Utilities Department is involved in reading the meters, notifying property owners of high consumption and monitoring consumption until it returns to a normal range. Finance calculates the billing and any subsequent adjustments.

**ALIGNMENT WITH SUSTAINABILITY VISIONING REPORT:**

☐Complete Community Land Use
☐Green Buildings
☐Innovative Infrastructure
☐Healthy Community
☒ Not Applicable
☐ Low Impact Transportation
☐ Multi-Use Landscapes
☐ Local Food Systems
☐ Local, Diverse Economy

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

☐Infrastructure
☐Community
☐Waterfront
☐ Economy
☒ Not Applicable

***I approve the report and recommendation.***

**Allison McCarrick, Chief Administrative Officer**

**INFORMATION REPORT TO COUNCIL**

| | |
|---|---|
| **Report Prepared By**: | Julie Tierney, Executive Liaison |
| **Reviewed By:** | Chris Barfoot, Director of Parks, Recreation & Culture |
| **Meeting Date:** | February 1, 2022 |
| **File No:** | 5080-20 |
| **Re:** | **Poverty Reduction Task Group** |

---

**RECOMMENDATION:**

That Council receive the Poverty Reduction Task Group staff report dated February 1, 2022.

**EXECUTIVE SUMMARY:**

At its meeting held November 16, 2021, Council requested that staff provide information regarding the timeline and process required to establish a Poverty Reduction Task Group.

**PREVIOUS COUNCIL DIRECTION**

| Resolution | Meeting Date | Resolution Details |
|---|---|---|
| CS 2021-369 | 11/16/2021 | That Council:<br>1. Direct staff to prepare a report outlining the process and timeline required to establish a Poverty Reduction Task Group as recommended in the Poverty Reduction Strategy final report presented to Council on August 20, 2021. |

**INTRODUCTION/BACKGROUND:**

The Poverty Reduction Strategy identifies that a community-based Poverty Reduction Task Group be established with members comprised of: Town of Ladysmith and Stz'uminus First Nation political leaders and staff; individuals with lived experience including youth and seniors; and representatives from community organizations, service clubs, and business community.

The Poverty Reduction Strategy states that the goal of the Task Group would be to guide the implementation of the Strategy, raise awareness about issues of poverty, foster innovative partnerships to implement actions, champion involvement in implementing community actions, and advocate for provincial and federal policy changes that address systemic causes.

The scope of work would include developing Terms of Reference for Council's approval, and will include a clear mandate, defined roles and responsibilities, and membership and reporting structure. Upon approval of the Terms of Reference, recruitment would commence.

Social Planning Cowichan have indicated they would assist with forming a Ladysmith Poverty Reduction Task Group in order to move the Strategy forward by prioritizing actions specific to Ladysmith, which may assist in acquiring additional grant funding.

Should Council decide to proceed with establishing a Task Group, it may wish to choose one of the following options:

1. Direct staff to contract with Social Planning Cowichan at a cost not to exceed $5,300 for services including establishing and facilitating a Poverty Reduction Task Group; and amend the 2022-2026 Financial Plan to include funds.
2. Direct staff to contract with Social Planning Cowichan at a cost not to exceed $5,300 for services including establishing and facilitating a Poverty Reduction Task Group, amend the 2022-2026 Financial Plan to include funds; and direct staff to apply for the UBCM Poverty Reduction Planning and Action – Stream 2 grant funding. *Note: The UBCM Poverty Reduction Plan and Action – Stream 2 grant opportunity is available until February 11, 2022. If the Town were to secure this funding, the costs associated with establishing and facilitating the Poverty Reduction Task Group, completing an implementation plan, and coordinating actions or activities within the parameters of the approved grant, would be covered.*
3. Direct staff to propose an alternate timeline and process.

**FINANCIAL IMPLICATIONS:**

No funding is allocated for a Poverty Reduction Task Group, although grant opportunities are available. If Council decides to proceed, costs may include consultant fees and grant responsibility. The cost of supporting this committee would be limited to recruitment and meeting expenses; however additional funding may be required to implement identified action items.

**LEGAL IMPLICATIONS:**

A Poverty Reduction Task Group would be considered a select committee of Council as identified in section 142 of the *Community Charter*, and at least one council member must sit on the committee.

**CITIZEN/PUBLIC RELATIONS IMPLICATIONS:**

The formulation of a Poverty Reduction Task Group was one of the initial priorities identified during the community consultation process to develop the Poverty Reduction Strategy.

**INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS:**

N/A

**ALIGNMENT WITH SUSTAINABILITY VISIONING REPORT:**

☐Complete Community Land Use
☐Green Buildings
☐Innovative Infrastructure
☒Healthy Community
☐ Not Applicable
☐ Low Impact Transportation
☐ Multi-Use Landscapes
☐ Local Food Systems
☐ Local, Diverse Economy

**ALIGNMENT WITH STRATEGIC PRIORITIES:**

☐Infrastructure
☒Community
☐Waterfront
☐ Economy
☐ Not Applicable

***I approve the report and recommendation.***
**Allison McCarrick, Chief Administrative Officer**

**BYLAW STATUS SHEET**
**February 1, 2022**

| Bylaw # | Description | Status |
|---|---|---|
| 2068 | "Official Community Plan Bylaw 2003, No. 1488, Amendment Bylaw (No. 65) 2021, No. 2068" (to designate 1130 Rocky Creek Rd. as "General Commercial" to permit a commercial plaza with drive-through coffee shop) | First and second readings, June 1, 2021. Public Hearing and third reading June 15, 2021. Conditions to be met prior to adoption. |
| 2069 | "Town of Ladysmith Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 37) 2021, No. 2069" (to rezone 1130 Rocky Creek Rd. to "Shopping Centre Commercial" to permit a commercial plaza with drive-through coffee shop) | First and second readings, June 1, 2021. Public Hearing and third reading June 15, 2021. MOTI approval received July 27, 2021. Conditions to be met prior to adoption. |
| 2076 | "Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 38) 2021, No. 2076" (to rezone 631 1st Avenue as an emergency shelter and amend minimum finished floor area) | First and second readings, December 21, 2021. Public Hearing and third reading January 11, 2022. MOTI approval required. |
| 2083 | "Park Dedication Bylaw 2022, No. 2083" (to dedicate eight previously undedicated properties as parkland and consolidate existing park dedication bylaws into a single bylaw) | First and second readings, January 11, 2022. Requires 2/3 majority approval. |
| 2085 | "Removal of Road Dedication Bylaw 2022, No. 2085" (to remove the road dedication from Queen's Park, allowing it to be formally rededicated as park) | First, second and third readings, January 11, 2022. MOTI approval required. |
| 2087 | "Official Community Plan Bylaw 2003, No. 1488, Amendment Bylaw (No. 68) 2021, No. 2087" (to change the permitted land uses at 1260 Churchill Place from single-unit residential to a mix of multi-family residential, single family residential and park) | First and second readings, October 5, 2021. Public Hearing and third reading November 2, 2021. |
| 2088 | "Town of Ladysmith Zoning Bylaw 2014, No. 1860, Amendment Bylaw (No. 44) 2021, No. 2088" (to change the permitted land uses at 1260 Churchill Place from single-unit residential to a mix of multi-family residential, single family residential and park) | First and second readings, October 5, 2021. Public Hearing and third reading November 2, 2021. MOTI approval received November 29, 2021. |

**BYLAW STATUS SHEET**
**February 1, 2022**

| | | |
|---|---|---|
| 2089 | "Housing Agreement Bylaw 2021, No. 2089" (to establish an agreement and covenant scheme related to the affordable housing unit identified for 1260 Churchill Place) | First, second and third readings, October 5, 2021. |
| 2090 | "Bylaw Revision Bylaw 2022, No. 2090" (to give the Town greater "housekeeping" abilities for all Town bylaws) | First, second and third readings, January 11, 2022. |