

The Corporation of the
CITY OF WHITE ROCK



Land Use and Planning Committee
AGENDA

Monday, December 5, 2022, 6:30 p.m.

City Hall Council Chambers

15322 Buena Vista Avenue, White Rock, BC, V4B 1Y6

***Live Streaming/Telecast:** Please note that all Committees, Task Forces, Council Meetings, and Public Hearings held in the Council Chamber are being recorded and broadcasted as well included on the City's website at: www.whiterockcity.ca
T. Arthur, Director of Corporate Administration

	Pages
1. CALL TO ORDER Councillor Lawrence, Chairperson	
2. ADOPTION OF AGENDA RECOMMENDATION THAT the Land Use and Planning Committee adopt the agenda for December 5, 2022 as circulated.	
3. ADOPTION OF MINUTES RECOMMENDATION THAT the Land Use and Planning Committee adopt the minutes of the September 20, 2022 meeting as circulated.	3
4. CONSIDERATION OF ACTIVE REZONING APPLICATIONS (JUNE TO JULY 2022) Corporate report dated December 5, 2022 from the Director of Planning and Development Services titled "Consideration of Active Rezoning Applications (June to July 2022)". RECOMMENDATION THAT the Land Use and Planning Committee recommends that Council: 1. Direct staff to advance the zoning amendment application at 15734 Thrift Avenue and proceed to the next stage in the application review process.	9

2. Direct staff to advance the zoning amendment application at 15579 Oxenham Avenue and proceed to the next stage in the application review process.

5. **CONCLUSION OF THE DECEMBER 5, 2022 LAND USE AND PLANNING COMMITTEE MEETING**



Land Use and Planning Committee

Minutes

September 20, 2022, 5:30 p.m.
City Hall Council Chambers
15322 Buena Vista Avenue, White Rock, BC, V4B 1Y6

PRESENT: Mayor Walker
Councillor Chesney
Councillor Johanson
Councillor Kristjanson
Councillor Manning
Councillor Trevelyan

STAFF: Guillermo Ferrero, Chief Administrative Officer (via electronic means)
Tracey Arthur, Director of Corporate Administration
Anne Berry, Director of Planning and Development Services
Jim Gordon, Director of Engineering and Municipal Operations
Debbie Johnstone, Deputy Corporate Officer

1. **CALL TO ORDER**

Councillor Johanson, Chairperson

The meeting was called to order at 5:30 p.m.

2. **ADOPTION OF AGENDA**

Motion Number: 2022-LU/P-20 It was MOVED and SECONDED

THAT the Land Use and Planning Committee adopt the agenda for September 20, 2022 as circulated.

Motion CARRIED (6 to 0)

3. **ADOPTION OF MINUTES**

Motion Number: 2022-LU/P-021 It was MOVED and SECONDED

THAT the Land Use and Planning Committee adopt the minutes of the June 27, 2022 meeting as circulated.

Motion CARRIED (6 to 0)

4. **ZONING BYLAW AMENDMENT AND MAJOR DEVELOPMENT PERMIT FOR 877 KENT STREET (ZON/MJP 21-011) - FIRST AND SECOND BYLAW READINGS**

Corporate report dated September 20, 2022 from the Director of Planning and Development Services titled "Zoning Bylaw Amendment and Major Development Permit for 877 Ken Street (ZON.MJP 21-011) - First and Second Bylaw Readings".

The Director of Planning and Development Services provided a PowerPoint to outline the subject application.

The following discussion points were noted:

- Parking: smaller parcel area (narrow street) concern with the number of vehicles if secondary suites are permitted (already parking concerns in the area)
The Applicant was asked about the parking and it was noted there will be two (2) car garages, and further possible parking available within the lot lines
- Would like to see no parking permitted on the street
Staff noted this would be challenging given the street is a public right of way

Motion Number: 2022-LU/P-022 It was MOVED and SECONDED

THAT the Land Use and Planning Committee recommends that Council:

1. Give first and second readings to “White Rock Zoning Bylaw, 2012, No. 2000, Amendment (RS-2 – 877 Kent Street) Bylaw, 2022, No. 2440;”
2. Direct staff to schedule the public hearing for “White Rock Zoning Bylaw, 2012, No. 2000, Amendment (RS-2 – 877 Kent Street) Bylaw, 2022, No. 2440;” and
3. Direct staff to address the following conditions prior to bringing “White Rock Zoning Bylaw, 2012, No. 2000, Amendment (RS-2 – 877 Kent Street) Bylaw, 2022, No. 2440” back for consideration of final adoption:
 - a. Ensure that all engineering requirements and issues, and the execution of a Works and Servicing Agreement, are addressed to the satisfaction of the Director of Engineering and Municipal Operations;
 - b. Provide tree protection and replacements plans prepared by a certified arborist and obtain a Tree Management Permit as required by the “White Rock Tree Protection Bylaw, 2022, No. 2407,” as amended; and
 - c. Complete the demolition of the existing dwelling to the satisfaction of the Director of Planning and Development Services.
4. Recommend that pending adoption of “White Rock Zoning Bylaw, 2012, No. 2000, Amendment (RS-2 – 877 Kent Street) Bylaw, 2020, No. 2440, Council consider issuance of Development Permit No. 446 for 877 Kent Street.

Voted in the Negative (2): Councillor Johanson, and Councillor Kristjanson

Motion CARRIED (4 to 2)

5. INITIAL REVIEW OF ACTIVE REZONING APPLICATIONS
- JANUARY TO MAY 2022

Corporate report dated September 20, 2022 from the Director of Planning and Development Services titled "Initial Review of Active Rezoning Applications - January to May, 2022".

The Director of Planning and Development Services provided an overview of a PowerPoint outlining the four (4) applications brought forward for Council feedback at their initial stage.

The following discussion points were noted in regard to 15963 Marine Drive:

- Concern with underground parking in the floodplain
Staff noted should Council wish to proceed the next step would involve referral of the application to the various agencies
- The Applicant was asked to come forward and it was inquired as to the type of commercial use they envisioned for the area
The Applicant noted office use is preferred also a possibility for a flower or ice cream shop
- Concern with the proposed loss of trees
The Applicant noted this was necessary due to the narrowness of the site - in order to achieve site coverage, however they have added a green roof and side lot
- Battery backup for larger storms (plan to mitigate for flooding)
- Concern if enough parking is being provided (street parking is a concern)
The Applicant noted the proposal takes into account a traffic study (1.5 spaces per unit required)
- Concern with density, White Rock already a dense City (9th in Canada)

The following discussion points were noted in regard to 1589 Maple Street:

- Concern with only 10% being set for affordable housing (not enough) and with a request for a break on the Community Amenity Contribution (CAC) with that noted amount for affordable housing
- Question in regard to affordable house definition within the Official Community Plan (OCP)
- Concern there is no loading zone and with higher heights due to the nearby development

- Would need more affordable units and less density
- The units, square footage does not appear to be family friendly

Motion Number: 2022-LU/P-023 It was MOVED and SECONDED

THAT the Land Use and Planning Committee recommends that Council direct staff to advance the zoning amendment application at 15931 Buena Vista Avenue to the next stage in the application review process.

Voted in the Negative (1): Councillor Johanson

Motion CARRIED (5 to 1)

Motion Number: 2022-LU/P-024 It was MOVED and SECONDED

THAT Land Use and Planning Committee recommend Council direct staff to advance the zoning amendment application at 15963 Marine Drive to the next stage in the application review process.

Voted in the Negative (4): Councillor Johanson, Councillor Kristjanson, Councillor Manning, and Councillor Trevelyan

Motion DEFEATED (2 to 4)

Motion Number: 2022-LU/P-025 It was MOVED and SECONDED

THAT the Land Use and Planning committee recommend Council direct staff to advance the zoning amendment application at 15941 Buena Vista Avenue to the next stage in the application review process.

Voted in the Negative (1): Councillor Johanson

Motion CARRIED (5 to 1)

Motion Number: 2022-LU/P-026 It was MOVED and SECONDED

THAT the Land Use and Planning Committee recommend Council advance the zoning amendment application at 1589 Maple Street to the next stage in the application review process.

Voted in the Negative (3): Councillor Johanson, Councillor Kristjanson, and Councillor Trevelyan

Motion DEFEATED (3 to 3)

Motion Number: 2022-LU/P-027 It was MOVED and SECONDED

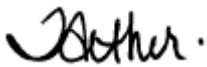
THAT the Land Use and Planning Committee recommend Council direct staff to meet with the applicant further regarding the 1589 Maple Street file.

Motion CARRIED (6 to 0)

6. **CONCLUSION OF THE SEPTEMBER 20, 2022 LAND USE AND PLANNING COMMITTEE MEETING**

The meeting was concluded at 6:43 p.m.

Councillor Johanson, Chairperson



Tracey Arthur, Director of
Corporate Administration

Unapproved

THE CORPORATION OF THE
CITY OF WHITE ROCK
CORPORATE REPORT



DATE: December 5, 2022

TO: Land Use and Planning Committee

FROM: Anne Berry, Director, Planning and Development Services

SUBJECT: Consideration of Active Rezoning Applications (June to July 2022)

RECOMMENDATIONS

THAT the Land Use and Planning Committee recommends that Council:

1. Direct staff to advance the zoning amendment application at 15734 Thrift Avenue and proceed to the next stage in the application review process.
2. Direct staff to advance the zoning amendment application at 15579 Oxenham Avenue and proceed to the next stage in the application review process.

EXECUTIVE SUMMARY

On September 28, 2020, Council gave final reading to a bylaw, which amended the City of White Rock's Planning Procedures Bylaw, 2017, No. 2234, to enable an initial review of zoning bylaw amendment ("rezoning") applications. Upon receipt of an initial review report, Council can deny the application or direct staff to continue processing the file (without committing to the proposal's ultimate approval). An initial review is to provide Council with the opportunity to comment early on the project and to help avoid significant cost and time expended by staff and the applicant preparing a rezoning application for first reading that may not have support.

If Council deems that the application meets the intent of the OCP, City bylaws and policies, it can provide comments and direct the application to the next stage in the application process. If Council deems that the application does not meet the intent of the OCP, City bylaws and policies, they may identify their concerns and send it back to staff or not support the application. If rejected, an applicant would be refunded a portion of their application fees and may consider making a subsequent application responsive to Council's concerns or continuing the current land use on the property. Alternatively, they may choose to develop within their current zoning provisions.

PREVIOUS COUNCIL DIRECTION

Motion # & Meeting Date	Motion Details
September 14, 2020 2020-443	THAT Council gives first, second, and third reading to "City of White Rock Planning Procedures Bylaw, 2017, No. 2234, Amendment (Initial Information Reports for Zoning Amendments) Bylaw, 2020, No. 2357."

September 28, 2020 2020-473	THAT Council give final reading to "City Of White Rock Planning Procedures Bylaw, 2017, No. 2234, Amendment (Initial Information Reports For Zoning Amendments) Bylaw, 2020, No. 2357."
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INTRODUCTION/BACKGROUND

The Planning Division underwent significant staff turnover in the past year, resulting in a backlog of development applications. As a result, new applications received after January 2022 were placed in a queue until the Division was suitably staffed to support the review and processing of these more recent applications. On September 20, 2022, staff presented an initial bulk report to Council covering four of the ten rezoning projects received. It was noted that the remaining six applications would be presented at an upcoming LUPC post-election.

Staff is using this initial report process to bring forward two of the six rezoning applications received between June and September 2022. One additional rezoning application was received between October and November 2022. The intent is to work through the planning backlog as efficiently as possible.

Each application presented below contains basic information about each rezoning application, including the site plan, building elevation, architectural drawings, and project statistics. Each application meets the proposed land use, density, and applicable development-related policies (e.g., family-friendly housing etc.) in the OCP. However, Council is not obligated to approve a rezoning application consistent with the OCP as Council has discretionary authority.

ACTIVE REZONING APPLICATIONS

The following section introduces basic information for the two (2) rezoning applications received between June and July 2022.

15734 Thrift Avenue – Rezoning to Allow for a Duplex

The application proposes changing the property's zoning from the RS-1 One-Unit Residential Zone to the RT-1 Two-Unit (Duplex) Residential zone. The rezoning, if approved, will enable the construction of a duplex on the property. The duplex would provide two ownership options in the City relative to a large single-family home.

Table 1.0 below includes the basic development statistics. In addition, an orthophoto (illustrating the location and context of the property), a topographic survey and site plan are included in Attachment A.

Table 1: Existing and Proposed development statistics

Zone Standard	RS-1 (Current Zone)	Standard (RT-1 Zone)	Proposal (RT-1 Zone)
Use	Detached (One-Unit Residential)	Duplex (Two-Unit Residential)	
Lot Requirements			
Lot Width (<i>min</i>)	15.0 m	18.0 m	24.2 m
Lot Depth (<i>min</i>)	27.4 m	30.5 m	37.6 m

Lot Area	464.0 m ² (<i>min</i>)	742.0 m ² (<i>min</i>)	912.6 m²
Lot Coverage (<i>max</i>)	40%	45%	45%
Height (<i>max</i>)	7.7 m	7.7 m	7.7 m
Density (<i>max</i>)	0.5 times the lot area	0.5 times the lot area	
Parking Spaces (<i>min</i>)	2 per unit residential; 1 additional for a secondary suite	2 per unit residential; 4 spaces in total (no secondary suites allowed)	
Setbacks (<i>min</i>)			
<i>Front</i>	7.5 m	7.5 m	
<i>Rear</i>	7.5 m	7.5 m	
<i>Interior Side</i>	1.5 m	1.5 m	
<i>Exterior Side</i>	7.5 m	3.8 m	
OCP Land Use Designation	Mature Neighbourhood – allows single-family homes (including secondary suites), duplexes, and triplexes, with density and height allowed per the applicable provisions in the Zoning Bylaw.		

If rezoning is approved, a duplex or triplex requires a Minor Development Permit (DP), and authority is delegated to the City Manager (Chief Administrative Officer) on the advice of the Directors of Planning and Development Services and Engineering and Municipal Operations. Duplex proposals are reviewed against the 'Mature Neighbourhood Infill' DP Area (DPA) guidelines, found in Section 22.9 of the OCP, which ensure the form and character of the development fits within the character of the neighbourhood.

15579 Oxenham Avenue – Rezoning to allow for a duplex

The application proposes changing the property's zoning from the RS-1 One-Unit Residential Zone to the RT-1 Two-Unit (Duplex) Residential zone. The rezoning, if approved, will enable the construction of a duplex on the property.

Table 2.0 below includes the basic development statistics. An orthophoto (illustrating the location and context of the property), a topographic survey and site plan are included in Attachment B.

Table 2: Existing and Proposed development statistics

Zone Standard	RS-1 (Current Zone)	Standard (RT-1 Zone)	Proposal (RT-1 Zone)
Use	Detached (One-Unit Residential)	Duplex (Two-Unit Residential)	
Lot Requirements			
Lot Width (<i>min</i>)	15.0 m	18.0 m	18.9 m
Lot Depth (<i>min</i>)	27.4 m	30.5 m	40.3 m
Lot Area	464.0 m ² (<i>min</i>)	742.0 m ² (<i>min</i>)	762.5 m²

Lot Coverage (<i>max</i>)	40%	45%	45%
Height (<i>max</i>)	7.7 m	7.7 m	7.7 m
Density (<i>max</i>)	0.5 times the lot area	0.5 times the lot area	
Parking Spaces (<i>min</i>)	2 per one unit residential; 1 additional for a secondary suite	2 per one unit residential; 4 spaces in total (no secondary suites allowed)	
Setbacks (<i>min</i>)			
<i>Front</i>	7.5 m	7.5 m	
<i>Rear</i>	7.5 m	7.5 m	
<i>Interior Side</i>	1.5 m	1.5 m	
OCP Land Use Designation	Mature Neighbourhood – allows single family homes (including secondary suites), duplexes, and triplexes, with density and height allowed per the applicable provisions in the Zoning Bylaw.		

If the rezoning is approved, Section 3 of the *White Rock Planning Procedures Bylaw, 2017, No. 2234*, provides that proposals for a duplex or triplex require a Minor Development Permit (DP), and the authority to issue such DPs is delegated to the City Manager (Chief Administrative Officer) on the advice of the Directors of Planning and Development Services and Engineering and Municipal Operations. Duplex proposals are to be reviewed against the 'Mature Neighbourhood Infill' DP Area (DPA) guidelines, found in Section 22.9 of the OCP, which are used to ensure the form and character of the development fits within the character of the neighbourhood.

FINANCIAL IMPLICATIONS

Application fees for zoning amendment applications that Council refuses would, per the recent amendments to the City's Planning Procedures Bylaw, be subject to a refund minus 10% of the original fees. This refund is intended to cover administrative costs. In addition, if a Public Information Meeting has not yet been held, a refund minus 20% for administrative costs refund would be processed.

Council's denial of any of the above-listed zoning amendment applications would therefore result in a loss of revenue; however, the time and resources otherwise dedicated to advancing the review of the applications would be allocated to other tasks.

LEGAL IMPLICATIONS

Per section 479 of the *Local Government Act*, a City's zoning bylaw may regulate the use of land and the density of the uses of land, among other regulations that apply to buildings.

Section 460 of the *Local Government Act* establishes that where a local government has adopted a zoning bylaw it must define procedures under which an owner of land may apply for an amendment to the bylaw and must consider every application for an amendment.

COMMUNICATION AND COMMUNITY ENGAGEMENT IMPLICATIONS

These projects would proceed to a Public Information Meeting (PIM) if supported. Following the PIM and circulation of the application for interdepartmental comments, a bylaw would be presented to Council for 1st and 2nd readings. These applications would be subject to a Public

Hearing, enabling additional community engagement. Notice of the PIMs and Public Hearings would be circulated to owners and occupants of properties within 100 metres of the developments.

INTERDEPARTMENTAL INVOLVEMENT/IMPLICATIONS

The initial review of rezoning applications brings such applications before the Land Use and Planning Committee (LUPC) prior to referral to internal City departments, and several external agencies (e.g., School District, RCMP, etc.).

CLIMATE CHANGE IMPLICATIONS

These implications will be determined at the complete application stage for each application.

IMPLICATIONS FOR TREE PRESERVATION AND TREE CANOPY ENHANCEMENT

The level of impact on trees will be determined at the complete application stage for each application. Staff will conduct a fulsome review of the Arborist Report and related documents at that time.

ALIGNMENT WITH STRATEGIC PRIORITIES

These development proposals are generally aligned with the Corporate Vision established as part of Council's Strategic Priorities, particularly concerning supporting a community where people can live, work, and play in an enjoyable atmosphere.

OPTIONS / RISKS / ALTERNATIVES

Alternatives to the staff recommendations include:

1. LUPC may direct the applications to proceed to the next stage in the process and give additional direction for the applicant and staff;
2. LUPC may direct staff to obtain additional project-specific information before deciding whether to advance or deny the applications;
3. LUPC may deny the application(s).

CONCLUSION

This corporate report identifies two zoning amendment applications currently active. Therefore, the Committee has an opportunity to decide on whether each application should proceed to the next step or otherwise.

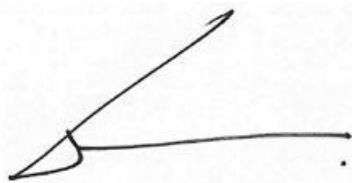
Respectfully submitted,



Anne Berry
Director, Planning and Development Services

Comments from the Chief Administrative Officer

I concur with the recommendations of this corporate report.



Guillermo Ferrero
Chief Administrative Officer

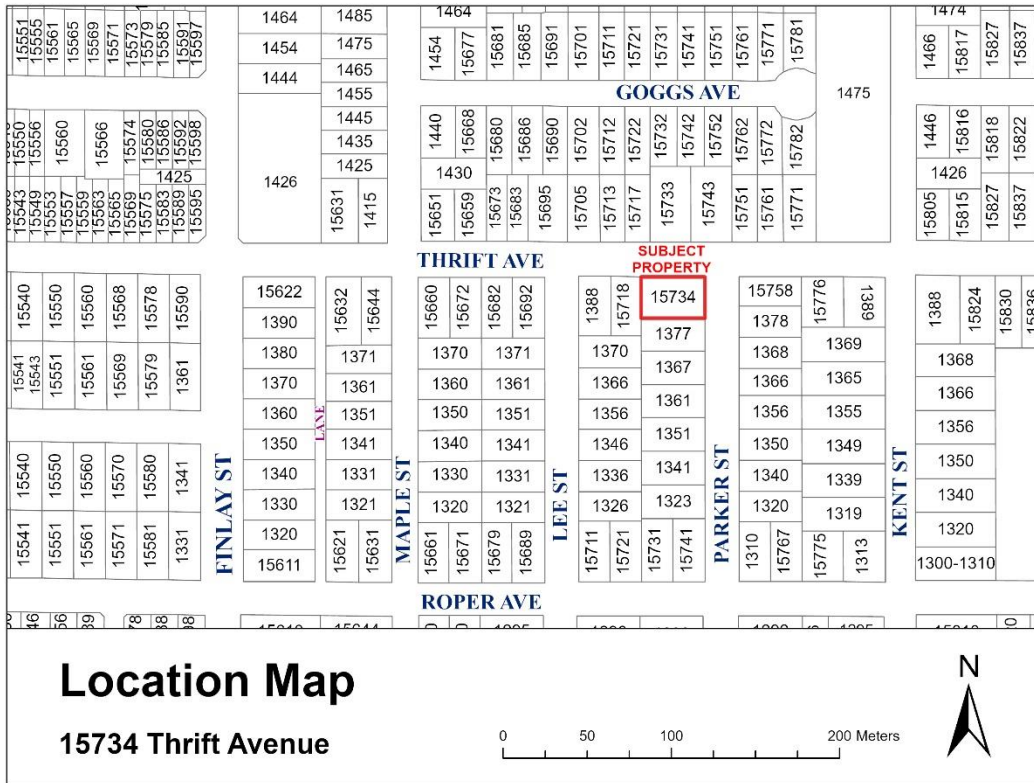
Attachment A: 15734 Thrift Avenue (22-020)
Attachment B: 15579 Oxenham Avenue (22-024)

ATTACHMENT A

15734 Thrift Avenue

(City File: 22-020)

- Location Map and Ortho Map (illustrating the location and context of the property)
- Topographic Survey
- Site Plan
- Arborist Report



TOPOGRAPHIC SURVEY PLAN OF LOT 117
SECTION 11 TOWNSHIP 1
NWD PLAN 31856

SCALE 1:250

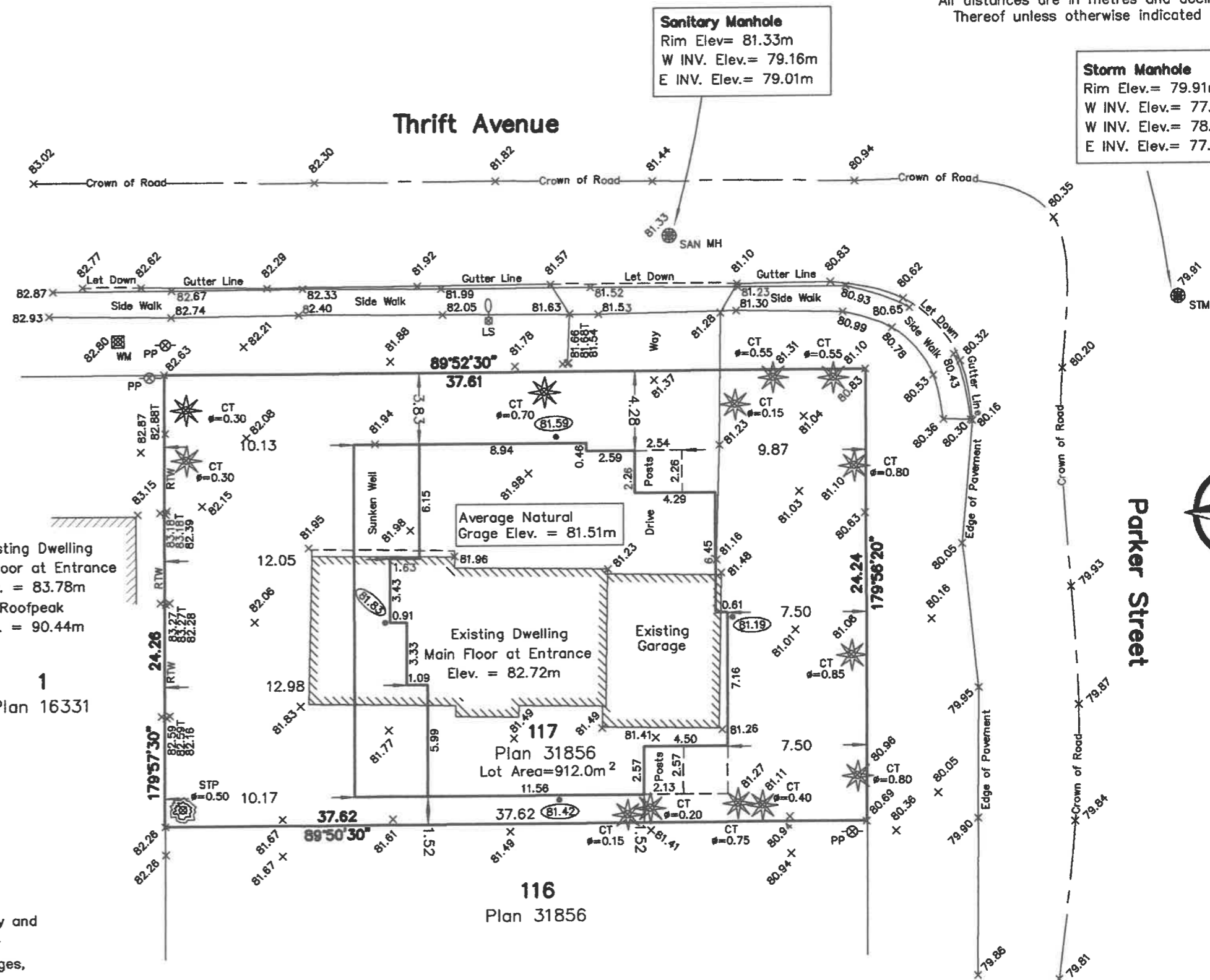


All distances are in metres and decir
Thereof unless otherwise indicated

PID: 006-637-663

Civic Address:

#15734 - Thrift Avenue
White Rock, B.C.



Sanitary Manhole
Rim Elev.= 84.81m
E INV. Elev.= 81.72m

Sanitary Manhole
Rim Elev.= 81.33m
W INV. Elev.= 79.16m
E INV. Elev.= 79.01m

Storm Manhole
Rim Elev.= 79.91m
W INV. Elev.= 77.7m
W INV. Elev.= 78.0m
E INV. Elev.= 77.0m

Storm Manhole
Rim Elev.= 84.39m
E INV. Elev.= 82.35m

Existing Dwelling
Main Floor at Entrance
Elev. = 83.78m
Roofpeak
Elev. = 90.44m

Average Natural
Grage Elev. = 81.51m

Existing Dwelling
Main Floor at Entrance
Elev. = 82.72m

Elevation Derivation

Elevations are geodetic derived
from the City of White Rock
Control Monument No. 88H3901
Datum CVD28GVRD 2018
Elevation=84.679m

Legend :

- WM Denotes water meter
- LS Denotes lamp stand
- PP Denotes power pole
- SAN MH Denotes sanitary manhole
- STM MH Denotes storm manhole
- CT Denotes coniferous tree
- x 0.00 Denotes spot elevation
- RTW Denotes retaining wall

Note :

All elevations shown are
taken at natural ground.

Lot dimensions according to field survey and
Land Title and Survey Authority records.

This plan does not show non-plan charges,
liens or interests.

This plan was prepared for inspection purposes and is
for the exclusive use of our client. This documents
shows the relative location of the surveyed structures
and features with respect to the boundaries of the
parcel described above. This document shall not be
used to define property lines or property corners.

All rights reserved.

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COMPASS LAND SURVEYING LTD.
Professional Land Surveyors

#202-8381 128th Street
Surrey, B.C. V3W 4G1
Tel: 604-503-6898
Email: Office@CompassSurveys.com
File No.: 2109047 T3

This topographic survey re-certified
this 10th day of May, 2022.
This topographic survey completed
correct this 6th day of October, 20

SHOUPENG LIU

ZONING CALCULATIONS:
15734 THRIFT AVE, WHITEROCK - Zone - RT-1

LOT AREA = 9822.04 SQFT
 ALLOWED LOT COVERAGE (45%) = 4419.91 SQFT
 PROPOSED LOT COVERAGE = 3669.10 SQFT
 ALLOWED FAR (50%) = 4911.02 SQFT
 PROPOSED FAR = 4799.39 SQFT

HOUSE - A

MAIN FLOOR AREA: 1265.40 SQFT
 UPPER FLOOR AREA: 1181.35 SQFT
 OPEN TO BELOW + STAIRS: 47.33 SQFT
 NET UPPER FLOOR: 1134.02 SQFT
 PORCH AREA: 58.92 SQFT
 COVERED DECK @ MAIN FLOOR: 249.24 SQFT
 COVERED DECK @ MAIN FLOOR: 176.44 SQFT
 UN-COVERED DECK @ UPPER FLOOR: 249.24 SQFT

MAIN FLOOR: 1265.40 SQFT
 UPPER FLOOR: 1134.02 SQFT
 TOTAL: 2399.42 SQFT

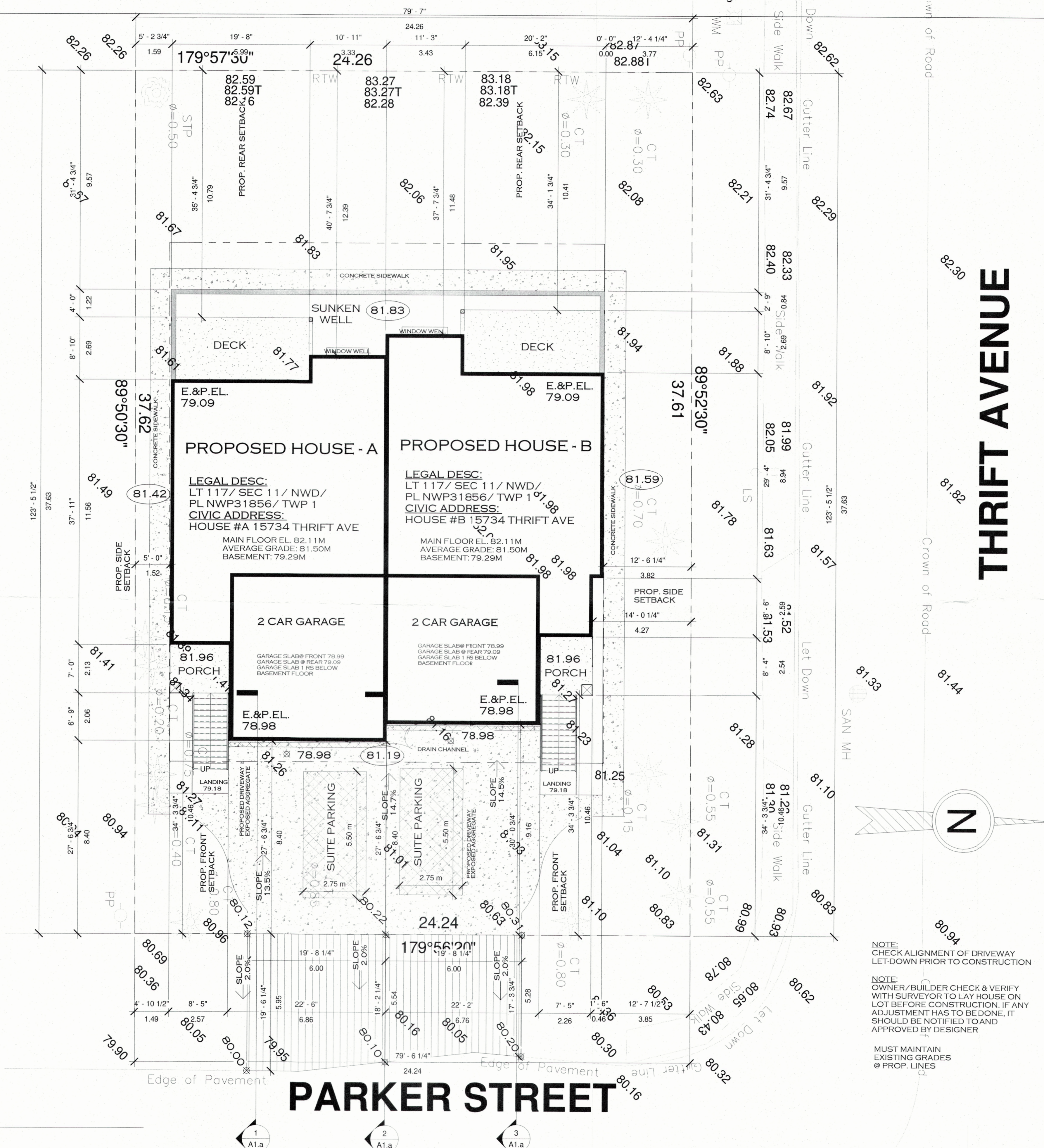
BASEMENT AREA: 996.17 SQFT
 GARAGE AREA: 516.95 SQFT

HOUSE - B

MAIN FLOOR AREA: 1256.51 SQFT
 UPPER FLOOR AREA: 1199.32 SQFT
 OPEN TO BELOW + STAIRS: 55.86 SQFT
 NET UPPER FLOOR: 1143.46 SQFT
 PORCH AREA: 61.81 SQFT
 COVERED DECK @ MAIN FLOOR: 251.86 SQFT
 COVERED DECK @ MAIN FLOOR: 179.98 SQFT
 UN-COVERED DECK @ UPPER FLOOR: 262.72 SQFT

MAIN FLOOR: 1256.51 SQFT
 UPPER FLOOR: 1143.46 SQFT
 TOTAL: 2399.97 SQFT

BASEMENT AREA: 1048.56 SQFT
 GARAGE AREA: 461.59 SQFT



1 Site Plan
1/8" = 1'-0"

THESE PLANS CONFORM TO BCBC 2018
 CONSTRUCTION SHALL FOLLOW LOCAL BUILDING BY-LAWS ALONG WITH THESE PLANS.
 CONTRACTOR MUST CONFIRM ALL DIMENSIONS PRIOR TO START OF CONSTRUCTION.
 THE DESIGNER ASSUMES NO LIABILITY FOR ANY ERRORS AND OMISSIONS IN THESE PLANS. IT IS THE BUILDER/OWNER'S RESPONSIBILITY TO REVIEW AND VERIFY THE WHOLE PLAN (i.e. ALL LEVELS, DIMENSIONS, STRUCTURAL ADEQUACIES) PRIOR TO CONSTRUCTION.
 DO NOT SCALE DRAWINGS.
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 Surrey, B.C. V3W 0A6
 Ph. 604-593-7070
 info@villadesigns.ca
 www.villadesigns.ca


CERTIFIED PASSIVE HOUSE DESIGNER


CERTIFIED PASSIVE HOUSE TRADESPERSON

G&S Const.
604-307-1145

15734 Thrift Ave
White Rock, B.C.

SITE PLAN, NOTES & CALCULATIONS

Project number	PVDL-21-INQ-KS
Project Date	14 MAY 2022
EA Plan Review Date	14 MAY 2022
Drawn by	HB

A1

Scale 1/8" = 1'-0"

6/8/2022 11:52:25 AM



**Koome Urban Forestry Ltd.
Arborist Report**

15734 Thrift Ave

White Rock, BC

V4B 2M5

Submitted to:

G&S Construction

Internal Project Code: KUF-G&S CONSTRUCTION_Thrift Ave

Original Report: June 20, 2022 – SM

Reviewed by SB

Submitted by:

koome
urban forestry INC.

305–1163 The High Street
Coquitlam, BC
V3B 7W2
604 900-8262

This report's content was performed and managed by:



Kelly Koome, Consulting Arborist
ISA Certified Arborist, PN-5962A
ISA Tree Risk Assessment Qualified
Wildlife Danger Tree Assessor, #P2546



Sarah Morin
Project Arborist Technician

Any questions or concerns as to the contents of this report please direct them to the following:

Phone: 778.885.6777 (Kelly), 604.375.0807 (Sarah)

Email: kelly.koome@koomeurbanforestry.ca, sarah.morin@koomeurbanforestry.ca

Website: www.koomeurbanforestry.ca



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1.0 Introduction

1.1 Background

Koome Urban Forestry Ltd. (KUF) was contracted by G&C Construction (604-307-1145, gsc.sidhu@gmail.com) to prepare an ISA Certified Arborist Tree Report for the property at 15734 Thrift Ave, White Rock, BC.

1.2 Assignment

KUF has been retained by the client to assess the health and condition of the tree(s) in accordance with The City of White Rock Tree Regulation and Protection Bylaw.

As part of this assessment, the KUF Ltd. has performed a site review entailing identification and visual assessment of the tree(s) on site. The report also includes off site trees which may be impacted by development based on the tree survey provided by the client or representative(s). The Project Arborist will provide recommendations for the retention or removal of tree(s) on this site based on the existing site conditions and the proposed use of the site.

The mitigation of development impact on the tree(s) has been considered as part of the tree assessment process.

1.3 Limits of the Assignment

KUF's observations were limited to one site visit on June 18, 2022. No tissue or soil samples were sent to a lab for identification or analysis. KUF located the trees using the survey provided by the client.

During winter deciduous trees are in winter dormancy and this is a limitation for assessing tree health at that time.

1.4 Testing & Analysis

KUF used visual tree assessment and mallet sounding to test the trees' health, condition and risk level.

The International Society of Arboriculture Best Management Practices (for Managing Trees During Construction, Second Edition) and ANSI A300 Standards (Part 5: Tree, Shrub and Other Woody Plant Maintenance—Standard Practices [Management of Trees and Shrubs During Site Planning, Site Development, and Construction]) were used to prepare this report.

1.5 Purpose & Use of Report

The purpose of this report is to assist the property owner in compliance with The City of White Rock Bylaw.



2.0 Site Description

2.1 Site Review

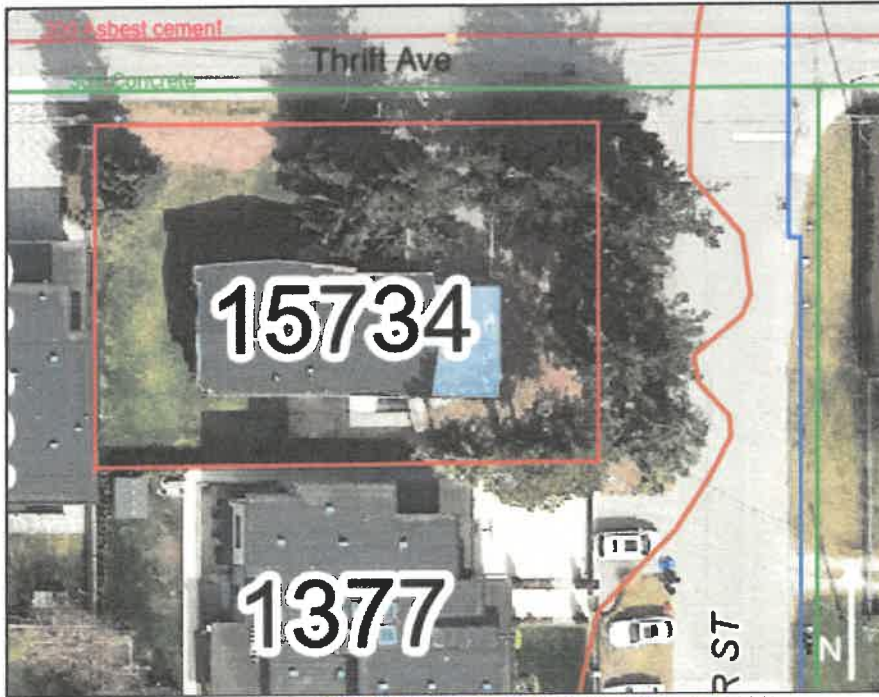


Fig. 1 – Aerial view of property (<https://cosmos.surrey.ca/external/wroms> 2022).

2.2 Proposed Site Development

The development of a new residential duplex.

2.3 Environmental Description

The property consists of a single-family home. Thrift Avenue is to the north, Parker Street is to the east. There are single family homes to the west and south.

There is no evidence of raptors nests, osprey nests or heron colonies on the site. **Removal of trees however between March 15 – August 15 (date subject to change depending on seasonal nesting behavior and therefore must be confirmed with the City) will require a bird nesting survey.** This is as prescribed by the federal Migratory Birds Convention Act (MBCA), 1994 and Section 34 of the BC Wildlife Act. It is the responsibility of the owner/developer to ensure they are in compliance with the city's regulations governing nesting birds on sites where development is occurring.

Off-site Trees – There are no private off-site trees with this project.

Municipal Trees – There are no City of White Rock trees associated with this project.

Trees Straddling the Property Line – There are no trees straddling the property line

2.4 Tree Preservation Summary

All of the trees identified on the Tree Management Plan and within the Tree Assessment Data Table have been given their Retention/Removal recommendation on a preliminary basis. Final recommendations will be based upon design/construction and grading details.

Long-term tree preservation success is dependent on minimizing the impact caused during pre-construction clearing operations, construction and post construction activities. Best efforts must be made to ensure the Tree Protection Zone remains undisturbed.

Ongoing monitoring of retained trees through the development process and implementation of mitigating works (watering, mulching, etc.) is essential for success.

3.0 Findings

3.1 Summary of Findings

- All the trees in the property are conifers (Douglas fir, Blue Spruce and Pine). Most of the trees are in good to fair health, however due to utility pruning, they are fair to poor in structure.
- There are 5 trees proposed for removal. There is one tree within the proposed driveway. The remaining 4 have more than 25% of their critical root zone within the development footprint.
- Based on the City of White Rock bylaw, 13 replacement trees are required, or cash-in-lieu.
- Arborist monitoring is required during excavation, or any other construction activity, occurs within 1.5m of the proposed tree protection barriers in the Tree Management Plans (starts on the last page of this report).



3.2 Tree Inventory Assessment

Table 1: Tree Inventory Assessment

Tree #	Tag #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
The following trees are located onsite									
1	601/ 4326	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	72	8.5	90	GOOD CONDITION, FAIR STRUCTURE TRUNK- Next to asphalt driveway CROWN-Utility pruned	Remove More than 25% of CRZ within development area	-
2	620/ 070	Blue Spruce <i>Picea pungens</i>	Yes	39	2.5	80	GOOD CONDITION, FAIR STRUCTURE CROWN- Utility pruned	Retain	See TMP
3	619	Blue Spruce <i>Picea pungens</i>	Yes	34	2.5	80	GOOD CONDITION CROWN-Crown raised to 6m ROOTS-Large surface roots extending 6m on east side	Retain	See TMP
4	612	Cypress spp <i>Chamaecyparis spp</i>	Yes	26	2.5	40	FAIR CONDITION CROWN- Crown raised to 6m. Dead wood in crown	Remove More than 25% of CRZ is within development footprint	-
5	613	Blue Spruce <i>Picea pungens</i>	Yes	26	2.75	40	FAIR CONDITION TRUNK- Resinosis on stem CROWN- Interior dieback	Remove More than 25% of CRZ is within development footprint	-

Tree #	Tag #	Common Name Botanical Name	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
6	077	Shortleaf Pine <i>Pinus echinata</i>	Yes	56	3.5	40	FAIR CONDITION TRUNK- Codominant at 2m CROWN- Weighted west	Remove More than 25% of CRZ is within development footprint	-
7	076	Shortleaf Pine <i>Pinus echinata</i>	Yes	39	3	30	FAIR CONDITION TRUNK- Codominant at 7m CROWN-Weighted south	Remove More than 25% of CRZ is within development footprint	-
8	075	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	75	3.5	60	FAIR CONDITION TRUNK- Leans 5-10degrees east, self-corrects. Feeding holes on lower stem. Ivy on lower stem CROWN-Dead wood throughout crown	Retain	See TMP
9	618	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	68	5.5	75	FAIR CONDITION TRUNK- Ivy on stem CROWN-Dead wood throughout crown	Retain	See TMP
10	616/ 073	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	74	6	40	FAIR CONDITION TRUNK- Resinosis on lower stem from pruning cuts CROWN-Dead ivy in mid crown. Utility pruned. Topped at 5m	Retain	See TMP
11	617	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	54	4	60	POOR STRUCTURE, FAIR CONDITION CROWN- Ivy growing into crown. Utility pruned. Topped at 5m	Retain	See TMP
12	615/ 4068	Douglas Fir <i>Pseudotsuga menziesii</i>	Yes	62	6	40	POOR STRUCTURE, FAIR CONDITION CROWN- Utility pruned. Topped at 5m	Retain	See TMP

Tree #	Tag #	Common Name <i>Botanical Name</i>	On the Survey	DBH (cm.)	C-RAD (m.)	LCR (%)	Comments	Retain / Remove	TPB (m.)
13	614	Blue Spruce <i>Picea pungens</i>	Yes	20	1	20	FAIR CONDITION TRUNK- Growing next to asphalt driveway. Ivy on stem CROWN-Suppressed by 615	Retain	See TMP



3.3 Replacement Tree Requirements

Table 2 – Tree Replacement Summary*

Diameter of Trees Proposed for Removal	Replacements Required
3 Trees 20 - 50cm (2:1 replacement)	6
1 Tree 51 - 65cm (3:1 replacement)	3
1 Tree 66 - 75cm (4:1 replacement)	4
0 Trees 76 – 85cm (5:1 replacement)	0
0 Trees >85cm (6:1 replacement)	0
Total replacements	13
Net Replacements Proposed	13
*This summary is based on onsite trees	Final numbers to be determined in coordination with White Rock



Appendix A – Glossary of Key Terms

Abutment: A structure built to support the lateral pressure of an arch or span, e.g., at the ends of a bridge.

Adapted Trunk Diameter Method: This method uses the trees age and tolerance to construction damage to determine the factor that will be multiplied by the diameter to provide a sufficient tree protection zone given these factors.

Age: The relative age (young, intermediate, mature) within the particular stand of trees or forest.

Algae: Is a simple, nonflowering plant (includes seaweeds and many single-celled forms). They do contain chlorophyll (but lack true stems, roots, and vascular tissue)

ALR: The Agricultural Land Reserve in which agriculture is recognized as the priority.

Bole: The stem or trunk of a tree.

Chlorotic: Yellowing of plant tissues caused by nutrient deficiency &/or pathogen.

Co-dominant Leaders: Forked dominant stems nearly the same size in diameter, arising from a common junction.

Co-dominant Within Stand: Individual tree whose height is generally equal to trees (regardless of species) within the same stand.

Compaction: Compression of the soil that breaks down soil aggregates and reduces soil volume and total pore space, especially macropore space.

Conk: A fungal fruiting structure typically found on trunks and indicating internal decay.

Dead Standing: A tree that has died but is still standing erect.

DBH: The Diameter of the tree at 1.40 meters above the ground.

Dominant Within Stand: Individual tree whose height is significantly greater than adjacent trees (regardless of species) within the same stand.

C-rad: Crown radius, is the dripline measured from the edge of the trunk to the outermost branches of the crown.

CRT: Critical Root Zone

CRZ: Critical Root Zone - The area between the trunk and to the end of the Drip Line.

Fair: Healthy but has some defects such as co-dominant trunk, dead branches.

Feeder Roots: The smaller roots responsible for water and nutrient absorption and gas exchange. These roots can extend far beyond the Drip Line (or outer canopy) of the tree.

Fungus (singular) / Fungi (plural): Unicellular, multicellular or syncytial spore-producing organisms that feed on organic matter (including molds, yeast, mushrooms and toadstools)

Girdling Root: Root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water.

Good: Good form and structure, healthy with no defects.

Hazardous: Significant hazard exists with a high risk of immediate failure; which could result in serious damage to property or person(s).

Height: Height of tree is approximate.

LCR: Live Crown Ratio – The ratio of crown length to total tree length.



Level 1 Limited Visual Assessment: Limited visual assessment looking for obvious defects such as, but not limited to dead trees, large cavity openings, large dead or broken branches, fungal fruiting structures, large cracks, and severe leans.

Level 2 Basic Visual Assessment: Detailed visual inspection (aboveground roots, trunk, canopy) of tree(s) may include the use of simple tools to perform assessment (i.e. sounding mallet, trowel, measuring tape, binoculars). The assessment does not include advanced resistance drilling of trunk.

Level 3 Advanced Assessment: To provide detailed information about specific tree parts, defects, targets, or side conditions. May include aerial inspection, resistance drilling of tree parts, laboratory diagnosis of fungal or plant tissue.

Mildew: Is a minute powdery or web-like fungi (of different colours) that is found on diseased or decaying substances.

Moss: A small, green, seedless plant that grows on stones, trees or ground.

No Disturbance Zone: The area adjacent to the tree that is restricted from all construction activity.

Poor: multiple defects, disease, poor structure and or form, root and or canopy damage.

Phloem: Plant vascular tissue that transports sugar and growth regulators. Situated on the inside of the bark, just outside the cambium. Is bidirectional (transports up and down). Contrast with xylem.

Phototropic: Growth toward light source or stimulant.

RAR: Riparian Areas Regulation.

Retain & Monitor: Monitor health and condition of tree every 12 months for signs of deterioration.

Root Crown: Also, called the root collar, it includes the flare at the base of the trunk and the initial roots that develop below the trunk. These roots generally taper and subdivide rapidly to form the root system of the tree.

SPEA: Streamside Protection and Enhancement Area

Spiral Decline: The health and condition of the tree is deteriorating.

Sub-dominant Within Stand: Individual tree whose height is significantly less than adjacent trees (regardless of species) within the same stand.

Suppressed: Individual tree whose growth, health and condition is negatively impacted by adjacent tree(s).

TPB: Tree Protection Barrier

TPZ: Tree Protection Zone - The area between the trunk and the Tree Protection Barrier.

Wildlife Tree: A tree or a group of trees that are identified to be retained to provide future wildlife habitat. Wildlife habitat can exist in tree risks (cavities, dead snags, broken tops). Often times the tree risk to potential targets (people & property) is reduced by removing that part of the tree posing the risk of failure, but the tree (or portion of) is retained to provide future habitat.

Witches Broom: A dense mass of shoots growing from a single point, with the resulting structure resembling a broom or a bird's nest.

Xylem: Thin overlapping cells that helps provide support and that conducts water and nutrients upward from the roots all the way to the leaves.



Appendix B – Photos



Fig. 1 -



Fig. 2 -



Fig. 3 -



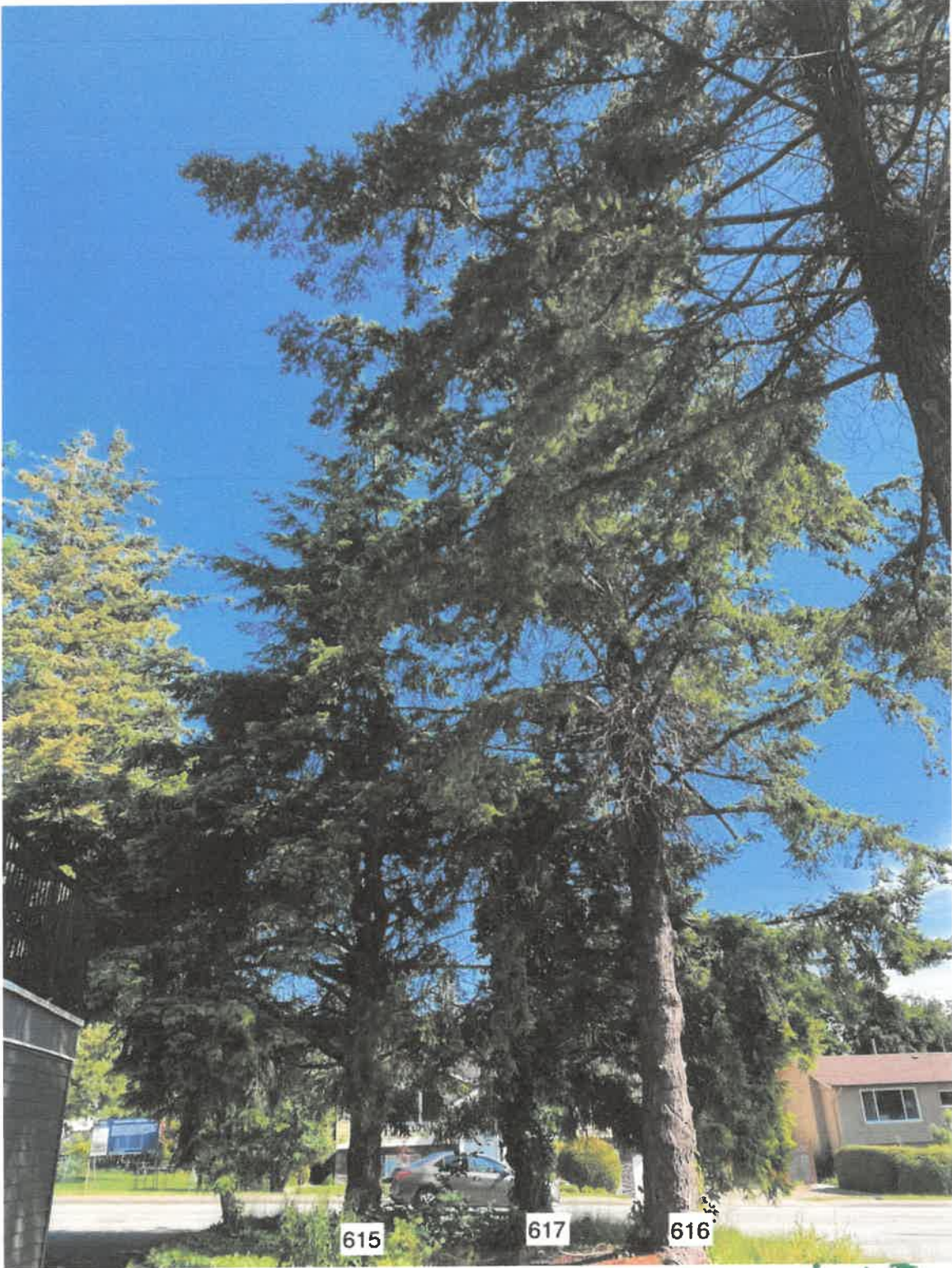


Fig. 4 -





Fig. 5 -



Fig. 6 -

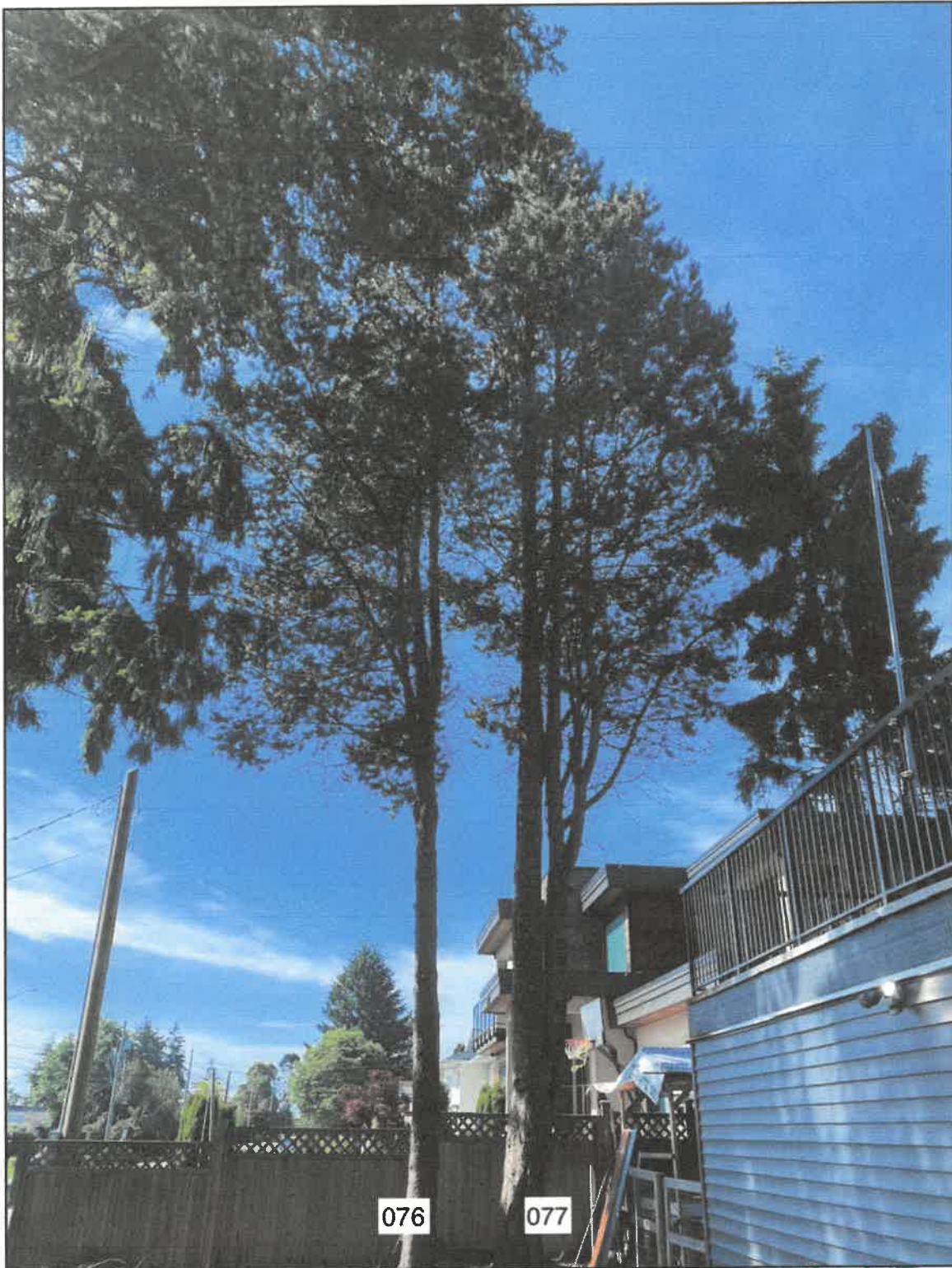


Fig. 7 -



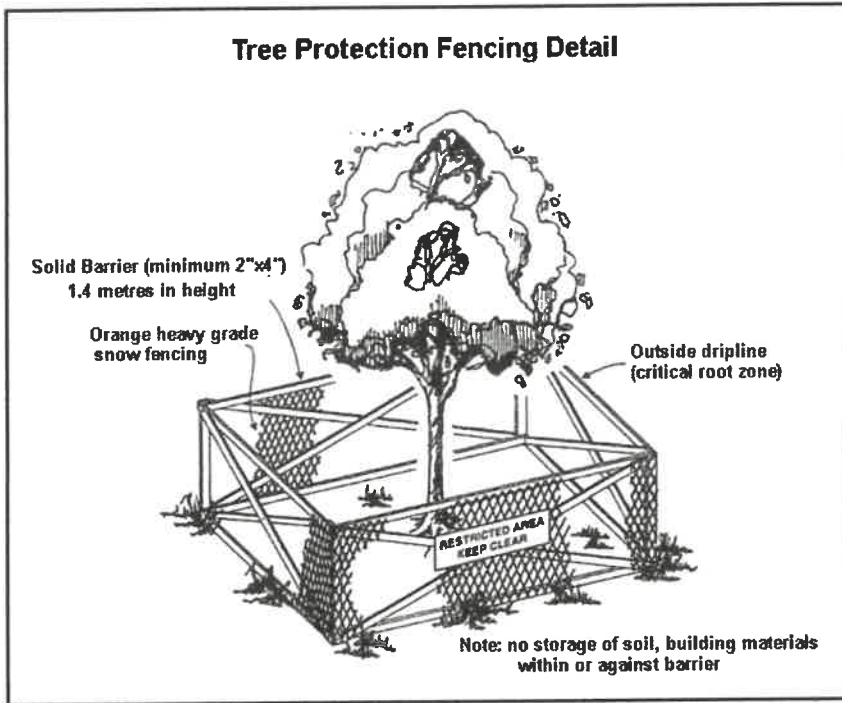
Fig. 8 -



Appendix C – Tree Protection Barrier Best Practices

TREES THAT REQUIRE TREE PROTECTION BARRIERS:

- All Bylaw Protected Trees that are being retained on your property.
- All Bylaw Protected Trees on adjacent property within 4m of the property line.
- All trees located on the City Boulevard, Parkland or City land within 4m of the property line



Materials:

- 2x4's for framing (vertical posts, top and bottom rails, and cross-bracing)
- Plastic mesh screening (also known as snow fencing).

Dimensions:

- Panels must be 1.2m in height
- Maximum 3.7 m spacing between vertical posts (see Tree Management Plan for spacing recommended for each retained tree – based on the crown radius/dripline measurement).

Maintaining your tree protection barriers:

Tree protection barriers must be installed and maintained throughout the entire construction process. Barriers that are in disrepair must be fixed immediately to prevent possible fines, "Stop Work" orders, and/or permit delays.



Tree Protection Barrier imagery taken from City of Surrey & City of Maple Ridge tree bylaws.

General Requirements and Limitations for Operations Within the Tree Protection Zone

- The Contractor shall not engage in any construction activity within the Tree Protection Zone (TPZ) without the approval of the Project Arborist including: operating, moving or storing equipment; storing supplies or materials; locating temporary facilities including trailers or portable toilets and shall not permit employees to traverse the area to access adjacent areas of the project or use the area for lunch or any other work breaks. Permitted activity, if any, within the Tree Protection Zone maybe indicated on the drawings along with any required remedial activity as listed below.
- In the event that construction activity is unavoidable within the Tree Protection Zone, notify the Project Arborist and submit a detailed written plan of action for approval. The plan shall include: a statement detailing the reason for the activity including why other areas are not suited; a description of the proposed activity; the time period for the activity, and a list of remedial actions that will reduce the impact on the Tree Protection Zone from the activity. Remedial actions shall include but shall not be limited to the following:
 - In general, demolition and excavation within the drip line of trees and shrubs shall proceed with extreme care either by the use of hand tools, directional boring and/or Air Spade. If any excavation work is required within the Tree Protection Zone (TPZ), the Project Arborist must be present during excavation, and a trench should be 'hand dug' to a depth of 60 cm outside the Drip Line, to uncover any potential roots. The Project Arborist should cleanly prune roots and recommend the appropriate treatment for any structural roots encountered.
 - Knife excavation where indicated or with other low impact equipment that will not cause damage to the tree, roots soil.
 - When encountered, exposed roots, 1 inches and larger in diameter shall be worked around in a manner that does not break the outer layer of the root surface (bark). These roots shall be covered in Wood Chips and shall be maintained above permanent wilt point at all times. Roots one inch and larger in diameter shall not be cut without the approval of the Project Arborist. Excavation shall be tunnelled under these roots without cutting them. In the areas where roots are encountered, work shall be performed and scheduled to close excavations as quickly as possible over exposed roots.
 - Tree branches that interfere with the construction may be tied back or pruned to clear only to the point necessary to complete the work. Other branches shall only be RETAINED when specifically indicated by the Project Arborist. Tying back or trimming of all branches and the cutting of roots shall be in accordance with accepted arboriculture practices (ANSI A300, part 8) and be performed under supervision of the Project Arborist.
 - Do not permit foot traffic, scaffolding or the storage of materials within the Tree Protection Zone.
 - Protect the Tree Protection Zone at all times from compaction of the soil; damage of any kind to trunks, bark, branches, leaves and roots of all plants; and contamination of the soil, bark or leaves with construction materials, debris, silt, fuels, oils, and any chemicals substance. Notify the Project Arborist of any spills, compaction or damage and take corrective action immediately using methods approved by the Project Arborist.



Appendix D – Assumptions and Limiting Conditions of This Report / Assessment

It is the policy of Koome Urban Forestry Ltd. (KUF) to attach the following clauses regarding limitations. We do this to ensure that developers, owners, and approving officers are clearly aware of what is technically and professionally realistic in retaining trees.

This Assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property and the tree(s) situated thereon by Koome Urban Forestry Ltd. and upon information provided by the Client to KUF. The opinions in this Assessment are given based on observations made and using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Assessment are valid only as at the date any such testing, observations and analysis took place and no guarantee, warranty, representation or opinion is offered or made by KUF as to the length of the validity of the results, observations, recommendations and analysis contained within this Assessment.

As a result, the Client shall not rely upon this Assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this Assessment should be re-assessed periodically. Only the subject tree(s) was inspected and no others.

Restriction of Assessment

Notwithstanding the recommendations and conclusions made in this Assessment, it must be realized that trees are living organisms, and their health and vigour constantly changes over time. They are not immune to changes in site conditions, or seasonal variations in the weather. The tendency of trees or parts of trees to fall due to environmental conditions and internal problems are unpredictable. Defects are often hidden within the tree or underground.

The Assessment carried out was restricted to the Property. No Assessment of any other trees or plants has been undertaken by KUF. Koome Urban Forestry Ltd. is not legally liable for any other trees or plants on the Property except those expressly discussed herein. The conclusions of this Assessment do not apply to any areas, trees, plants or any other property not covered or referenced in this Report. The conclusions of this Assessment does not imply or in any way infer that other trees on this site or near this site are sound and healthy.

While reasonable efforts have been made to ensure that the tree(s) recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree – or group of trees – , or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the tree(s) should be re-assessed periodically. In accordance with standard practice, the Assessment presented in this Report is valid at the time it was undertaken. It is not a guarantee of safety. It is the owner's responsibility to maintain the tree(s) and inspect the tree(s) to reasonable standards and to carry out recommendations for mitigation suggested in this Report.



Professional Responsibility

In carrying out this Assessment, Koome Urban Forestry Ltd. and any Assessor appointed for and on behalf of KUF to perform and carry out the Assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this Assessment.

The Assessment of the tree(s) presented in this Report has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the Report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Without limiting the foregoing, no liability is assumed by Koome Urban Forestry Ltd. or its directors, officers, employers, contractors, agents or Assessors for:

- a) any legal description provided with respect to the Property;
- b) issues of title and or ownership respect to the Property;
- c) the accuracy of the Property line locations or boundaries with respect to the Property; and
- d) the accuracy of any other information provided to KUF by the Client or third parties;
- e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
- f) the unauthorized distribution of the Report.

The total monetary amount of all claims or causes of action the Client may have as against KUF, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, shall be strictly limited solely to the total amount of fees paid by the Client to KUF.

Further, under no circumstance may any claims be initiated or commenced by the Client against Koome Urban Forestry Ltd. or any of its directors, officers, employees, contractors, agents or Assessors, in contract or in tort, more than 12 months after the date of this Assessment.

Assumptions

The Client is hereby notified and does hereby acknowledge and agree that where any of the facts and information set out and referenced in this Assessment are based on assumptions, facts or information provided to KUF by the Client and/or third parties and unless otherwise set out within this Assessment, KUF will in no way be responsible for the veracity or accuracy of any such information.

Further, the Client acknowledges and agrees that KUF has, for the purposes of preparing their Report, assumed that the Property, which is the subject of this Assessment is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. KUF explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, bylaws, guidelines and laws as it may pertain to or affect the Property to which this Assessment applies.



Third Party Liability

This Report was prepared by Koome Urban Forestry Ltd. exclusively for the Client. The contents reflect KUF's best Assessment of the tree(s) and plant(s) situated on the Property in light of the information available to it at the time of preparation of this Assessment. Any use which a third party makes of this Assessment, or any reliance on or decisions made based upon this Assessment, are made at the sole risk of any such third parties. KUF accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use or reliance of this Assessment by any such party.

Further Services

Notwithstanding the recommendations made in this Assessment, Koome Urban Forestry Ltd. accept no responsibility for the implementation of all or any part of this plan, unless we have specifically been requested to examine said implementation activities. Approval and implementation of this plan in no way implies any inspection or supervisory role on the part of Koome Urban Forestry Ltd. In the event that inspection or supervision of all or part of the implementation of the plan is requested, said request shall be in writing and the details agreed to in writing by both parties. Any on site inspection or supervisory work undertaken by Koome Urban Forestry Ltd. shall be recorded in written form and submitted to the client as a matter of record.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to give testimony, or to act as an expert witness or to attend court by reason of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

Koome Urban Forestry Ltd. nor any of its representatives shall be required to provide any further consultation or services to the Client, save and except as already carried out in the preparation of this Report unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of Koome Urban Forestry Ltd.'s regular hourly billing fees.

General

Any plans and/or illustrations in this Assessment are included only to help the Client visualize the issues in this Assessment and shall not be relied upon for any other purpose.

KUF shall not be held responsible for the manner of use of the interpretations that other parties may attach to the report. This report is not to be re-printed, copied, published or distributed without prior approval by Koome Urban Forestry Ltd.

The Report shall be considered a whole, no sections are severable, and the Report shall be considered incomplete if any pages are missing.

This Report is best viewed in colour. Any copies printed in black and white may make some details difficult to properly understand. Koome Urban Forestry Ltd. accepts no liability for misunderstandings due to a black and white copy of the Report.

Sketches, drawings and photographs in this Report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural Report of surveys unless expressed otherwise. The reproduction of any information generated by architects, engineers, or other consultants on any sketches, drawings, or photographs is for the express purpose of co-ordination and ease of reference only. Inclusion of said information on any drawings or other documents does not constitute a representation by Koome Urban Forestry Ltd. as to the sufficiency or accuracy of said information.

Publication

The Client acknowledges and agrees that all intellectual property rights and title, including without limitation, all copyright in this Report shall remain solely with Koome Urban Forestry Ltd. Possession of this Report, or a copy thereof, does not entitle the Client or any third party to the right of publication or reproduction of the Report for any purpose save and except where KUF has given its prior written consent. This Report may not be used for any other project or any other purpose without the prior written consent of Koome Urban Forestry Ltd.

Unless required by law otherwise, possession of this Report or a copy thereof does not imply right of publication or use for any purpose by any other than the person, parties or agencies to whom it is addressed, without the prior expressed written consent of Koome Urban Forestry Ltd.

Neither all nor any part of the contents of this Report shall be disseminated to the public through advertising, public relations, news, sales, the Internet or other media (including, without limitation, television, radio, print or electronic media) without the prior written consent of Koome Urban Forestry Ltd.



Appendix E – References

- Bond, Jerry & Buchanan, Beth (2006) *Best Management Practices: Tree Inventories*, International Society of Arboriculture, Champaign, IL.
- Dunster, Dr. Julian (2003) *Preliminary Species Profiles for Tree Failure Assessment*. ISA Pacific Northwest Chapter, Silverton, OR, USA
- Dunster, Dr. Julian & Edmonds, Dr. R. (2014) *Common Fungi Affecting Pacific Northwest Trees*, ISA Pacific Northwest Chapter, Silverton, OR, USA
- Fite, Kelby & Smiley, E. Thomas (2016) *Best Management Practices: Managing Trees During Construction*, International Society of Arboriculture, Champaign, IL.
- Sibley, David Allen (2009) *The Sibley Guide to Trees*. Alfred A. Knopf, New York, NY
- Smiley, E.T., Matheny, N., Lilly, S. (2011) *Best Management Practices: Tree Risk Assessment*. International Society of Arboriculture, Champaign, IL.

Appendix F – Certificate of Performance



I certify that:

1. I have personally inspected the trees and property referred to in this report and have stated my findings accurately.
2. I have no current or prospective interest in the trees or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.
3. The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
4. My analysis, opinions and conclusions were developed, and this report has been prepared according to commonly accepted arboriculture practices.
5. No one provided significant professional assistance to me, except as indicated within the report.
6. My compensation is not contingent upon the reporting of a predetermined conclusion that favours the cause of the client or any other party nor upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing with the International Society of Arboriculture, and the Pacific Northwest Chapter of the ISA.

Koome Urban Forestry Ltd.,



Kelly Koome, Project Arborist
ISA Certified Arborist PN 5962A
ISA Tree Risk Assessment Qualified
Certified Wildlife Dangerous Tree Assessor, P2546



Sarah Morin, Arborist Technician



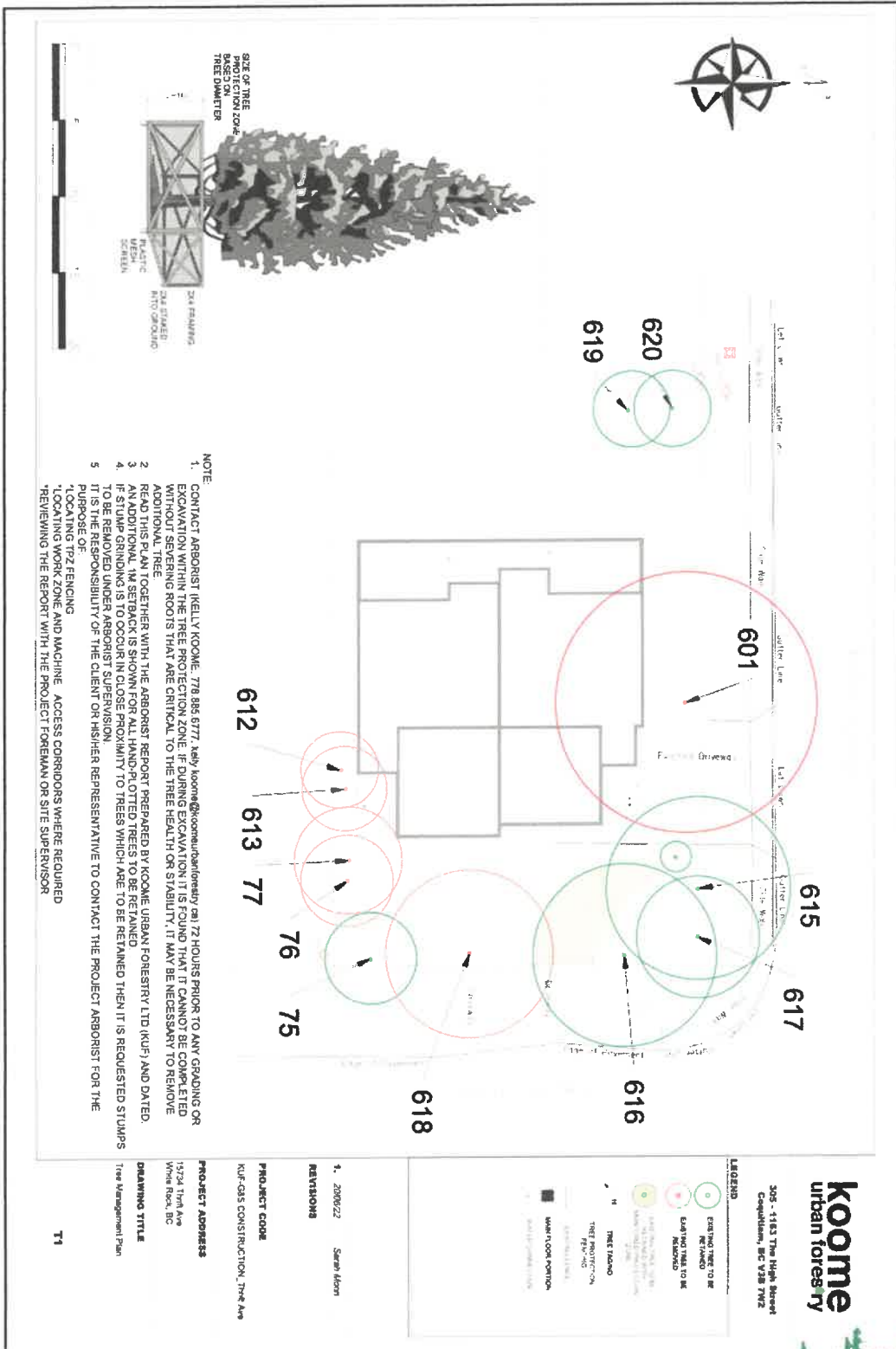
Appendix G – Tree Management Plan

See attached

Original size: 24x36

Print as 11x17 for foldout





NOTE

- CONTACT ARBORIST KELLY KOOME, 778.886.8777, kelly.koome@koomeurbanforestry.ca, 72 HOURS PRIOR TO ANY GRADING OR EXCAVATION WORK. THE TREE PROTECTION PLAN IS REQUIRED THAT CANNOT BE COMPLETED WITHOUT SERRING ROOTS THAT ARE CRITICAL TO THE TREE HEALTH OR STABILITY. IT MAY BE NECESSARY TO REMOVE ADDITIONAL TREES.
- READ THIS PLAN TOGETHER WITH THE ARBORIST REPORT PREPARED BY KOOME URBAN FORESTRY LTD (KUF) AND DATED.
- AN ADDITIONAL 1M SETBACK IS SHOWN FOR ALL HAND-PLANTED TREES TO BE RETAINED.
- IF STUMP GRINDING IS TO OCCUR IN CLOSE PROXIMITY TO TREES WHICH ARE TO BE RETAINED THEN IT IS REQUESTED STUMPS TO BE REMOVED UNDER ARBORIST SUPERVISION.
- IT IS THE RESPONSIBILITY OF THE CLIENT OR HIS/HER REPRESENTATIVE TO CONTACT THE PROJECT ARBORIST FOR THE PURPOSE OF:
 - LOCATING THE FENCING
 - LOCATING WORK AREAS AND MACHINES
 - ACCESS CORRIDORS WHERE REQUIRED
 - RENEWING THE REPORT WITH THE PROJECT FOREMAN OR SITE SUPERVISOR

PROJECT ADDRESS
1163 The Ave
West Vancouver, BC

DRAWING TITLE
Tree Management Plan

PROJECT CODE
KUF-GAS CONSTRUCTION, The Ave

REVISIONS
1. 2016/22 Steve Alcorn

LEGEND
EXISTING TREE TO BE RETAINED
EXISTING TREE TO BE REMOVED
TREE STUMP
TREE PROTECTION
TREE REMOVAL
MAINTENANCE FENCE

ATTACHMENT B

15579 Oxenham Avenue

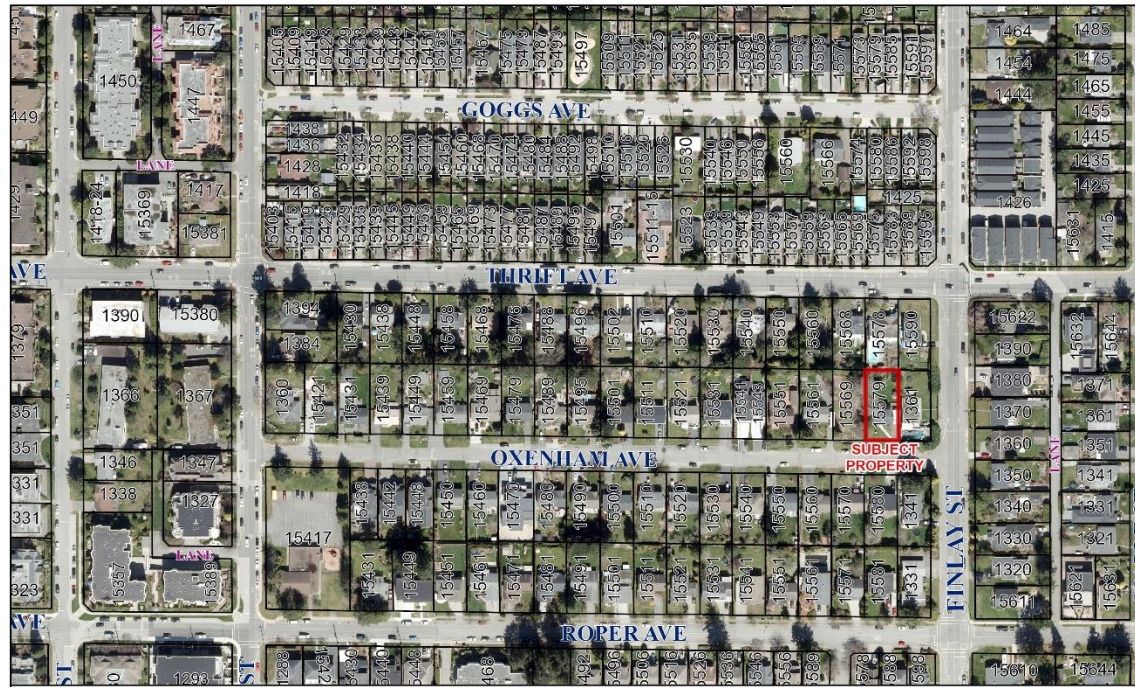
(City File: 22-024)

- Location Map and Ortho Map (illustrating the location and context of the property)
- Topographic Survey
- Site Plan
- Arborist Report

1450	1447	1467	15405	15409	15419	15423	15429	15433	15439	15443	15447	15451	15455	15459	15463	15467	15475	15479	15483	15487	15491	15495	15509	15513	15517	15521	15525	15533	15539	15541	15551	15555	15561	15565	15569	15571	15573	15579	15585	15589	15591	15597			
1418-24	15369	1417	1438	1436	1428	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418
1390	15380	1446	1394	1384	1360	15421	15431	15430	15439	15438	15449	15448	15451	15450	15461	15468	15479	15476	15488	15488	15495	15496	15501	15502	15510	15510	15521	15520	15533	15530	15531	15541	15541	15551	15550	15561	15560	15569	15568	15571	15570	15579	15580	15581	15590
1366	1367	1346	1360	15421	15431	15430	15439	15438	15449	15448	15451	15450	15461	15468	15479	15476	15488	15488	15495	15496	15501	15502	15510	15510	15521	15520	15533	15530	15531	15541	15541	15551	15550	15561	15560	15569	15568	15571	15570	15579	15580	15581	15590		
1346	1347	1338	1360	15421	15431	15430	15439	15438	15449	15448	15451	15450	15461	15468	15479	15476	15488	15488	15495	15496	15501	15502	15510	15510	15521	15520	15533	15530	15531	15541	15541	15551	15550	15561	15560	15569	15568	15571	15570	15579	15580	15581	15590		
15357	15389	15381	15417	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381	15381
1288	2791	5430	5440	5448	468	492	5496	5506	5516	5526	5536	5546	5556	5566	5576	5586	5596	5606	5616	5626	5636	5646	5656	5666	5676	5686	5696	5706	5716	5726	5736	5746	5756	5766	5776	5786	5796	5806	5816	5826	5836	5846	5856	5866	
15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644	15610	15644

Location Map

15579 Oxenham Avenue



Ortho Map

15579 Oxenham Avenue



**TOPOGRAPHIC SURVEY PLAN OF LOT 17
SECTION 11 TOWNSHIP 1
NWD PLAN 25155**

SCALE 1:200

0 4 8 12 16



All distances are in metres and decimal

PID: 000-628-328

Civic Address:

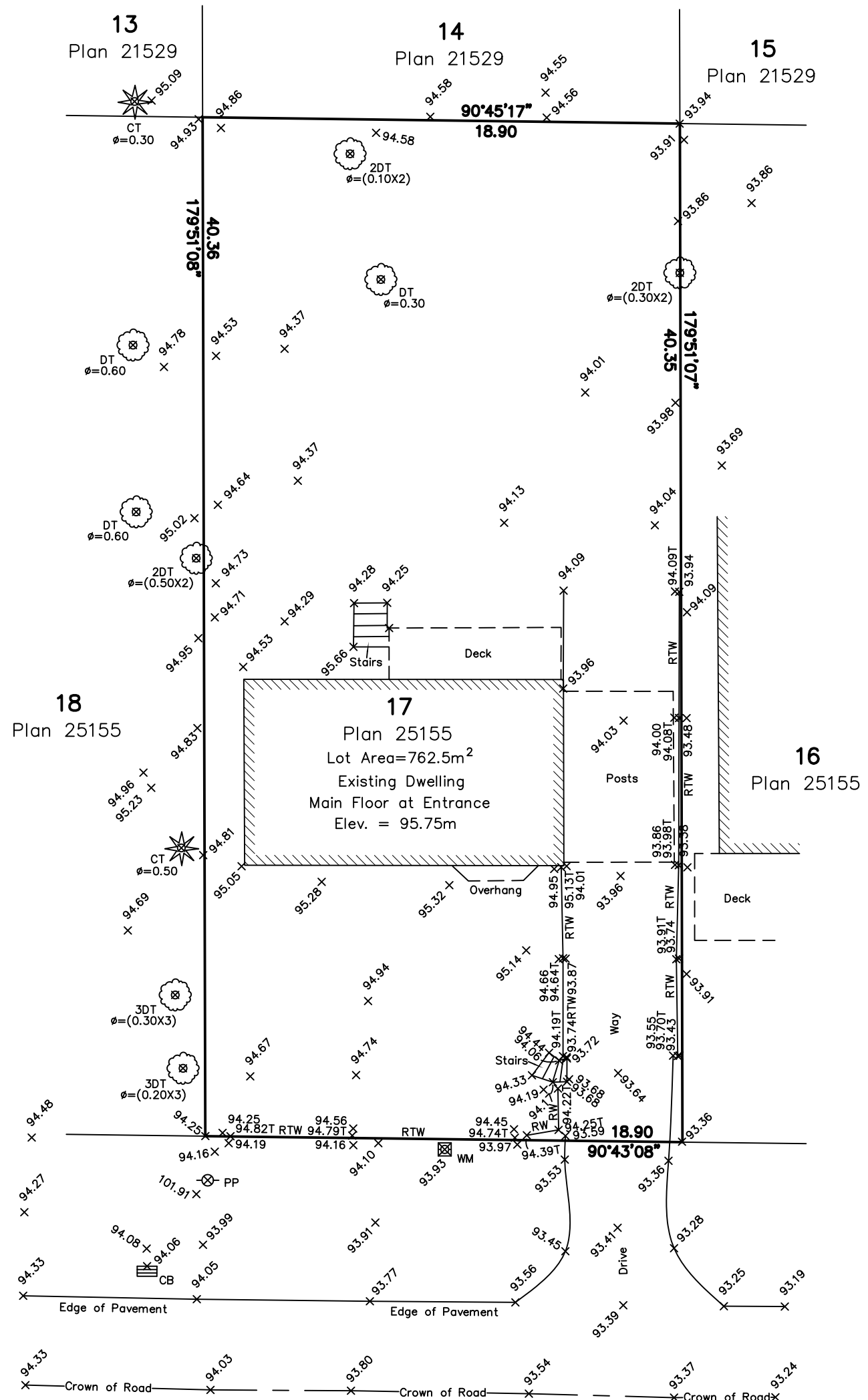
#15579 – Oxenham Avenue
White Rock, B.C.

Elevation Derivation

Elevations are geodetic derived from the City of White Rock Control Monument No. 88H3864 Datum CVD28GVRD 2018 Elevation=92.686m

Note :

All elevations shown are taken at natural ground.



LEGEND :

- WM Denotes water meter
- PP Denotes power pole
- CB Denotes rectangular catch basin
- DT Denotes deciduous tree
- CT Denotes coniferous tree
- x 0.00 Denotes spot elevation
- RTW Denotes retaining wall
- RW Denotes rock wall

Lot dimensions according to field survey and Land Title and Survey Authority records.

This plan does not show non-plan charges, liens or interests.

This plan was prepared for inspection purposes and is for the exclusive use of our client. This documents shows the relative location of the surveyed structures and features with respect to the boundaries of the parcel described above. This document shall not be used to define property lines or property corners.

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**COMPASS LAND SURVEYING LTD.
Professional Land Surveyors**

#202-8381 128th Street
Surrey, B.C. V3W 4G1
Tel: 604-503-6898
Email: Office@CompassSurveys.com
File No.: 2205021 T1

Oxenham Avenue

This topographic survey completed and certified correct this 13th day of June 2022.

SHOUPENG LIU B.C.L.S.

Civic Address:
PROJECT RECONCILIATION

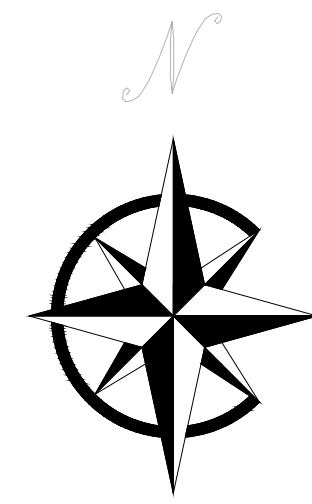
15579 OXENHAM AVENUE
 WHITE ROCK, BC

Elevation Derivation

Elevations are geodetic derived from the City of White Rock Control Monument No. 88H3864 Datum CVD28GVRD 2018 Elevation=92.686m

Note :

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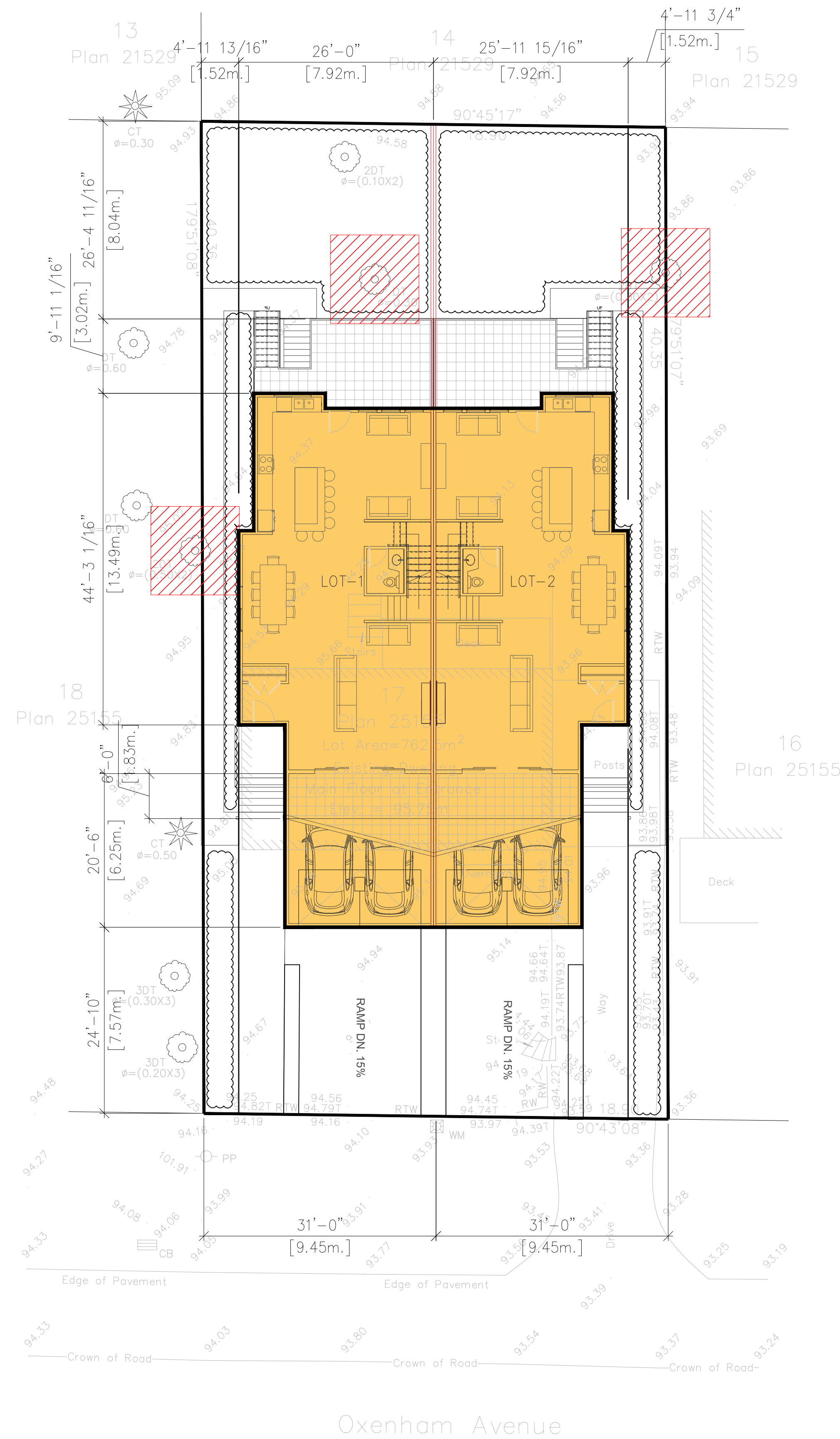
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Lot dimensions according to field survey and Land Title and Survey Authority records.

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This plan was prepared for inspection purposes and is for the exclusive use of our client. This documents



ATTACHMENT B

PROJECT SUMMARY

Legal Description : LOT 17 - SECTION 11 TOWNSHIP 1 NWD PLAN 25155-PID : 000-628-328
 Civic Address: 15579 - OXENHAM AVENUE WHITE ROCK, B.C.
 Zone : RT1 - Two Unit (Duplex) Residential Zone

	Permitted	Proposed
1- Lot Size: RT-1 zone		
Lot width	18.0m (59.04ft)	18.9m (62ft)
Lot depth	30.5m (100.4ft)	40.35m (132.32ft)
Lot area	742.0m ² (7,986.82ft ²)	762.61m ² (8203.84ft ²)
2 -Setback Requirements: RT-1 zone		
Front lot line	7.5m (24.61ft)	8m (26.51ft)
Rear lot line	7.5m (24.61ft)	7.5m (25.1ft)
Interior side lot line	1.5m (4.92ft)	1.5m (4.92ft)
3- Lot Coverage: RT-1 zone		
Lot Area : 762.5m ² (8207.77ft ²)		
Lot Coverage	343.12m ² (3693.3ft ²) 45%	762.5m ² (3350ft ²) 40.2%
4- Floor Area : RT-1 zone		
Gross floor area	381.25m ² (4103.74ft ²) 50%	381.31m ² (4,100.00ft ²) 48.5%
Unit A Floor area : 2,050 sq.ft		
Unit B Floor area : 2,050 sq.ft		
4- Building Height : RT-1 zone		
Maximum principal building height	7.7m (25.26ft)	7.7m (25.26ft)

SITE PLAN NOTES:

- 1-ALL DIMENSION AND GRADE LEVELS SHOWN ARE TO BE APPROVED BY DESIGN CONSULTANTS AND/OR LOCAL CITY AUTHORITIES PRIOR TO CONSTRUCTION.
- 2-OWNERS / BUILDERS TO PROVIDE PERTINENT INFORMATION REQUIRED FOR SITE PLAN.
- 3-OWNERS / BUILDERS TO VERIFY LOCATIONS OF ALL SERVICES POLES AND LINES, FIRE HYDRANTS, EASEMENTS, ELECTRIC BOXES AND RIGHT - OF- WAYS , ETC. BEFORE PROCEEDING TO CONSTRUCTION.
- 4-ANY RETAINING WALL TO BE BUILT ACCORDING TO CITY CODES AND WITH DESIGN GUIDELINES PROVIDED BY DESIGN CONSULTANT
- 5-PROPOSED FINISHED GRADE LEVEL TO SLOPE AWAY FROM BUILDING FOR SURFACE WATER RUN OFF.
- 6-BUILDERS RESPONSIBLE FOR ANY REQUIRED SWALES.
- 7-ALL GRADES , AND DIMENSIONS ON SITE PLAN TO BE APPROVED AND CHECKED ON SITE BY BUILDER PRIOR TO CONSTRUCTION AND EXCAVATION.

REV	DATE	DESCRIPTION	BY	REV	DATE	DESCRIPTION	BY

- architecture
- interiors
- planning
- feasibility studies
- tenant improvements

A.1.1

Project Name
DUPLEX
 15579 OXENHAM AVE. , WHITE ROCK.

START DATE: AUG 2021

PROJECT No.:

DR: JG

CH: JG

SCALE: AS SHOWN

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ATTACHMENT B

KLIMO & ASSOCIATES

CERTIFIED ARBORIST REPORT

PROJECT LOCATION:

15579 Oxenham Ave, White Rock

PREPARED FOR:

Pradeep Malik

PREPARED BY:

Klimo & Associates Ltd.
5565 15B Ave
Delta BC, V4M 2H2

Metro West IMBL #20020981
Fraser Valley IMBL #20020982

July 12, 2022

Francis Klimo
ISA Certified Arborist
ISA Certified Tree Risk Assessor
BC Wildlife Danger Tree Assessor

1.0 SCOPE OF WORK

Klimo & Associates Ltd. was contracted by Pradeep Malik to prepare an Arborist report along with a Tree assessment, and Tree management plan in order to support a building permit application for the construction of a new duplex dwelling located at 15579 Oxenham Ave, White Rock.

The objective of this assessment and report is to identify all on/off-site trees that could be impacted by the construction project and to ensure that the management of trees are in compliance with the “*White Rock Tree Protection Bylaw, 2021 No. 2407*” and “*Best Management Practices*”. We conducted our field inspections on July 12, 2022 at around 10:30am. Our scope of work was to identify all key trees located within the proposed working limits and off-site areas of the construction project, assess & document their condition, and recommend measures to either protect the retained trees or to prescribe their removals.

1.1 Limits of assignment

- Our investigation is based solely on visual inspection of the trees on July 12, 2022 and the analysis of photos taken and tree diagnosis gathered during the inspection.
- Our inspection was conducted from ground level. We did not conduct soil tests or below grade root examination to assess the condition of the root system of the trees.
- We conducted a level 2 assessment.
- Sunny day, no adverse weather conditions.

1.2 Purpose and use of the report

- Meet municipal criteria for Arborist report submissions and to provide documentation pertaining to the management of on/off-site trees in order to supplement the proposed building permit application in regards to the construction of a new duplex dwelling located at 15579 Oxenham Ave, White Rock.

2.0 SITE ANALYSIS / PROPOSAL

Currently, the subject property has an existing single-family dwelling situated 760 (*approx.*) square meter lot and a proposal has been set forward to demolish the existing dwelling in order to make way for the construction of a new duplex dwelling. Observing the overall property, the lot was observed to be fronted by Oxenham Ave and along with residential properties bounding along its western, eastern, and northern lengths.

The identified trees were examined to have consisted predominantly of mature deciduous species that were situated within the limits of the neighbor’s property. Within the remaining areas of the site, the frontage of the property was observed to have an open and clear topography while a group of deciduous trees had been dominating towards its south western corner. The larger extent of the rear yard area had consisted of an open lawn space along with an existing planting area consisting of landscaping beds along with other surrounding vegetation encompassing as part of the existing landscape.



Figure 1 - Location of subject site - 15579 Oxenham Ave, White Rock

3.0 TREE ASSESSMENT PROCESS

Our tree inspection process is a systematic procedure for accurately identifying and cataloging trees. Using the site survey as a reference to their locations and the proposed site plans provided by the project planners detailing the proposed development, the specifications to our Tree Protection Requirements were able to be accurately completed. In using the information of the proposed construction requirements, we have produced accurate findings to our recommendations to ensure the use of proper tree protection during the construction phase and as applicable, prescribing tree removal recommendations.

Our assessment of the on-site and off-site trees consists of gathering and documenting sizes (*DBH, Height, and Crown spread*), condition, species, location, growth form, and other site factors. The data collected has been documented into the inventory in order to convey the identified trees into a simple format. In addition, accurate tree preservation measures could be implemented for the optimal retention and protection of trees throughout the duration and up to the completion of the construction project.

3.1 Health and structure rating

Basic definitions of the general tree health in regards to the documented trees within the report have been separated based upon the total amount of trees broken up into five (5) defined categories as outlined in the table below:

Rating	Retention Suitability	Definition	Total Trees
Good	Suitable	A healthy, vigorous tree, reasonably free of disease, with good structure and form typical of the species.	4
Fair / Good	Suitable	Tree is growing well for its species. No overt or identifiable significant defects, and is well suited for retention.	
Fair	Marginal	Subject tree that has an average vigour for its species. Small amount of twig dieback, minor structural defects that could be corrected.	6
Fair / Poor	Marginal/ Unsuitable	A tree with moderate to poor vigor, moderate twig and small branch dieback, thinning of crown, poor leaf color, moderate structural defects that may affect its survival considering construction impacts.	
Poor	Unsuitable	A tree in decline, epicormics growth, extensive dieback of medium to large branches, significant structural defects that cannot be abated. And a tree in severe decline, dieback of scaffold branches and or trunk, mostly epicormic growth; extensive structural defects that cannot be abated.	

4.0 SUMMARY OF FINDINGS

On July 12, 2022, Klimo & Associates Ltd. had conducted a site visit & visual inspection of all trees located on and off-site. A total of ten (10) trees were identified and had consisted of nine (9) different types of species. The identified trees were measured to have an average DBH of 30cm to 100cm and overall, the subject trees had ranged from being in fair to good in condition.

The majority of the identified trees were examined to be situated within the limits of the building envelope or of the proposed driveway and as such, the subject trees were examined to be in conflict with the overall construction project as they had all fallen within its high disturbance requirement areas.

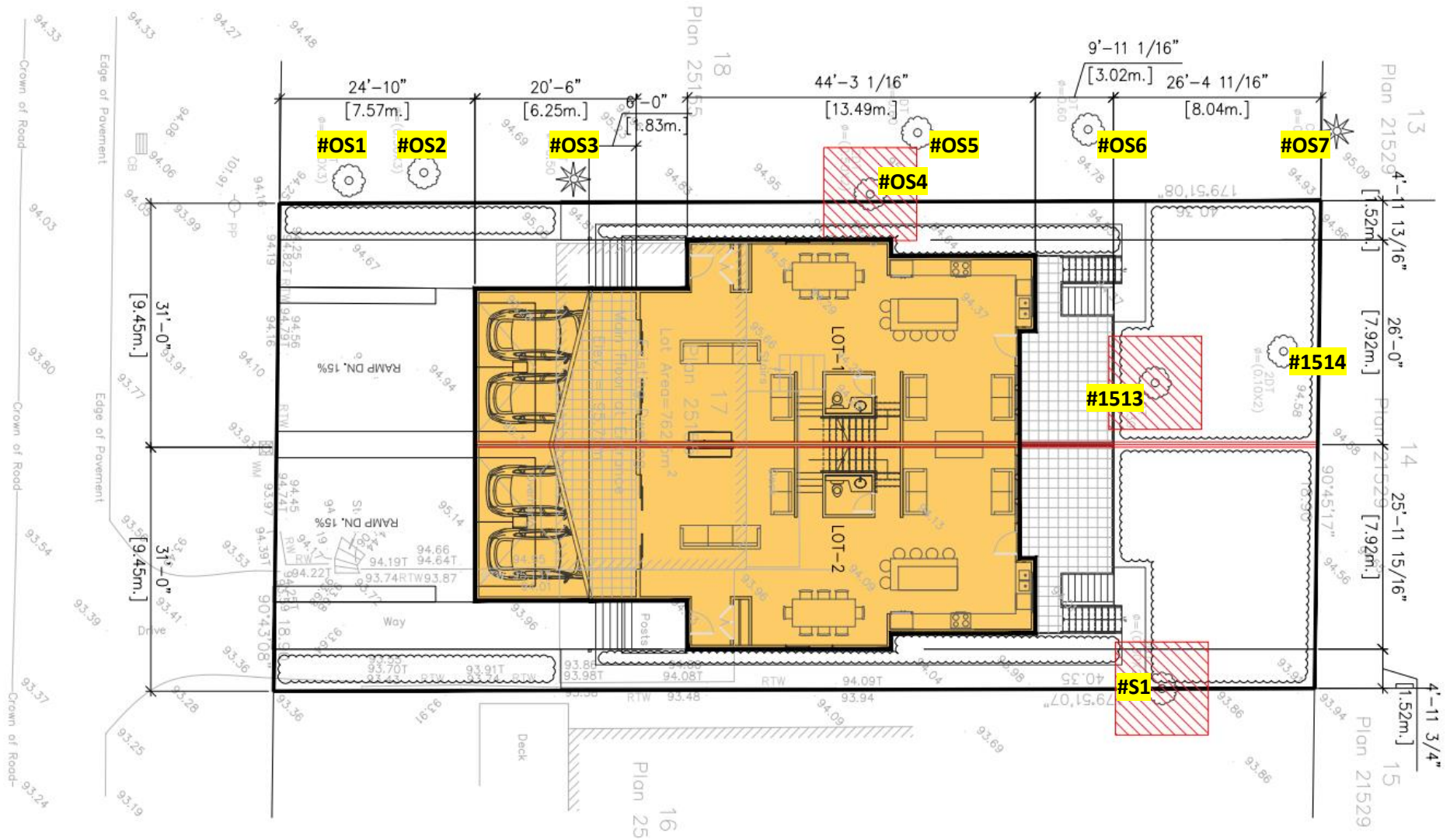
On-site <i>(Development site)</i>	Shared <i>(Privately owned trees)</i>	Off-site <i>(Privately owned trees)</i>	Total Tree(s)	Total Hedge(s)	
2	1	7	10		
1	1	4	6		Remove
1		3	4		Retain

Deciduous Tree(s)				Coniferous Tree(s)				Hedge(s)	
Japanese maple	2	Mountain ash	1	Norway spruce	1	Western redcedar	1		
Northern red oak	1	Magnolia	1						
Common holly	1	Norway maple	1						
Honey locust	1								
Total	8			Total	2			Total	

5.0 SITE MAP

ind is

Oxenham Avenue



6.0 ON-SITE TREE INVENTORY

Table 1 - On-site Tree Inventory												
Klimo & Associates Ltd.												
July 12, 2022												
15579 Oxenham Ave, White Rock												
ID#	Surveyed Y/N	On-site (ON) Off-site (OFF) City (C)	Common name	Botanical name	DBH (cm)	LCR (%)	Canopy (Dia. M)	Condition	Comments	Retention Suitability	Retain / Remove	TPZ (m)
1513	Yes	On-site	Common holly	<i>Ilex aquifolium</i>	27	70	4	The overall growth of the tree was examined to have a multi stemmed structured overall top at around 3m. The overall development of the subject tree was examined to have an overall growth form in common with its species. The overall crown was observed to be healthy. Subject tree is in fair to good condition.	Subject tree falls towards the edge of the proposed building footprint and will be within the zone of the heaviest construction & excavation related activities.	Marginal	Remove	1.7
1514	Yes	On-site	Magnolia	<i>Magnolia</i>	13/14	65	4	The overall growth of the tree was examined to have a co dominant stemmed structured overall growth form. The overall development of the subject tree was examined to have an overall growth form in common with its species. The overall crown was observed to be healthy. Subject tree is in fair to good condition.	Place Tree Protection barriers to protect its trunk, roots, and structure. Arborist supervision will be required during the site clearing process.	Suitable	Retain	1.7

6.1 SHARED TREE INVENTORY

Table 2 - Shared Tree Inventory												
15579 Oxenham Ave, White Rock												
ID#	Surveyed Y/N	On-site (ON) Off-site (OFF) City (C)	Common name	Botanical name	DBH (cm)	LCR (%)	Canopy (Dia. M)	Condition	Comments	Retention Suitability	Retain / Remove	TPZ (m)
S1	Yes	Shared	Mountain ash	<i>Sorbus subg. Sorbus</i>	26/27	45	6	The overall growth of the tree was examined to have a co dominant stemmed structured base. The southern stem was examined to have an open cavity along with observable decay. The overall crown was observed to be healthy with having no major defects and or signs of stress. Subject tree is in fair to good condition.	Subject tree falls towards the edge of the proposed building footprint and will be within the zone of the heaviest construction & excavation related activities. <i>The neighbor's authorization will be required for its removal.</i>	Marginal	Remove	3.2

6.2 OFF-SITE TREE INVENTORY

Table 3 - Off-site Tree Inventory												
15579 Oxenham Ave, White Rock												
ID#	Surveyed Y/N	On-site (ON) Off-site (OFF) City (C)	Common name	Botanical name	DBH (cm)	LCR (%)	Canopy (Dia. M)	Condition	Comments	Retention Suitability	Retain / Remove	TPZ (m)
OS1	Yes	Off-site	Japanese maple	<i>Acer palmatum</i>	24/21 /20	65	6	The overall growth of the tree was examined to have a multi stemmed structured base. The overall development of the subject tree was examined to have been influenced by the growth of adjacent trees. The overall crown was observed to be relatively healthy with no major defect and or signs of stress. Subject tree is in fair to good condition.	Place Tree Protection barriers to protect its trunk, roots, and structure. Arborist supervision will be required during the site clearing process, excavation works, placement of the walkway, and construction of a new perimeter fence.	Suitable	Retain	3.9
OS2	Yes	Off-site	Japanese maple	<i>Acer palmatum</i>	26/32 /42	65	6	The overall growth of the tree was examined to have a multi stemmed structured base. The overall development of the subject tree was examined to have been influenced by the growth of adjacent trees. The overall crown was observed to be relatively healthy with no major defect and or signs of stress. Subject tree is in fair to good condition.	Place Tree Protection barriers to protect its trunk, roots, and structure. Arborist supervision will be required during the site clearing process, excavation works, placement of the walkway, and construction of a new perimeter fence.	Suitable	Retain	6.0
OS3	Yes	Off-site	Norway spruce	<i>Picea abies</i>	42	75	6	Subject tree was examined to have a single stemmed structured overall growth form. The overall development of the subject tree was examined to have been slightly influenced by the development of adjacent trees. Remaining growth of the crown was observed to be healthy. Subject tree is in fair to good condition.	Subject tree falls towards the edge of the proposed building footprint and had also been recommended for removal as per the neighbor's development application.	Suitable	Remove	2.6
OS4	Yes	Off-site	Honey locust	<i>Gleditsia triacanthos</i>	50/50	55	10	Mature deciduous tree. Subject tree was examined to have a co dominant structured overall growth form along with a deeply imbedded union. The overall development of the subject tree was examined to have been influenced by the development of adjacent trees. Overall growth of the crown was observed to be healthy. Subject tree is in fair condition.	Subject tree falls towards the edge of the proposed building footprint and had also been recommended for removal as per the neighbor's development application.	Marginal	Remove	6.0

ID#	Surveyed Y/N	On-site (ON) Off-site (OFF) City (C)	Common name	Botanical name	DBH (cm)	LCR (%)	Canopy (Dia. M)	Condition	Comments	Retention Suitability	Retain / Remove	TPZ (m)
OS5	Yes	Off-site	Norway maple	<i>Acer platanoides</i>	60	65	8	Subject tree was examined to have developed a single stemmed structured overall growth form. The overall development of the subject tree was examined to have grown in common with its species profile. Subject tree is in fair to good condition.	Subject tree falls towards the edge of the proposed building footprint and had also been recommended for removal as per the neighbor's development application.	Marginal	Remove	3.6
OS6	Yes	Off-site	Northern red oak	<i>Quercus rubra</i>	60	75	8	Subject tree was examined to have developed a co dominant stemmed structured overall growth form at around 15m. Sections within the canopy was observed to have been suppressed and had lacked crown development. Remaining growth was observed to be relatively healthy. Subject tree is in fair condition.	Subject tree falls towards the edge of the proposed building footprint and had also been recommended for removal as per the neighbor's development application.	Marginal	Remove	3.6
OS7	Yes	Off-site	Western redcedar	<i>Thuja plicata</i>	30	65	5	Subject tree was examined to have been previously topped at around 4m. The overall development of the subject tree was examined to have been maintained as part of the neighbor's informal hedge. Subject tree is in fair condition.	Place Tree Protection barriers to protect its trunk, roots, and structure.	Marginal	Retain	1.8

7.0 TREE RETENTION / REMOVAL RECOMMENDATIONS

A total of **ten (10) trees** have been found within the limits of the construction project. Based on the factors that include the pre-existing condition of the subject trees as detailed in the Tree inventory, and of the proposed building footprint, the subject trees are proposed to be treated as follows.

TREE RETENTION

Pursuant to the “*White Rock Tree Protection Bylaw, 2021 No. 2407*”, the following tree(s) are recommended for Retention as detailed in the Tree Inventory and recommendations as noted below. Information regarding specific recommendations can be found below each of the categorized point and further referenced within the attached Tree Management Plan and within the body of the Arborist report.

On-site & Off-site Tree(s) Selected for Retention,

- For the duration of the construction project, **on-site tree #1514, off-site trees #OS1, #OS2, and #OS7** has been recommended to be retained throughout the construction process. As the protected trees were examined to be situated near the limits of the proposed construction and of its related works, the subject trees will require the placement of Tree Protection Barriers in order to protect their trunks, roots, and structures. The placement of Tree Protection Barriers would be required to be placed along their drip lines or to their specified measurements as outlined within the Tree Inventory (*TPZ Column*) or as per the attached Tree Management Plan and left throughout the duration of the construction project

Arborist Supervision Requirements - Site clearing work

- **Removal of on-site trees, site Clearing work**
The site clearing work (*includes the removal of on-site shrubs, plantings, & vegetation*) are required to be performed under Arborist supervision as the work would encroach into the TPZ(s) of the retained trees. When clearing vegetation or shrubs within the **TPZ(s) of trees #OS1, #OS2, #OS7, and #1514**, no excavation machinery or any other heavy equipment would be allowed to encroach into their TPZ(s) throughout the clearing process. Larger stumps of the removed vegetation (*or pre-existing stumps*) are recommended to be either left in situ or grinded out. (*Please note: the remaining stumps cannot be pulled out by heavy machinery in order to ensure the protection of the retained trees*)

Arborist Supervision Requirements - Main Dwelling Excavation Process

- **Excavation & construction requirements for the main dwelling.**
Encroachment of the excavation process for the main dwelling is expected to encroach into the **TPZ(s) of trees #OS1 and #OS2**. Due to the encroachment, Arborist supervision will be required during the excavation process and in order to limit the amount of disturbance occurring within the TPZ(s) of the subject trees, the foundation line located along the northern length of the proposed dwelling would be required to be remediated and the surrounding grades respected in order to limit the extent of the excavation requirements.
 - **Root Pruning methodology (During excavation),**
If roots are exposed during the excavation process within the TPZ(s), Root pruning may be performed by the project Arborist while using sharp, appropriate tools, namely bypass pruners (*loppers*) or a saw and pruning cuts must be made at 90 degrees to the direction of the root. This minimizes the surface area exposed to pathogens and encourages healthy new root growth from the end of the cut root or for proper wound closure. (***Further remedial measures may be required depending upon the post completion of the excavation works***)

Arborist Supervision Requirements - Perimeter fencing

- **Construction of a new wooden perimeter fence (S/W site boundary line),**
As part of the landscaping process, a new wooden perimeter fence has been proposed to be constructed along the length of the south western site boundary line. As the installation process would encroach into the **TPZ(s) of trees #OS1 and #OS2**, Arborist supervision will be required during the construction of the new perimeter fencing.
 - **Perimeter Fence construction methodology**
The construction of the new perimeter fencing and the excavation for their main post holes will have to either be shifted in order to clear roots or have their new post holes prepared by hand. The new perimeter fencing is required to be installed without the use of continuous footings when constructing through the TPZ(s) of the protected trees.

- **Confirmation for the construction of a new front wall/fence**
No new front fencing or any other type of perimeter retaining wall located along the southern P/L and within the **TPZ of tree #OS1** has been proposed to be constructed. The front facing P/L (*fronting Oxenham Ave*) located within the TPZ of the subject tree would remain in its current overall/open state.

- **Existing perimeter fence (Length of the northern site boundary line)**
The existing perimeter fencing located along the length of the northern site boundary line was examined to be situated within the **TPZ of tree #1514**. As the existing perimeter fencing was examined to be in good condition, the existing perimeter fencing has been proposed to be left intact.

Arborist Supervision Requirements - Placement of the Walkway

- **Placement of the new walkway (northern length)**
The proposed walkway required to be installed as part of the main access pathway for the main dwelling (*northern side*) would encroach into the **TPZ(s) of trees #OS1 and #OS2**. In order to limit the amount of grade disturbances occurring within their TPZ(s), the installation of the walkway is required to be performed under Arborist supervision and constructed on undisturbed grade.
 - **Walkway placement methodology,**
The walkways installation would require to be constructed on undisturbed grade and is recommended to be constructed of interlocking pavers along with a geogrid textile placed as its base. In order to limit the amount potential disturbance occurring within the TPZ(s) of the subject trees, no major excavation/grading would be allowed when encroaching into the TPZ(s) or near the TPB enclosure of the protected trees. No major compaction of the subgrade is to occur and no heavy equipment would be allowed to encroach into the TPZ(s) throughout the construction/landscaping process.

TREE REMOVAL

Pursuant to the “*White Rock Tree Protection Bylaw, 2021 No. 2407*”, the following tree(s) are recommended for removal as per the following sections or as detailed in the report.

Off-site, Shared, & On-site Tree(s) Selected for Removal,**➤ Conflicts with the proposed building footprint,**

Off-site trees #OS3, #OS4, #OS5, and #OS6 will be in direct conflict with the proposed development as the subject trees would fall towards the edge of the proposed building footprint (*specifically the excavation off-set of five (5) feet*) and would be located within an area requiring the heaviest excavation & grading related requirements. The subject trees would be impacted & become structurally destabilized during the works as they would fall within an area requiring the heaviest grade disturbances related to the dwellings and of its perimeter construction requirements.

- ***Please note that off-site trees #OS3, #OS4, #OS5, and #OS6 has been recommended for removal as per the neighbor’s development permit application located at #15569 Oxenham Ave.***

➤ Conflicts with the proposed laneway house,

Shared trees #S1 and on-site tree #1513 will be in direct conflict with the proposed construction as the subject trees would fall towards the edge or would be within the footprint of the proposed laneway house and all trees would be located within an area requiring the heaviest excavation & construction related requirements. The subject trees would become impacted & structurally destabilized during the construction works as they would fall within an area requiring the heaviest grade disturbances related to the building and of its perimeter construction requirements.

- ***As tree #S1 was examined to be situated along the eastern site boundary line and shared with the neighboring property, the neighbor’s authorization would be required for its removal.***

8.0 SITE PHOTOS



Photo 1 - Facing towards the frontage of the property and of trees #OS1, #OS2, and #OS3



Photo 2 - Facing towards the lower trunks of off-site trees #OS1 and #OS2

Western Section of the Property - Photos



Photo 3 - Facing towards off-site trees #OS4, #OS5, #OS6, and #OS7



Photo 4 - Facing towards on-site trees #OS4, #OS5, and #OS6

Northern Section of the Property - Photos



Photo 5 - Facing towards on-site trees #1513 and #1514



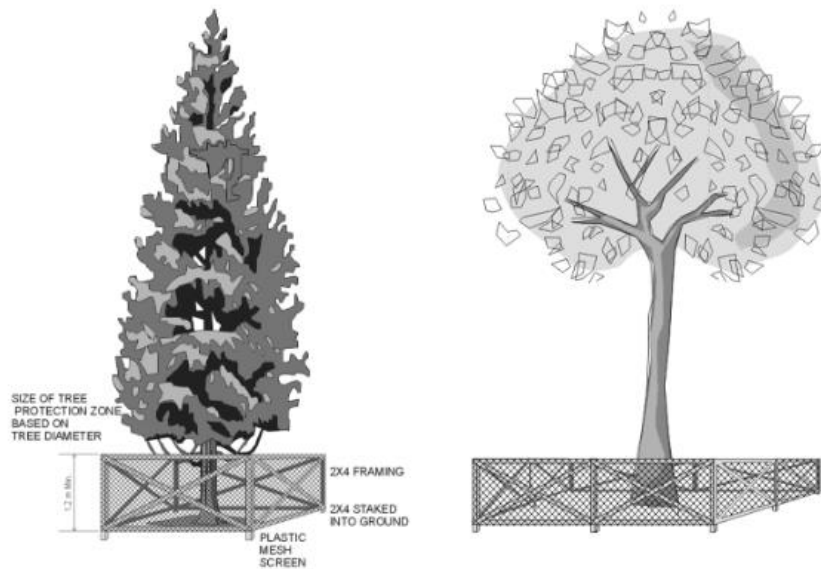
Photo 6 - Facing towards shared tree #S1

9.0 TREE PROTECTION BARRIER

Tree Protection Barrier Summary		
Tree number (species)	DBH (cm)	Minimum tree protection barrier Radial span (m)
OS1	24/21/20	
OS2	26/32/42	
1514	13/14	

All trees identified above will require tree protection barriers to protect and prevent the tree trunk, branches and roots being damaged by any construction and of its related activities/operations. Prior to any construction activity on site, tree protection fences must be constructed at the specified distance from the tree trunks. The protection barrier or temporary fencing must be at least 1.2 m in height and constructed of 2 by 4 lumber with orange plastic mesh screening. Structure must be sturdy with vertical posts driven firmly into the ground. This must be constructed prior to excavation or construction and remain intact throughout the entire period of construction. Further standards for fencing construction can be found at: *“White Rock Tree Protection Bylaw, 2021 No. 2407”*

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10.0 TREE REPLACEMENT PLAN

Outlined in the “White Rock Tree Protection Bylaw, 2021 No. 2407”, the requirement for replacement trees will be required based upon the protected trees being cut or removed. Two (2) replacement trees are to be planted for each permit-sized tree removed from the subject site. Please review the table and recommended species below.

On-Site/Shared Trees	Number of Trees
Protected Trees Identified	3
Protected Trees to be Removed	2
Protected Trees to be Retained	1
Off-site/City Trees	
Protected Trees Identified	7
Protected Trees to be Removed	4
Protected Trees to be Retained	3
Total Replacement Trees Required:	
Trees Requiring 2 to 1 Replacement Ratio	12 Trees
6 X two (2) = 12	
Total Replacement Trees required	12
Replacement Trees Proposed	5
Replacement Trees for Cash in leu	7

Tree Replacement Species		
Planting(s) should be scheduled for the late winter/ early spring or early fall		
Quantity	Name	Species
3	Gingko ‘Princeton Sentry’	<i>Gingko Biloba</i> ‘Princeton Sentry’
2	Common hornbeam	<i>Carpinus betulus</i> ‘Frans Fontaine’

Please see map for location Note: Planting cannot be within 3 meters of another significant tree

General Tree Planting Methodology

Replacement trees must meet plant condition and structure requirements as stated in "BC Landscape Standard" of the BCSLA/BCLNA and "Canadian Standards for Nursery Stock" of the CNTA. Also, the Replacement trees must be planted and maintained according to the requirements as stated in the "BC Landscape Standard" of the BCSLA.

It is important to locate your new plantings in accordance with the species' growing habits or tendencies. It is crucial to avoid planting your trees alongside buildings in which root ingress into drainage systems can occur and this can result in costly remedial work, also it is good practice not to plant your tall growing trees under power lines or utility lines as this can lead to pruning that may grossly adulterate the overall form or shape of the tree. Planting trees in the right location is the key to sustaining a balanced urban forest.

The proposed replacement Trees are to be a minimum size of 6cm caliper if deciduous, which is measured at 15 cm above the ground, or 3m tall if coniferous at the time of planting (*trunk width measured at 15 centimetres above the ground*) At least 1.0 metre away from any site boundary line, at least 3.0 metres away from any principle building or any accessory building or any other structure on or adjacent to the site that may adversely affect the tree and; at least 2.5 metres away from any other tree on or adjacent to the site including driveway or any other hardscape or underground service/utility lines.

11.0 CONCLUSIONS

Based on our findings, a total of ten (10) trees have been identified within the limits of the property. A total of six (6) on/off-site trees have been recommended for removal due to conflicts with the proposed development and as the subject trees had fallen within the high disturbance requirement areas relating to the construction process and of its related works. A few select trees were also recommended for removal due their unsuitability for long term retention due to their poor overall growth forms and structures.

A total of four (4) on/off-site trees have been recommended for retention along with the retained trees having the requirement of erecting Tree Protection Barriers due to their close proximity towards the proposed construction working limits. Also, in order to ensure the retained trees and of their protection through out the duration of the development project, Trigger points have been identified on the Tree Management Plan requiring Arborist supervision when working inside of their TPZ(s) during a few of the construction milestones.

Thank you for choosing Klimo & Associates Ltd. Any further questions can be forwarded to Francis Klimo at (604)358-5562 or by email at klimofrancis@gmail.com

Regards,



Francis Klimo

ISA Certified Arborist #PN-8149A

ISA Certified Tree Risk Assessor (TRAQ)

BC Wildlife Danger Tree Assessor #7193