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District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)

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2.	**Staff Report** (dated August 30, 2016, with staff report dated July 13, 2016 attached) On September 12, 2016, Bylaw 8183 was amended at Second Reading to remove the subject site from the Siting Area Map.
3.	**Bylaw 8183:** District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183) which rezones the subject site from Light Industrial (I3) to Comprehensive Development 94 (CD94) to enable the development of a mixed use commercial/ residential apartment project.
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6.	**Traffic Impact Assessment**
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12.	**Flood Construction Report**
13.	**Site Profile** (In accordance with the Environmental Management Act, all commercial and industrial sites must complete a site profile on the past use of the site. This is in turn is forwarded to the Provincial registry.)
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PUBLIC INPUT	
15.	**Public Input** (Since First Reading, July 26, 2016)

AGENDA INFORMATION		Dept. Manager	GM/ Director	CAO
☑ Regular Meeting	Date: SEPT. 12, 2016			
☐ Other:	Date:			

The District of North Vancouver
REPORT TO COUNCIL

August 30, 2016
File: 08.3060.20/046.15

AUTHOR: Casey Peters, Community Planner

SUBJECT: **Amendment to Rezoning Bylaw 8183 - 467 Mountain Hwy**

RECOMMENDATION:

THAT "District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)" be given SECOND Reading, as amended.

REASON FOR REPORT:

The reason for this report is to amend the rezoning bylaw as it was presented for First Reading. The proposed amendment will add a "Schedule B" which will remove the subject site from the existing Siting Area Map I/2B.

BACKGROUND:

Bylaw 8183 was given First Reading on July 26, 2016. After First Reading was granted staff identified that the site is affected by one of the District's siting area maps within the Zoning Bylaw. The siting area map restricts the footprint of any building on the site to the location of the existing building and would prevent the proposed redevelopment.

To be properly considered at Public Hearing it is recommended that Bylaw 8183 be corrected to address this oversight. Specifically, Bylaw 8183 has been amended to add a "Schedule B" that removes the subject site from the siting area map. This amendment makes no changes to the proposed development that was introduced at First Reading of Bylaw 8183. The Public Hearing has been scheduled to allow a sufficient notice period for the amended bylaw.

CONCLUSION:

It is recommended that Council grant Bylaw 8183 Second Reading, as amended, in order to correct a siting area omission, thereby allowing the redevelopment project to proceed to Public Hearing.

OPTIONS:

1. THAT "District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)" be given SECOND Reading, as amended.

2. THAT no further readings of "District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)" be given, thereby defeating the redevelopment project.

Casey Peters
Community Planner

Attachments
- District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183), as amended
- Staff Report dated July 13, 2016 with attachments

REVIEWED WITH:

❑ Sustainable Community Dev.	____	❑ Clerk's Office	____	External Agencies:	
❑ Development Services	____	❑ Communications	____	❑ Library Board	____
❑ Utilities	____	❑ Finance	____	❑ NS Health	____
❑ Engineering Operations	____	❑ Fire Services	____	❑ RCMP	____
❑ Parks	____	❑ ITS	____	❑ NVRC	____
❑ Environment	____	❑ Solicitor	____	❑ Museum & Arch.	____
❑ Facilities	____	❑ GIS	____	❑ Other:	____
❑ Human Resources	____	❑ Real Estate	____		

The Corporation of the District of North Vancouver

Bylaw 8183

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "The District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)".

2. Amendments

(a) Part 2A, Definitions is amended by adding CD 94 to the list of zones that Part 2A applies to.

(b) Section 301 (2) by inserting the following zoning designation:

"Comprehensive Development Zone 94 CD 94"

(c) Part 4B Comprehensive Development Zone Regulations by inserting the following, inclusive of Schedule B:

"4B94 Comprehensive Development Zone 94 CD 94

The CD 94 zone is applied to:

467 Mountain Hwy
Lot 2 (Explanatory Plan 15163) Block J District Lot 613 Plan 10064 (008-067-856);

4B 94 – 1 Intent

The purpose of the CD 94 Zone is to permit a commercial and residential mixed use development.

4B 94 – 2 Permitted Uses:

The following *principal* uses shall be permitted in the CD 94 Zone:

a) Uses Permitted Without Conditions:

Not applicable.

b) Conditional Uses:

The following *principal* uses are permitted when the conditions outlined in Section 4B 94-3 Conditions of Use, are met:

Conditional Uses defined in Part 2	**Conditional Uses defined in Part 2A**
Artist's studio	Office use
Custom manufacturing establishments	Personal service use
Hobby beer and wine making establishment	Residential use
Liquor store (limit of one per lot)	Retail use
Pet care establishment	
Retail Food Service	
Veterinarian	

4B 94-3 Conditions of Use

a) **All conditional uses**: All uses of land, buildings and structures are only permitted when the following condition of use is met:
   i) All aspects of the use are completely contained within an enclosed building except for:
      (1) Parking and loading areas;
      (2) *Outdoor customer services areas*;
      (3) The display of goods; and
      (4) Outdoor amenity areas (play areas and private or semi-private outdoor space).

b) ***Residential***: *Residential uses* are only permitted when the following conditions are met:
   i) Residential uses are not permitted on the ground floor;
   ii) Each dwelling unit has access to private or semi-private outdoor space;
   iii) Each dwelling unit has exclusive access to a private storage space; and
   iv) Enclosed patios and balconies are not permitted.

4B 94-4 Accessory Use

a) *Accessory uses* customarily ancillary to the principal uses are permitted.

b) *Home occupations* are permitted in *residential* dwelling units.

4B 94 - 5 Density

a) The maximum permitted density is 1.2 *gross floor area*, inclusive of any density bonus for energy performance, and a maximum of 10 residential dwelling units.

b) For the purpose of calculating *gross floor area* the following are exempted:
   i. Any areas completely below natural and finished grade
   ii. Ground level parking up to 136m ² (1,463 sq ft);
   iii. Residential and commercial garbage areas up to 45m² (479 sq ft);
   iv. Residential storage rooms up to 185.8m² (2000 sq ft) in total on the lot;
   v. The area of balconies and covered patios.

4B 94-6 Amenities

a) Despite Subsection 4B94 – 5, permitted density in the CD 94 Zone is increased to a maximum of 3.5 FSR *gross floor area,* including any density bonus for energy performance, and a maximum of 63 residential dwelling units if the owner:
   i. Contributes $705,000 the municipality to be used for any of the following amenities (with allocation and timing of expenditure to be determined by the municipality in its sole discretion): public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation service facility, or facility improvements; and/or the affordable housing fund.
   ii. Enters into a Housing Agreement prohibiting any restrictions preventing the owners in the project from renting their units.

b) For the purposes of calculating FSR the lot area is deemed to be 1,728.2m ² (18,603 sq ft) being the site size at the time of rezoning.

4B94 – 6 Height

a) The maximum permitted height for the building is 23m (75.5 ft).

4B 94 - 7 Setbacks

a) Buildings shall be set back from property lines to the closest building face as established by development permit and in accordance with the following regulations:

Setback	Minimum Required Setback
North	0.0 m (0.0 feet)
East (Mountain Hwy)	3.0 m (9.8 feet)
South (Charlotte Rd)	1.5 m (5.0 feet)
West	0.0 m (0.0 feet)

a) For the purpose of measuring setbacks, measurements exclude:
   (i) Balconies, canopies, overhangs, architectural elements and awnings.

4B 94 - 8 Coverage

a) Building Coverage: The maximum building coverage is 85%.

b) Site Coverage: The maximum site coverage is 96%.

4B 94 - 9 Landscaping and Storm Water Management

a) All land areas not occupied by buildings, and patios shall be landscaped in accordance with a landscape plan approved by the District of North Vancouver.

b) All electrical kiosks and garbage and recycling container facilities not located underground or within a building must be screened.

4B 94 – 10 Parking, Loading and Servicing Regulations

a) Parking and loading are required as follows:

Use	Parking Requirement
Residential	1.1 space/ unit
Residential Visitor Parking	0.1 space / unit
Commercial	1 space/ 40m^2
Shared commercial and visitor parking	2 of the visitor parking spaces shall available for shared use with commercial uses

b) Bicycle storage for residents shall be provided on the basis of one space per unit.

c) Except as specifically provided in 4B94-10 (a) and (b) Parking and Loading shall be provided in accordance with Part 10 of this Bylaw."

(d) The Zoning Map is amended in the case of the lands illustrated on the attached map (Schedule A) by rezoning the land from the Light Industrial Zone (I3) to Comprehensive Development Zone CD 94.

(e) The Siting Area Map section is amended by deleting Plan Section I/2B and replacing it with the attached revised Plan Section I/2B (Schedule B).

READ a first time the 26th day of July, 2016.

READ a second time as amended

PUBLIC HEARING held

READ a third time

Certified a true copy of "Rezoning Bylaw 1342 (Bylaw 8183)" as at Third Reading

_____
Municipal Clerk

APPROVED by the Ministry of Transportation and Infrastructure on

ADOPTED

_____ _____
Mayor Municipal Clerk

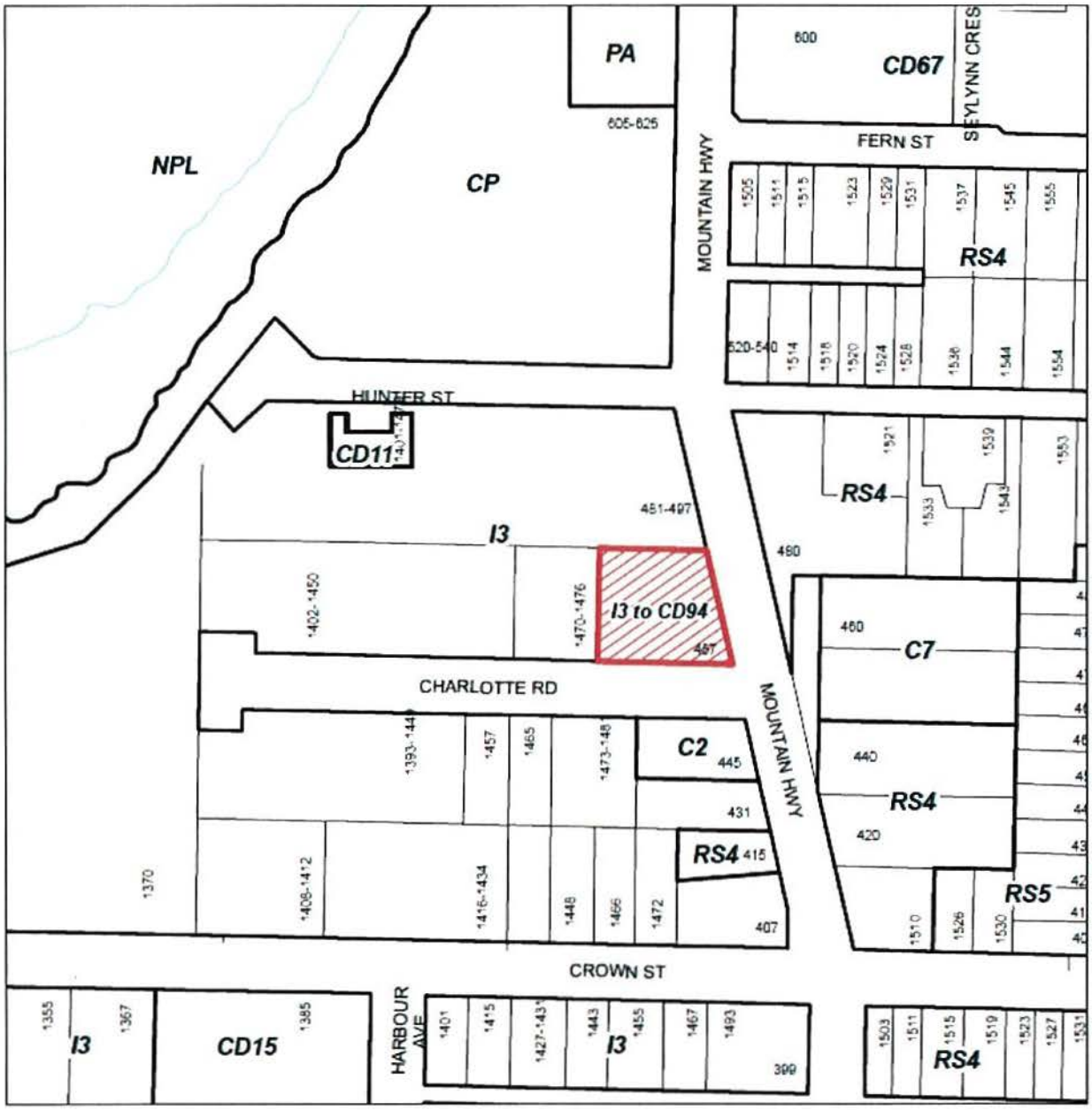
Certified a true copy

_____
Municipal Clerk

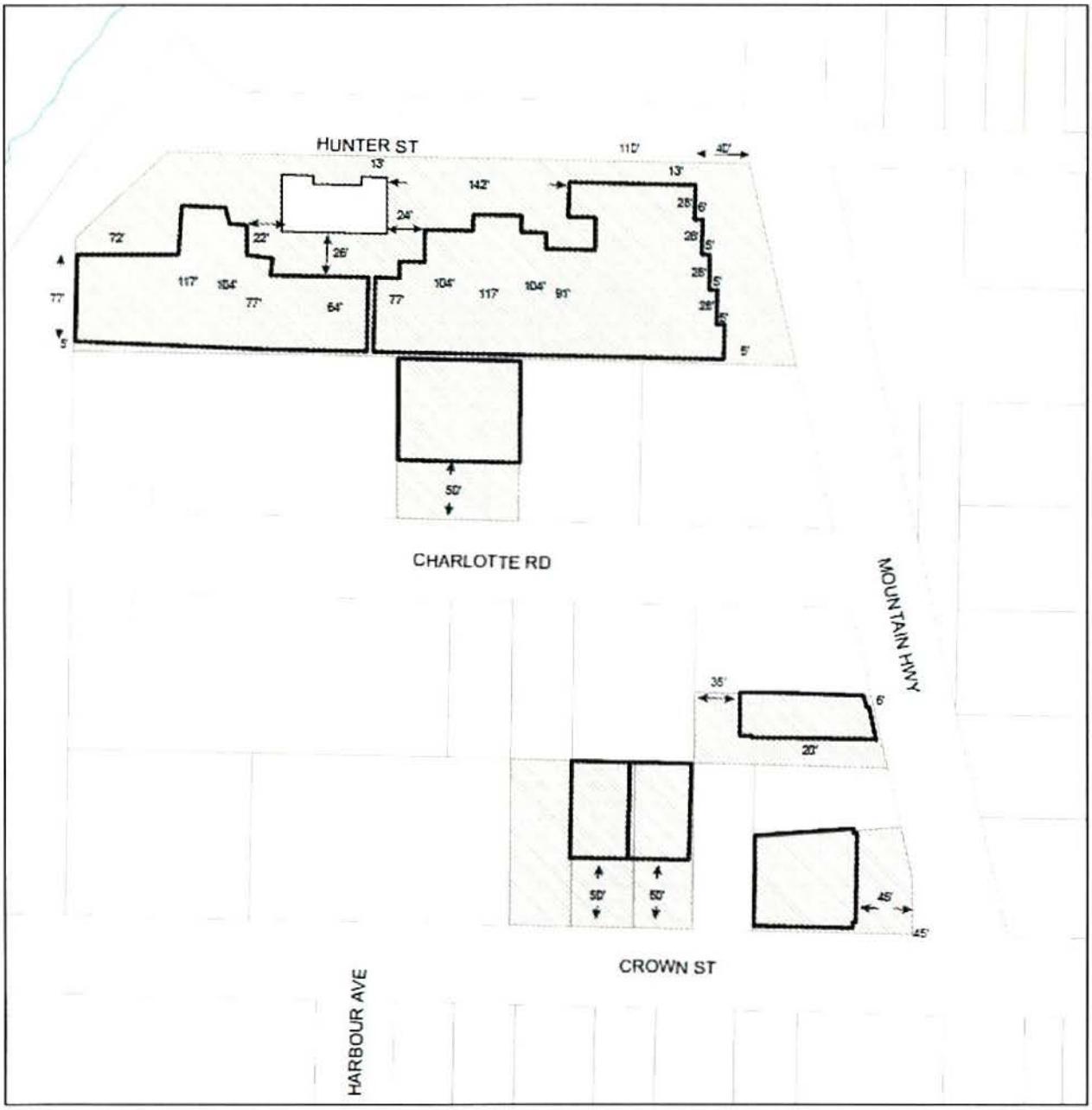
Schedule A to Bylaw 8183

BYLAW 8183

The District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)



Schedule B to Bylaw 8183



BYLAWS 4754, 4781, 4974, 5189, 5253, 5323, 5494, 5956, 6262, 6336, 6397, 8183

AGENDA INFORMATION		Dept. Manager	GM/ Director	CAO
☑ Regular Meeting	Date: July 26 2016			
☐ Workshop (open to public)	Date:			

The District of North Vancouver

REPORT TO COUNCIL

July 13, 2016
File:08.3060.20/046.15

AUTHOR: Casey Peters, Community Planner

SUBJECT: **BYLAWS 8183 AND 8184: REZONING AND HOUSING AGREEMENT FOR A MIXED USE PROJECT: 467 MOUNTAIN HWY**

RECOMMENDATION:

THAT the "District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)", which rezones the subject site from Light Industrial Zone (I3) to Comprehensive Development 94 (CD94) to enable the development of a mixed use commercial/ residential building, be given FIRST Reading;

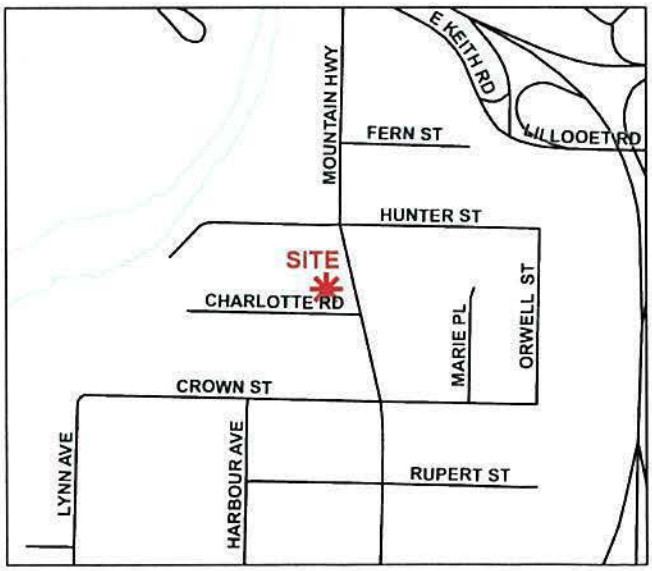
THAT "District of North Vancouver Housing Agreement Bylaw 8184", which authorizes a Housing Agreement to prevent future rental restrictions on the subject property, be given FIRST Reading; and

THAT "District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)", be referred to a Public Hearing.

REASON FOR REPORT:

The proposed project requires Council's consideration of:

- Bylaw 8183 to rezone the subject property; and
- Bylaw 8184 to authorize entry into a Housing Agreement to ensure that owners are not prevented from renting their units.

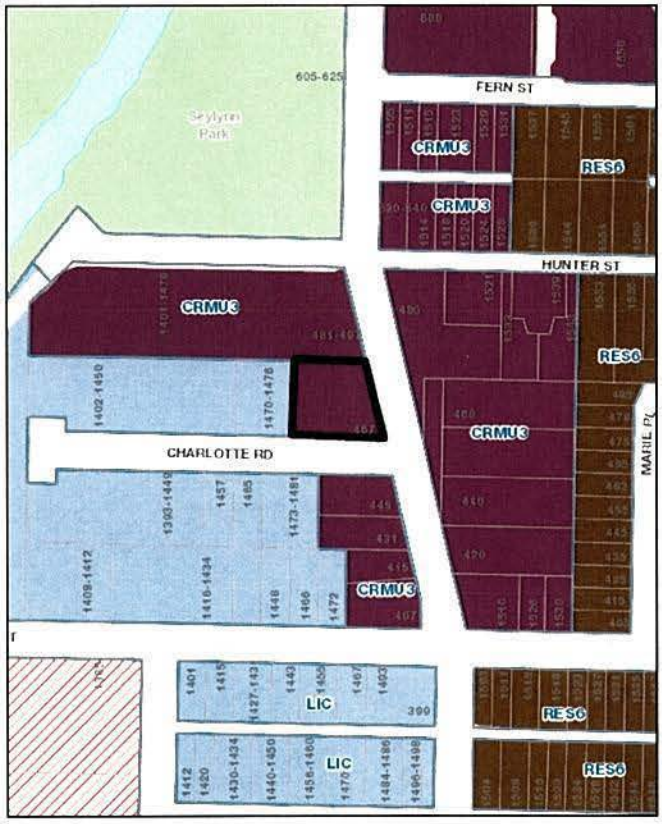


SUMMARY:

The applicant proposes to redevelop the existing industrial lot located at 467 Mountain Hwy as a six storey mixed use building

comprising of 63 apartment units and 6 commercial units. Implementation of the project requires a rezoning bylaw (Bylaw 8183), Housing Agreement Bylaw (Bylaw 8184), and issuance of a development permit. The Rezoning Bylaw and Housing Agreement Bylaw are recommended for introduction and the rezoning bylaw is recommended for referral to a Public Hearing. A development permit will be forwarded to Council for consideration if the rezoning proceeds

BACKGROUND:



Official Community Plan

The subject property is designated *Commercial Mixed Use Level 3 (CRMU3)* in the District Official Community Plan (OCP). CRMU3 envisions high density uses up to approximately 3.5 FSR at limited appropriate sites in the District's centres. Development may include residential or commercial uses which encompass retail, office and service uses or a mix of these residential and commercial uses.

The proposal includes 6 commercial units on the ground floor facing Mountain Hwy with 5 levels of residential units above. There is a private outdoor courtyard on the second level for the use of all residents.

The proposed units are a mix of 1, 2 and 3 bedroom layouts, which will be attractive to individuals, families and downsizers, and as such, the proposal responds to Goal #2 of the OCP to "encourage and enable a diverse mix of housing types…to accommodate the lifestyles and needs of people at all stages of life."

The Lower Lynn Town Centre Implementation Plan identified this site within the "heart" of the town centre. The Plan identified building heights of approximately 6 storeys and the proposed 6 storey height is in compliance with the Implementation Plan.

Zoning:

The subject property is zoned Light Industrial (I3) which is intended to accommodate a mix of clean, environmentally safe industrial activities and service uses at a 1.2 FSR. Rezoning is required to permit this mixed use project at 3.5 FSR. Bylaw 8183 proposes the establishment of a new Comprehensive Development Zone 94 (CD94) tailored specifically to this project.

Development Permit

The subject lots are designated as Development Permit Areas for the following purposes:

- Form and Character of Multi-Family Development (Mixed-Use Buildings);
- Energy and Water Conservation and Greenhouse Gas Emission Reductions; and
- Creek Hazard.

A detailed development permit report, outlining the project's compliance with the applicable DPA guidelines will be provided for Council's consideration at the Development Permit stage should the rezoning be approved.

Strata Rental Protection Policy

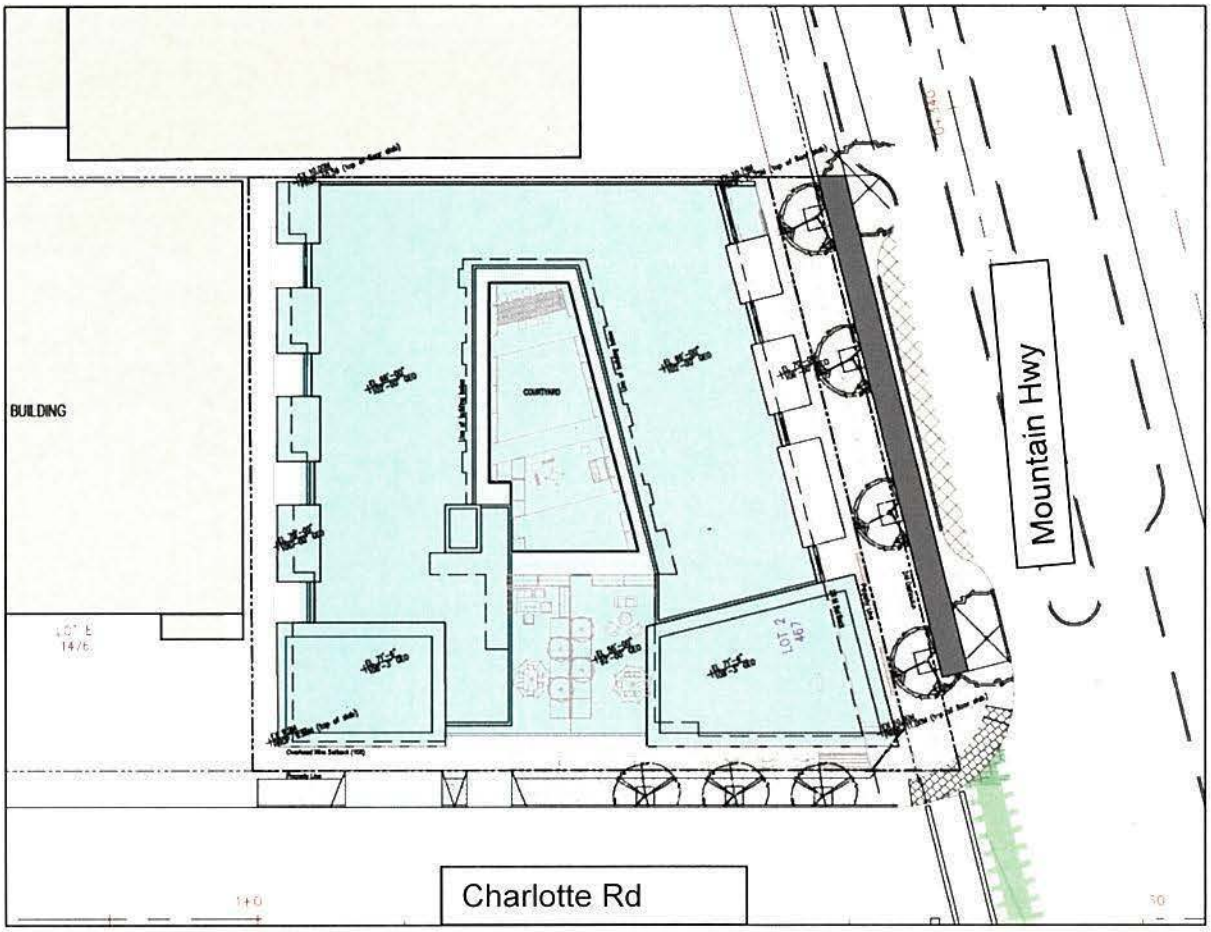
Corporate Policy 8-3300-2 "Strata Rental Protection Policy" applies to this project as the rezoning application would permit development of more than five units. The policy requires a Housing Agreement to ensure that future strata bylaws do not prevent owners from renting their units and Bylaw 8184 is provided to implement that Policy.

ANALYSIS

The Site and Surrounding Area:

The site consists of an existing light industrial property located at the corner of Mountain Hwy and Charlotte Rd. Adjacent uses consist of industrial to the west, south and north and commercial and single family to the east. The Planning Department is processing an application on the site to the north to redevelop to a mixed use project in conformance with the District's OCP designation.

The OCP designates the properties to the west as Light Industrial Commercial and the properties to the north, east and south as Commercial Residential Mixed Use Level 3.



Site Plan

Project Description:

Site Plan/Building Description:

The project consists of 63 apartment units and 6 commercial units in a six storey mixed use building. The proposal includes a dedication along the Mountain Hwy to widen the existing road cross-section.

Five of the commercial units are accessed from Mountain Hwy and one commercial unit and the residential lobby are accessed from Charlotte Rd. Access to underground parking for commercial and residential uses and for visitors is from on Charlotte Rd.

The proposal includes an outdoor courtyard amenity space on the second floor that allows for an outdoor play space, planting and seating areas for all residents in the building.

The units are a mix of 1, 2 and 3 bedrooms and range in size from 51.8m² (558 sq ft) to 125.6m² (1352 sq ft). The project proposes 24% 1 bedroom units, 66% 2 bedroom units and 10% 3 bedroom units. The building is approximately 23m (75.5 ft) in height.

District's Council has been working with staff to generate an affordable housing policy framework in the District. The project meets several goals from the OCP including:

- Expand the supply and diversity of housing
- Increase housing supply along frequent transit network
- Expand opportunities for rental of strata units
- Provide a cash CAC which Council can use toward affordable housing and other amenities.

Corner of Mountain Hwy and Charlotte Rd

Charlotte Rd Elevation

Parking

Parking is provided on two levels underground with access from Charlotte Rd. There are 70 parking stalls proposed for residential, 12 for commercial and 6 for visitors. The proposal results in in 1.1 stalls per unit and 0.1 for visitor which meets the Lynn Creek Implementation Plan guidelines. The proposed commercial parking rate is a blended rate of 1/40m² of commercial space. In addition to the 12 spaces available at the first level of parking there will be two visitor spaces that can be shared between the commercial uses and visitors.

The District's policy for multifamily residential developments in centres proposes 1.1 spaces per unit for apartments in frequent transit development areas and an additional 0.1 spaces for visitors. This proposal complies with the DNV policy.

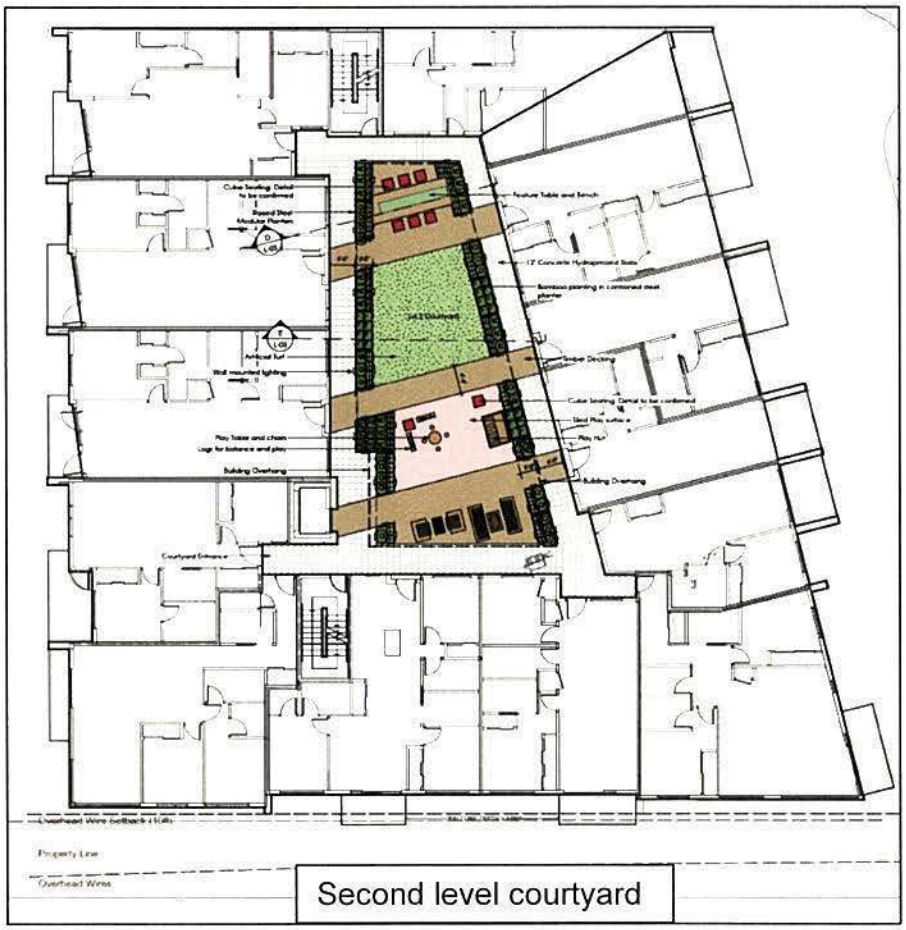
The applicant retained Bunt and Associates to review the proposal in terms of vehicle volumes and parking. Bunt noted that the site is adjacent to Translink's Frequent Transit Network (FTN), is approximately 100m from the closest bus stop, and is well serviced by several bus routes. The Bunt report also notes that the site is located within the Lynn Creek Town Centre and that the area is planned to establish a hub for community services and facilities.

The proposal includes one storage locker for each unit with enough room to store two bikes. Bike racks will also be available near the commercial spaces.

Bunt has noted that the intersection of Charlotte Rd and Mountain Hwy is expected to operate within acceptable standards for peak hours.

Landscaping

The landscaping for the project is found around the perimeter of the site and within the courtyard on the second floor. The streetscape design follows the guidelines for the Lynn Creek Town Centre and includes street trees, boulevard plantings, sidewalks on both street frontages, and a bike path on Mountain Hwy.



Second level courtyard

The second level includes a courtyard space to serve as an outdoor amenity for the residents of the building. There will be private patios and access to second floor units as well as an open and useable space for play and seating.

Flood Hazard

The site has been identified as within the Development Permit area for Creek Hazard. The applicant has submitted a report from Keystone Environmental that details the flood construction level (FCL) and notes that no habitable space and mechanical or electrical equipment may be installed below the FCL. The CD94 zone proposes some exemptions to floor space for garbage and recycling areas and for a portion of the residential storage as these spaces are not able to be located in the underground parkade due to the FCL. The District's Manager for Public Safety has reviewed and accepted the Keystone Environmental report.

Acoustic Regulations

The District's residential acoustic regulations for maximum noise levels in the bedrooms, living areas and other areas of the units will be secured with the Development Covenant and the applicant will be required to provide a report from a qualified noise consultant at the Building Permit stage.

Reduced copies of site, architectural and landscaping plans are included as Attachment A for Council's reference.

Accessible Units

In response to the District's Adaptable Design Guidelines, 59 units will meet the basic accessible criteria and 4 units will meet the enhanced criteria. In addition, 6 residential parking spaces will be accessible stalls. The proposal meets the Districts Policy in that 100% of the units will meet the basic accessible requirement and 5% will meet the enhanced requirement.

OFF-SITE IMPROVEMENTS:

The application includes upgrades to Mountain Hwy and Charlotte Road including new sidewalks, street trees, and a new bike lane. A 3.3m dedication is required along Mountain Hwy and the civil works have been designed to meet the Lynn Creek Public Realm guidelines.

GREEN BUILDING MEASURES:

Compliance with the Green Building Strategy is mandatory given the need for rezoning and the project is targeting Leed™ Gold and an energy performance better than the Model National Energy Code for Buildings. Additional details on how the project meets the Development Permit guidelines for Energy and Water Conservation and Greenhouse Gas Emission Reduction will be provided if the rezoning for the project is approved.

IMPLEMENTATION:

Implementation of this project will require consideration of a rezoning bylaw, Bylaw 8183, and a Housing Agreement Bylaw, Bylaw 8184, as well as issuance of a development permit and registration of legal agreements.

Bylaw 8183 (Attachment B) rezones the subject properties from Light Industrial (I3) to a new Comprehensive Development 94 Zone (CD94) which:

- establishes the permitted uses (multi-family residential use and commercial uses);
- allows home occupations as an accessory use;
- establishes a base density FSR (Floor Space Ratio) of 1.2;
- establishes a density bonus to an FSR of 3.5 subject to payment of a $705,000 CAC and entering into a housing agreement to restrict future strata rental restrictions;
- establishes setback, height, building coverage and site coverage regulations; and
- establishes parking regulations specific to this project.

Bylaw 8183, (Attachment C) authorizes the District to enter into a Housing Agreement to ensure that the proposed residential units remain available as rental units.

In addition, the following legal agreements will be required prior to zoning bylaw adoption to secure:

- Development Covenant
- a green building covenant;
- a stormwater management covenant; and
- a flood hazard covenant

COMMUNITY AMENITY CONTRIBUTION:

The District's Community Amenity Contribution (CAC) Policy requires an amenity contribution for projects including an increase in residential density. In this case, a CAC of $705,000 has been calculated and this amount is included in the proposed CD94 Zone. It is anticipated that the CACs from this development will include contributions toward public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation services facility, or facility improvements; and/or the District's Affordable Housing Fund.

CONCURRENCE:

Staff

The project has been reviewed by staff from Environment, Permits, Parks, Engineering, Policy Planning, Urban Design, Transportation Planning, the Fire Department, Public Safety and the Arts Office.

Advisory Design Panel

The application was considered by the Advisory Design Panel on February 11, 2016 and the panel recommended approval of the project subject to a review of the following items:

- north wall treatment
- relationship with building to the west
- programming of the courtyard
- barrier free access to garbage room and storage rooms
- greater presence of residential lobby

In response to the Panel's motion, the applicant has submitted a redesigned package that includes the following:

- a revised lobby that is more prominent
- relocated garbage rooms to ensure barrier free access
- revised north elevation to introduce bands of different material, size and colour
- Shifted the building to the east to increase the setback to the adjacent property to the west
- Improvements to the usability of the courtyard includes: a lower south façade to increase sun exposure, plantings to ensure buffer to level two units, and low maintenance design features.

Staff have reviewed the changes are continuing to work with the applicant in advance of Development Permit consideration.

PUBLIC INPUT:

Public Information Meeting

The applicant held a facilitated early public input meeting at the preliminary application stage and a second facilitated Public Information Meeting on March 9, 2016. The second meeting was attended by approximately 12 residents.

Key issues from the preliminary application had been regarding construction impacts, street parking, traffic problems and the need for affordable housing in North Vancouver. At the Public Information Meeting held at the detailed application the key concerns included a repeated concern regarding traffic issues and a concern regarding the loss of industrial land.

The applicant has submitted a revised report from Bunt & Associates that notes that the project will generate 33 trips in the AM peak hour and 54 trips during the PM peak hour. The intersection at Charlotte Road and Mountain Hwy is expected to operate acceptably for all analysed peak hours and the proposal includes traffic demand management measures including bicycle parking, transit passes and the applicant is continuing to explore participation in a car share program.

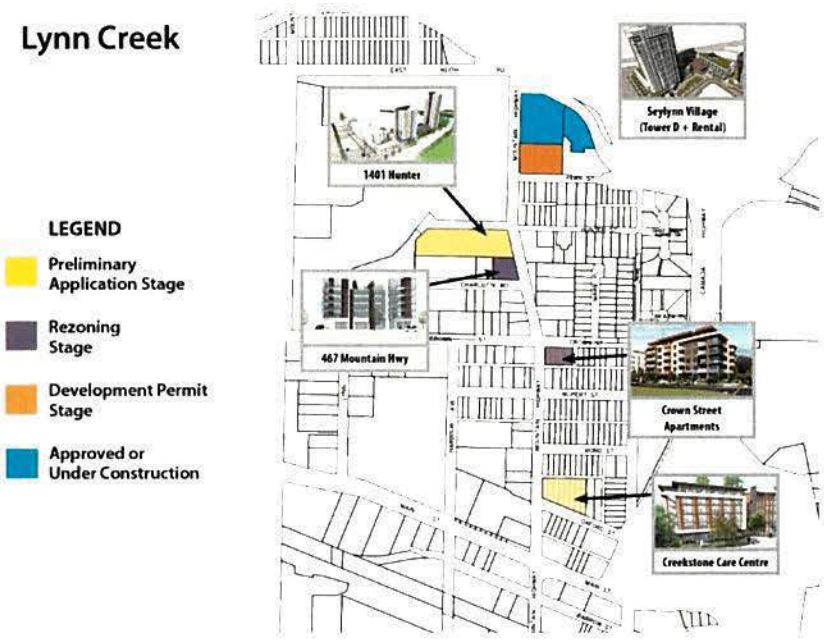
While previously designated "Light Industrial" in the Lower Lynn Official Community Plan (1993), the site was designated as Commercial Mixed Use Level 3 (CRMU3) in the District's

OCP (2011). The site is currently used for industrial purposes with one tenant and Bylaw 8183 proposes a mix of commercial and residential uses, in accordance with the property's OCP designation. The long range planning work that was completed in this town centre proposed the creation of a "heart" of the town centre was created as part of the OCP planning work which resulted in the change of this site from Industrial to mixed use.

A copy of the facilitator's report from the Public Information Meeting is attached to this report.

CONSTRUCTION MANAGEMENT PLAN:

The map highlights the mix of projects under construction and anticipated within the Lynn Creek Town Centre. The neighbouring development at Hunter St and Mountain Hwy has completed a preliminary planning application for redevelopment to a mixed use project. The applicants for the two projects have already started to coordinate efforts with regards to construction and will continue to do so should their construction periods overlap.



The applicant has submitted a draft construction management plan and will be required to provide a finalized construction management plan prior to issuance of a building permit and this plan must:

1. Provide safe passage for pedestrians, cyclists, and vehicle traffic;
2. Outline roadway efficiencies (i.e. location of traffic management signs and flaggers);
3. Provide a point of contact for all calls and concerns;
4. Provide a sequence and schedule of construction activities;
5. Identify methods of sharing construction schedule and coordinating activities with other developments in the area;
6. Ascertain a location for truck marshalling;
7. Develop a plan for trade vehicle parking which is acceptable to the District and minimizes impacts to neighbourhoods;
8. Address silt/dust control and clean-up;
9. Provide a plan for litter clean-up and street sweeping adjacent to the site; and
10. Include a communication plan to notify surrounding businesses and residents.

CONCLUSION:

This project is consistent with the directions established in the OCP and the Lower Lynn Implementation Plan. It addresses OCP housing policies related to the provision of a range of housing options. The project is now ready for Council's consideration.

Options:

The following options are available Council's consideration:

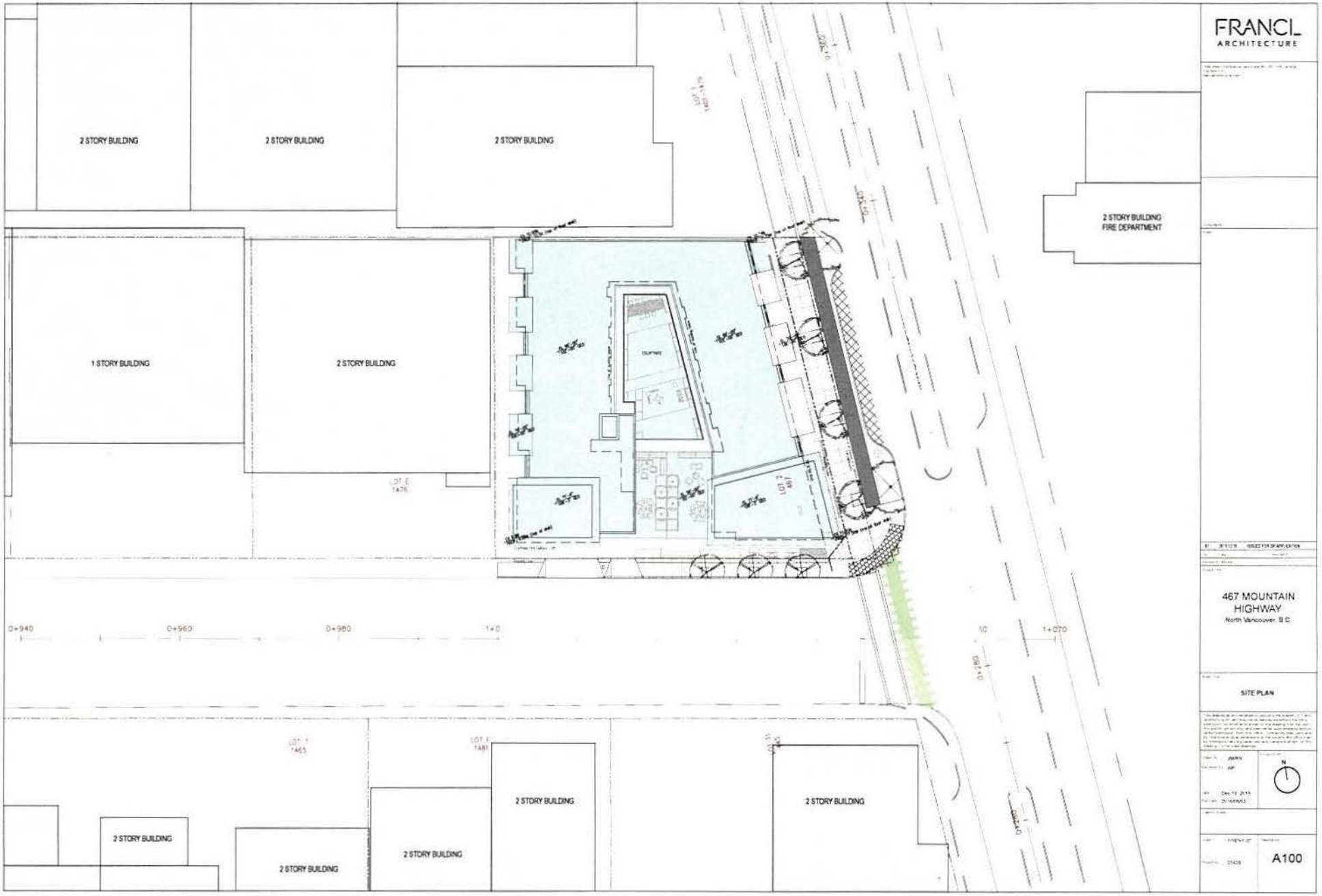
1) Introduce Bylaws 8183 and 8184 and refer Bylaw 8183 to a Public Hearing (staff recommendation); or
2) Defeat Bylaw 8183 and 8184 at First Reading.

Casey Peters
Community Planner

Attachments:
A – Reduced project plans
B – Bylaw 8183
C – Bylaw 8184
D – Public Information Meeting Facilitator's Report

REVIEWED WITH:

				External Agencies:	
❑ Sustainable Community Dev.	____	❑ Clerk's Office	____		
❑ Development Services	____	❑ Communications	____	❑ Library Board	____
❑ Utilities	____	❑ Finance	____	❑ NS Health	____
❑ Engineering Operations	____	❑ Fire Services	____	❑ RCMP	____
❑ Parks & Environment	____	❑ ITS	____	❑ Recreation Com.	____
❑ Economic Development	____	❑ Solicitor	____	❑ Museum & Arch.	____
❑ Human resources	____	❑ GIS	____	❑ Other:	____



FRANCL
ARCHITECTURE

467 MOUNTAIN
HIGHWAY
North Vancouver, B.C.

SITE PLAN

A100

VIEW FROM THE CORNER OF MOUNTAIN HIGHWAY AND CHARLOTTE ROAD

VIEW FROM CHARLOTTE ROAD

VIEW FROM MOUNTAIN HIGHWAY

FRANCL
ARCHITECTURE

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

PERSPECTIVE VIEWS

A008

FRANCL
ARCHITECTURE

VIEW FROM CHARLOTTE ROAD 02

467 MOUNTAIN
HIGHWAY
North Vancouver, BC

PERSPECTIVE VIEWS

A010

COURTYARD VIEW 01

COURTYARD VIEW 02

STREET PERSPECTIVE - CHARLOTTE ROAD

STREET PERSPECTIVE MOUNTAIN HIGHWAY

FRANCL
ARCHITECTURE

467 MOUNTAIN
HIGHWAY
North Vancouver, B.C.

PERSPECTIVE VIEWS

Dec 12, 2015

A009

WEST ELEVATION

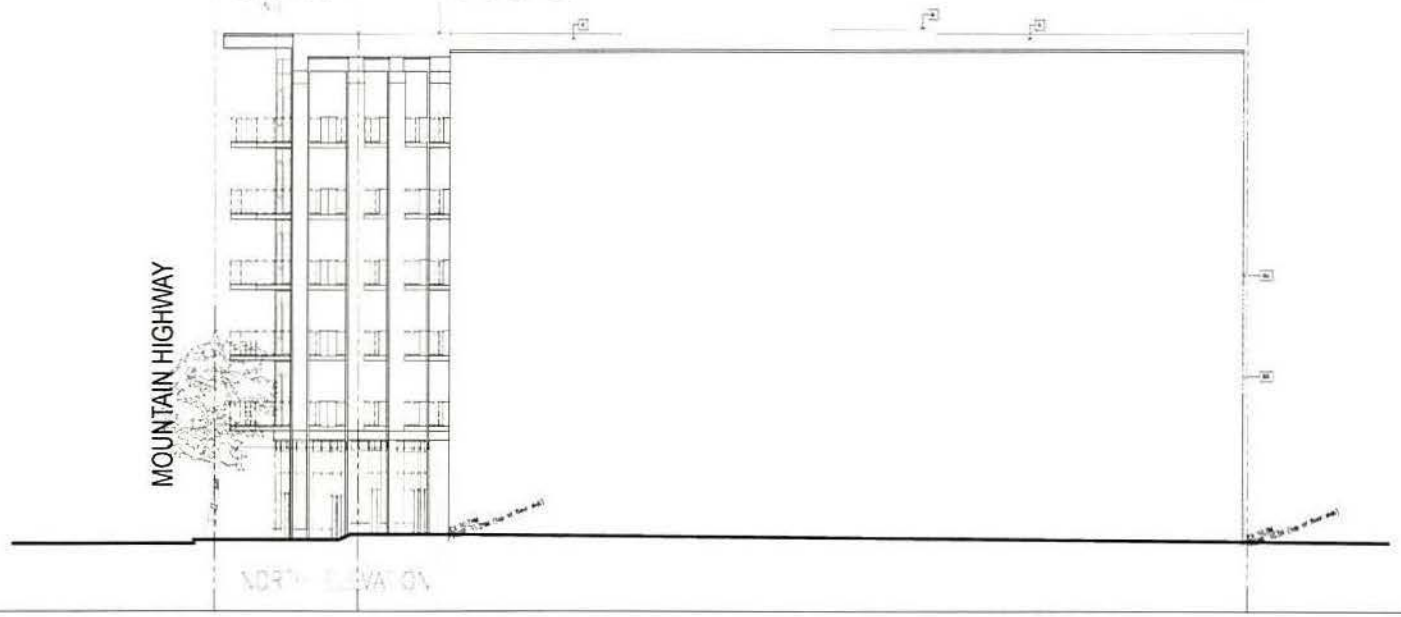
SOUTH ELEVATION

FRANCL
ARCHITECTURE

467 MOUNTAIN
HIGHWAY
North Vancouver, B.C.

ELEVATIONS

A200

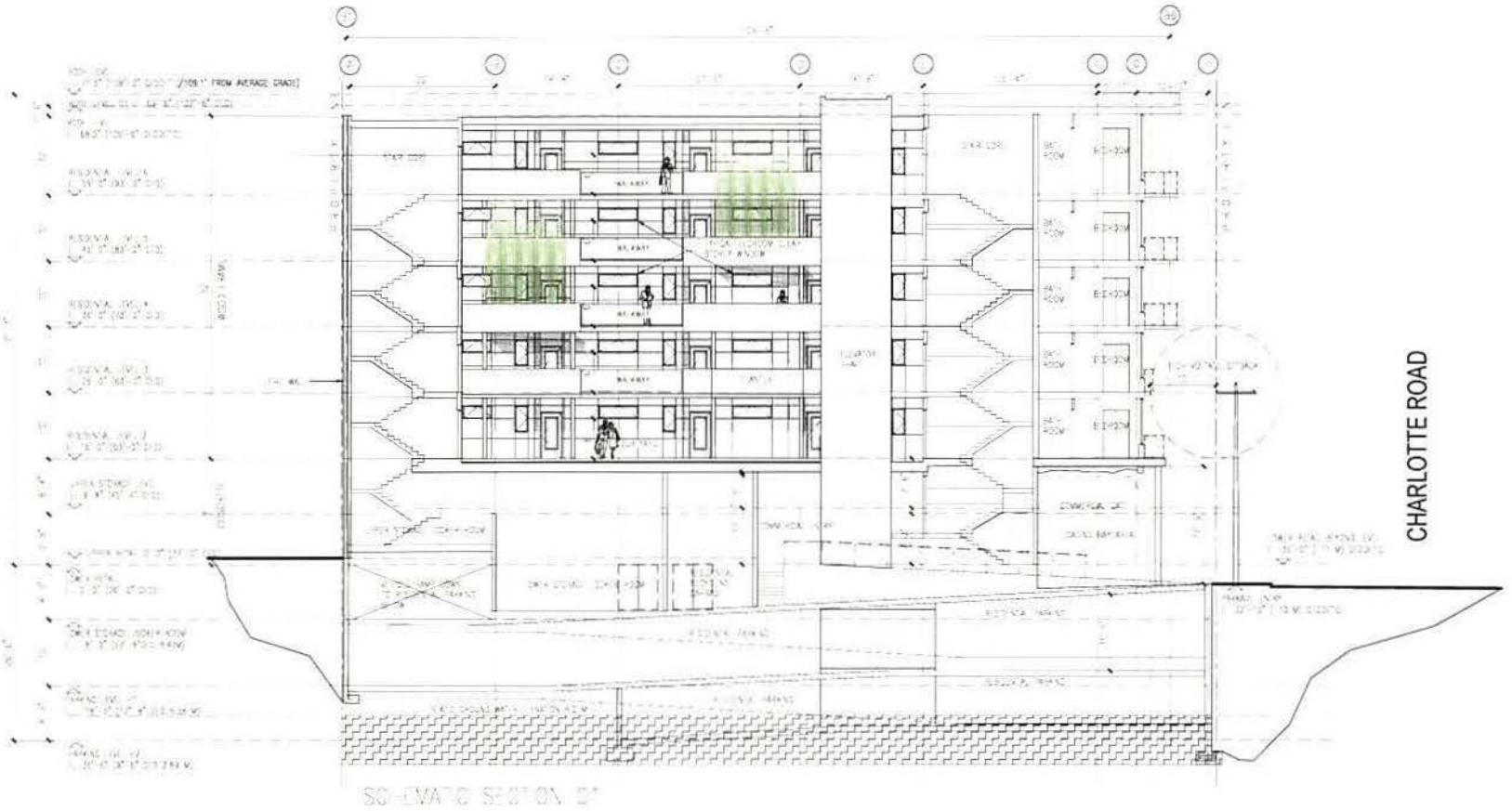


FRANCL
ARCHITECTURE

467 MOUNTAIN
HIGHWAY
North Vancouver, BC

ELEVATIONS

A201



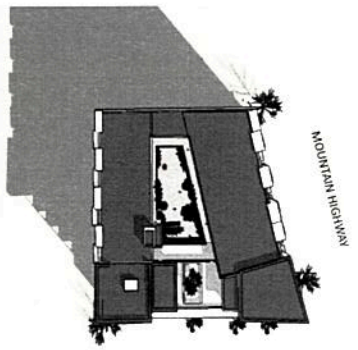
SCHEMATIC SECTION 01

FRANCL
ARCHITECTURE

467 MOUNTAIN
HIGHWAY
North Vancouver, BC

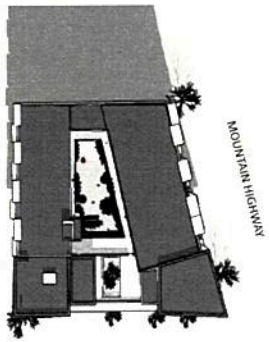
SCHEMATIC SECTION 01

A300



CHARLOTTE ROAD

MARCH 21ST, 10 AM



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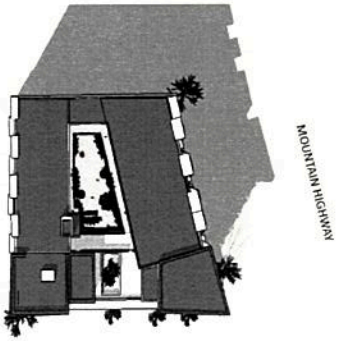
MARCH 21ST, 12 PM



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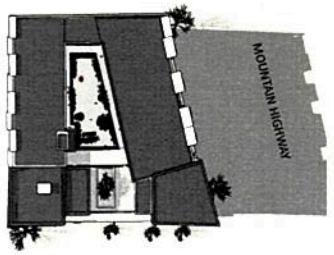
MARCH 21ST, 2 PM



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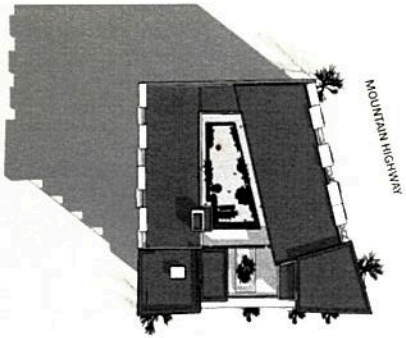
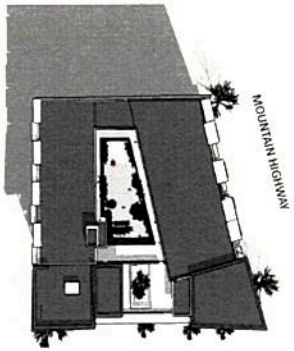


CHARLOTTE ROAD

SEPTEMBER 10 AM



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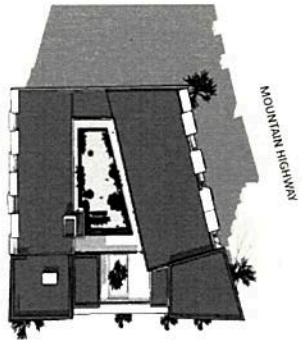

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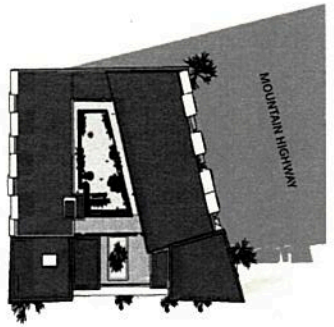

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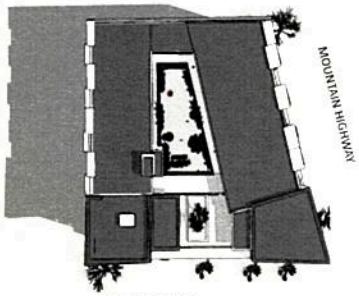
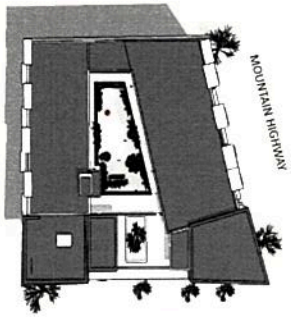


CHARLOTTE ROAD

JUNE 21ST, 10 AM



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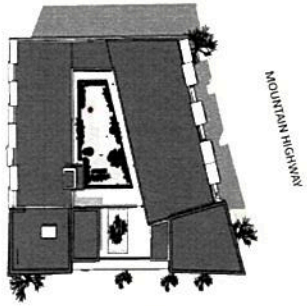

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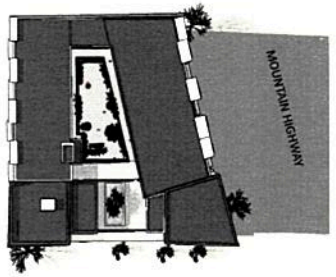


CHARLOTTE ROAD

JUNE 21ST, 6PM

FRANCL
ARCHITECTURE

01 2015.12.10 ISSUED FOR DP APPLICATION

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

SHADOW STUDY

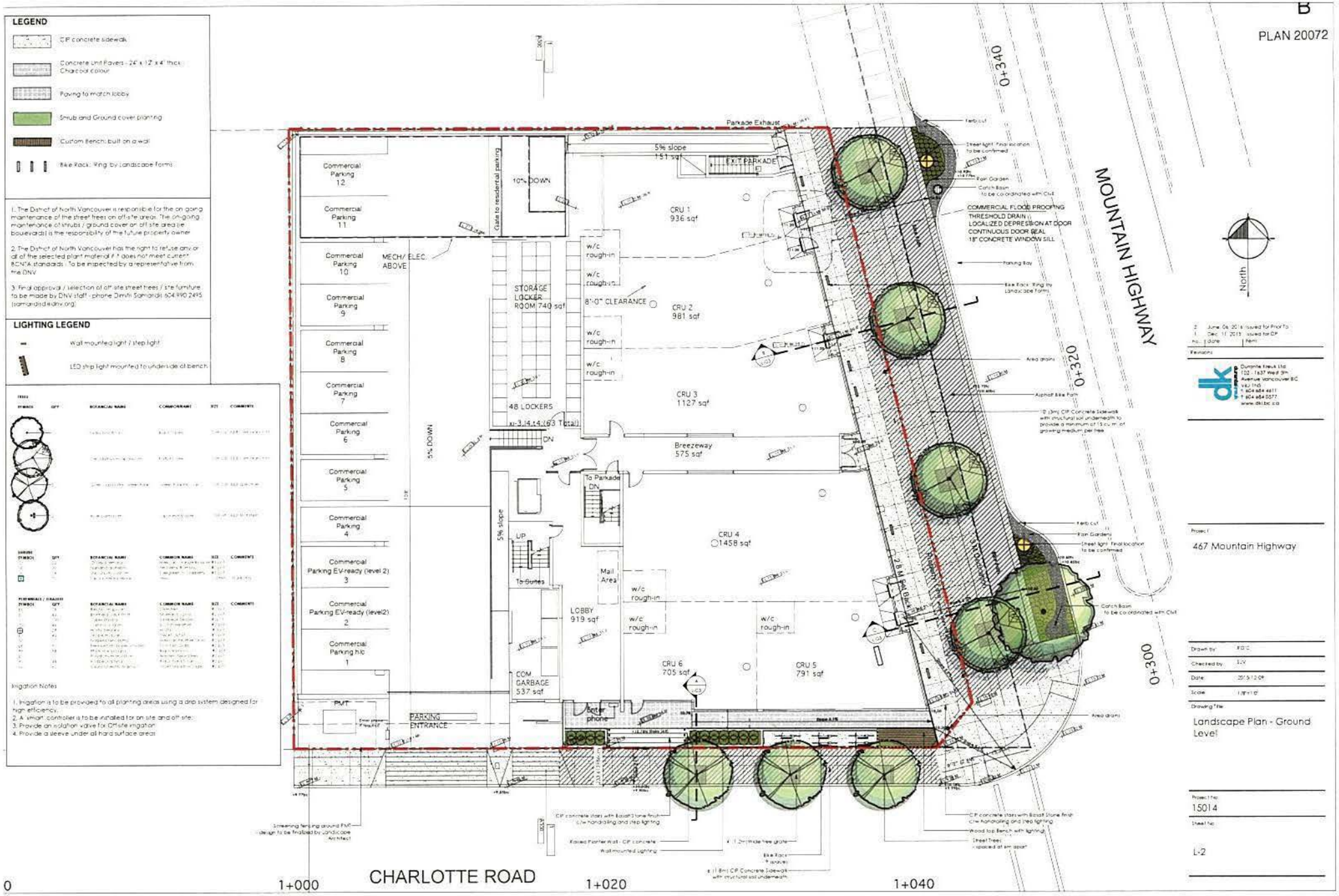
N

Dec 10, 2015

A006

B

PLAN 20072



no.	date	item
2	June 06, 2014	Issued for PreApp To
1	Dec. 11, 2013	Issued for DP

Revisions

dk landscape architecture
Durante Kreuk Ltd.
102 - 1637 West 5th Avenue Vancouver BC V6J 1N5
T 604 684 4611
F 604 684 0577
www.dkl.bc.ca

Project

467 Mountain Highway

Drawn by:	RD C
Checked by:	SJV
Date:	2015/12/09
Scale:	1/8"=1'-0"

Drawing Title

Landscape Plan - Ground Level

Project No.

15014

Sheet No.

L-2

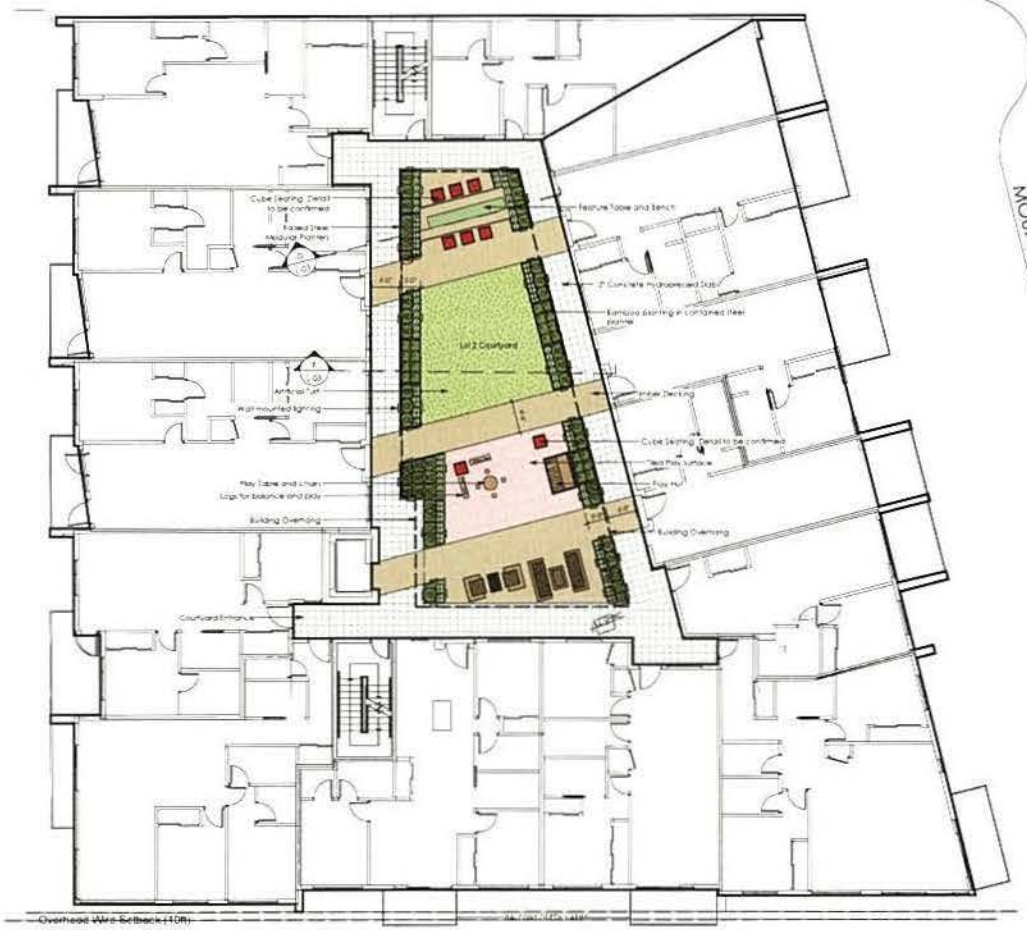
LEGEND

- 3" Concrete Hydrapressed Slab
- Planting See Plant List
- Privacy Hedge between units - 1.2m high min. S.S.D.
- Rubber Safety Surface
- Decking (by Lead Plants)
- Artificial Turf
- Balance Log
- Hose Bib
- Cube Seating Detail to be confirmed
- Play Hut See design detail. Final design to be confirmed
- Proposed Multi-stem Trees See Plant List

TILED PLAY SURFACE

ARTIFICIAL TURF

HYDRAPRESSED PAVERS



CHARLOTTE ROAD

BALANCE LOGS

METAL MODULAR PLANTER

North

no.	date	by	item
02	June 04, 2016		Issued for Prior to
01	Dec. 09, 2015		Issued for DP

Revisions

dk landscape architecture
Durante Kreuk Ltd.
102 - 1637 West 5th Avenue Vancouver BC V6J 1N5
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F 604 684 0577
www.dkl.bc.ca

Project

467 Mountain Highway

Drawn by	ROC
Checked by	SVC
Date	2015-12-09
Scale	1/8"=1'0"

Drawing Title

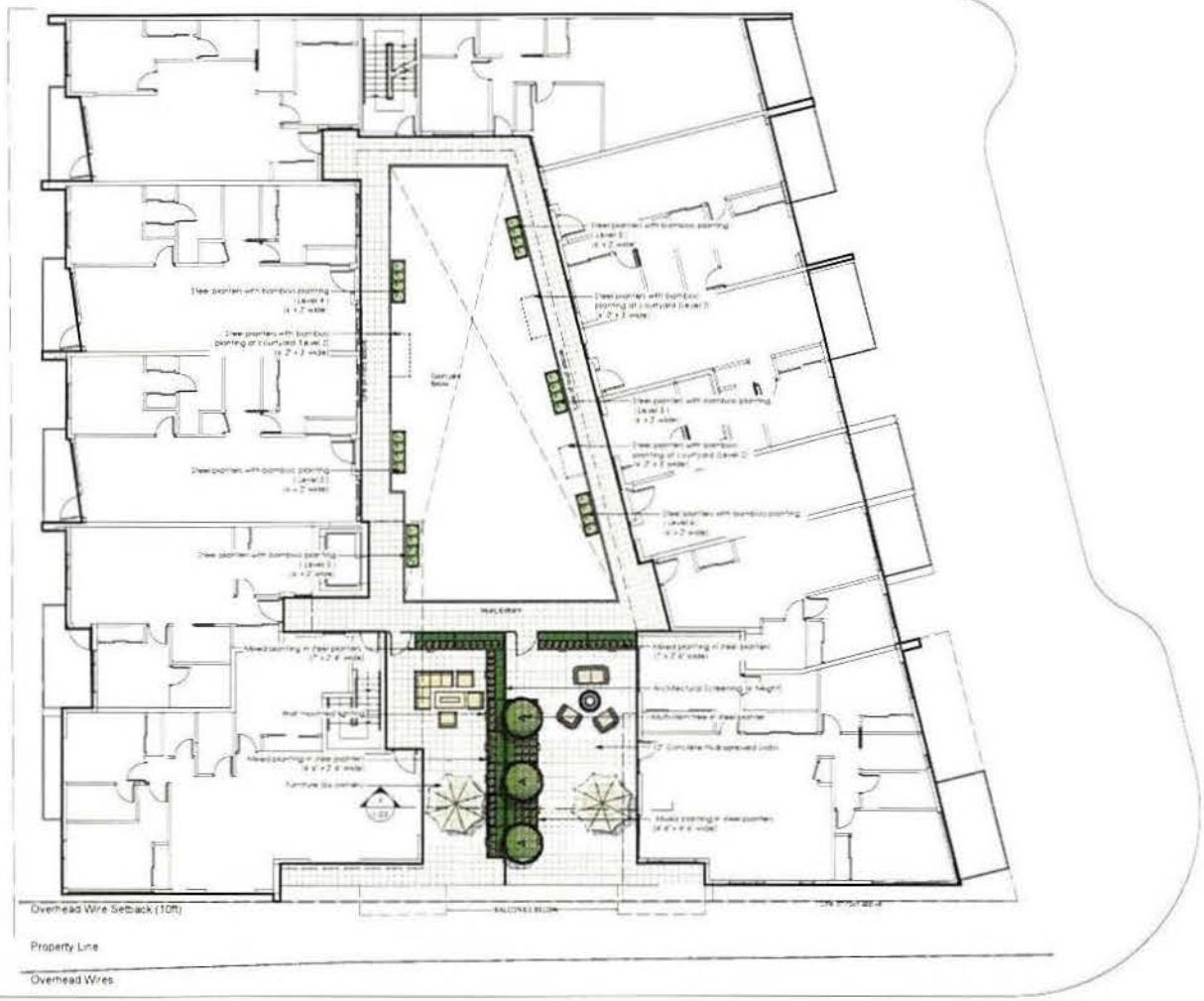
Landscape Concept Plan - Courtyard Level 2

Project No.

15014

Sheet No.

L-3



North

No.	Date	Item
03	June 04, 2014	Issued for Final Tender
01	Dec. 09, 2013	Issued for DP

Revisions

dk landscape architecture
Durante Kreuk Ltd.
102 - 1637 West 5th Avenue Vancouver BC V6J 1N5
T 604.684.4611
F 604.684.0577
www.dkla.ca

Project

467 Mountain Highway

Drawn by: TCC
Checked by: DVC
Date: 2013-12-09
Scale: 1/8"=1'-0"

Drawing Title

Landscape Concept Plan - Roof

Project No.

15014

Sheet No.

L-4

The Corporation of the District of North Vancouver

Bylaw 8183

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "The District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)".

2. Amendments

(a) Part 2A, Definitions is amended by adding CD 94 to the list of zones that Part 2A applies to.

(b) Section 301 (2) by inserting the following zoning designation:

"Comprehensive Development Zone 94 CD 94"

(c) Part 4B Comprehensive Development Zone Regulations by inserting the following, inclusive of Schedule B:

"4B94 Comprehensive Development Zone 94 CD 94

The CD 94 zone is applied to:

467 Mountain Hwy
Lot 2 (Explanatory Plan 15163) Block J District Lot 613 Plan 10064 (008-067-856);

4B 94 – 1 Intent

The purpose of the CD 94 Zone is to permit a commercial and residential mixed use development.

4B 94 – 2 Permitted Uses:

The following *principal* uses shall be permitted in the CD 94 Zone:

a) Uses Permitted Without Conditions:

Not applicable.

b) Conditional Uses:

The following *principal* uses are permitted when the conditions outlined in Section 4B 94-3 Conditions of Use, are met:

Conditional Uses defined in Part 2	**Conditional Uses defined in Part 2A**
Artist's studio	Office use
Custom manufacturing establishments	Personal service use
Hobby beer and wine making establishment	Residential use
Liquor store (limit of one per lot)	Retail use
Pet care establishment	
Retail Food Service	
Veterinarian	

4B 94-3 Conditions of Use

a) **All conditional uses**: All uses of land, buildings and structures are only permitted when the following condition of use is met:
   i) All aspects of the use are completely contained within an enclosed building except for:
      (1) Parking and loading areas;
      (2) *Outdoor customer services areas*;
      (3) The display of goods; and
      (4) Outdoor amenity areas (play areas and private or semi-private outdoor space).

b) ***Residential***: *Residential uses* are only permitted when the following conditions are met:
   i) Residential uses are not permitted on the ground floor;
   ii) Each dwelling unit has access to private or semi-private outdoor space;
   iii) Each dwelling unit has exclusive access to a private storage space; and
   iv) Enclosed patios and balconies are not permitted.

4B 94-4 Accessory Use

a) *Accessory uses* customarily ancillary to the principal uses are permitted.

b) *Home occupations* are permitted in *residential* dwelling units.

4B 94 - 5 Density

a) The maximum permitted density is 1.2 *gross floor area*, inclusive of any density bonus for energy performance, and a maximum of 10 residential dwelling units.

b) For the purpose of calculating *gross floor area* the following are exempted:
   i. Any areas completely below natural and finished grade
   ii. Ground level parking up to 136m ² (1,463 sq ft);
   iii. Residential and commercial garbage areas up to 45m² (479 sq ft);
   iv. Residential storage rooms up to 185.8m² (2000 sq ft) in total on the lot;
   v. The area of balconies and covered patios.

4B 94-6 Amenities

a) Despite Subsection 4B94 – 5, permitted density in the CD 94 Zone is increased to a maximum of 3.5 FSR *gross floor area,* including any density bonus for energy performance, and a maximum of 63 residential dwelling units if the owner:
   i. Contributes $705,000 the municipality to be used for any of the following amenities (with allocation and timing of expenditure to be determined by the municipality in its sole discretion): public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation service facility, or facility improvements; and/or the affordable housing fund.
   ii. Enters into a Housing Agreement prohibiting any restrictions preventing the owners in the project from renting their units.

b) For the purposes of calculating FSR the lot area is deemed to be 1,728.2m ² (18,603 sq ft) being the site size at the time of rezoning.

4B94 – 6 Height

a) The maximum permitted height for the building is 23m (75.5 ft).

4B 94 - 7 Setbacks

a) Buildings shall be set back from property lines to the closest building face as established by development permit and in accordance with the following regulations:

Setback	Minimum Required Setback
North	0.0 m (0.0 feet)
East (Mountain Hwy)	3.0 m (9.8 feet)
South (Charlotte Rd)	1.5 m (5.0 feet)
West	0.0 m (0.0 feet)

a) For the purpose of measuring setbacks, measurements exclude:
   (i) Balconies, canopies, overhangs, architectural elements and awnings.

4B 94 - 8 Coverage

a) Building Coverage: The maximum building coverage is 85%.

b) Site Coverage: The maximum site coverage is 96%.

4B 94 - 9 Landscaping and Storm Water Management

a) All land areas not occupied by buildings, and patios shall be landscaped in accordance with a landscape plan approved by the District of North Vancouver.

b) All electrical kiosks and garbage and recycling container facilities not located underground or within a building must be screened.

4B 94 – 10 Parking, Loading and Servicing Regulations

a) Parking and loading are required as follows:

Use	Parking Requirement
Residential	1.1 space/ unit
Residential Visitor Parking	0.1 space / unit
Commercial	1 space/ 40m^2
Shared commercial and visitor parking	2 of the visitor parking spaces shall available for shared use with commercial uses

b) Bicycle storage for residents shall be provided on the basis of one space per unit.

c) Except as specifically provided in 4B94-10 (a) and (b) Parking and Loading shall be provided in accordance with Part 10 of this Bylaw."

(d) The Zoning Map is amended in the case of the lands illustrated on the attached map (Schedule A) by rezoning the land from the Light Industrial Zone (I3) to Comprehensive Development Zone CD 94.

READ a first time

PUBLIC HEARING held

READ a second time

READ a third time

Certified a true copy of "Rezoning Bylaw 1342 (Bylaw 8183)" as at Third Reading

_____
Municipal Clerk

APPROVED by the Ministry of Transportation and Infrastructure on

ADOPTED

_____ _____
Mayor Municipal Clerk

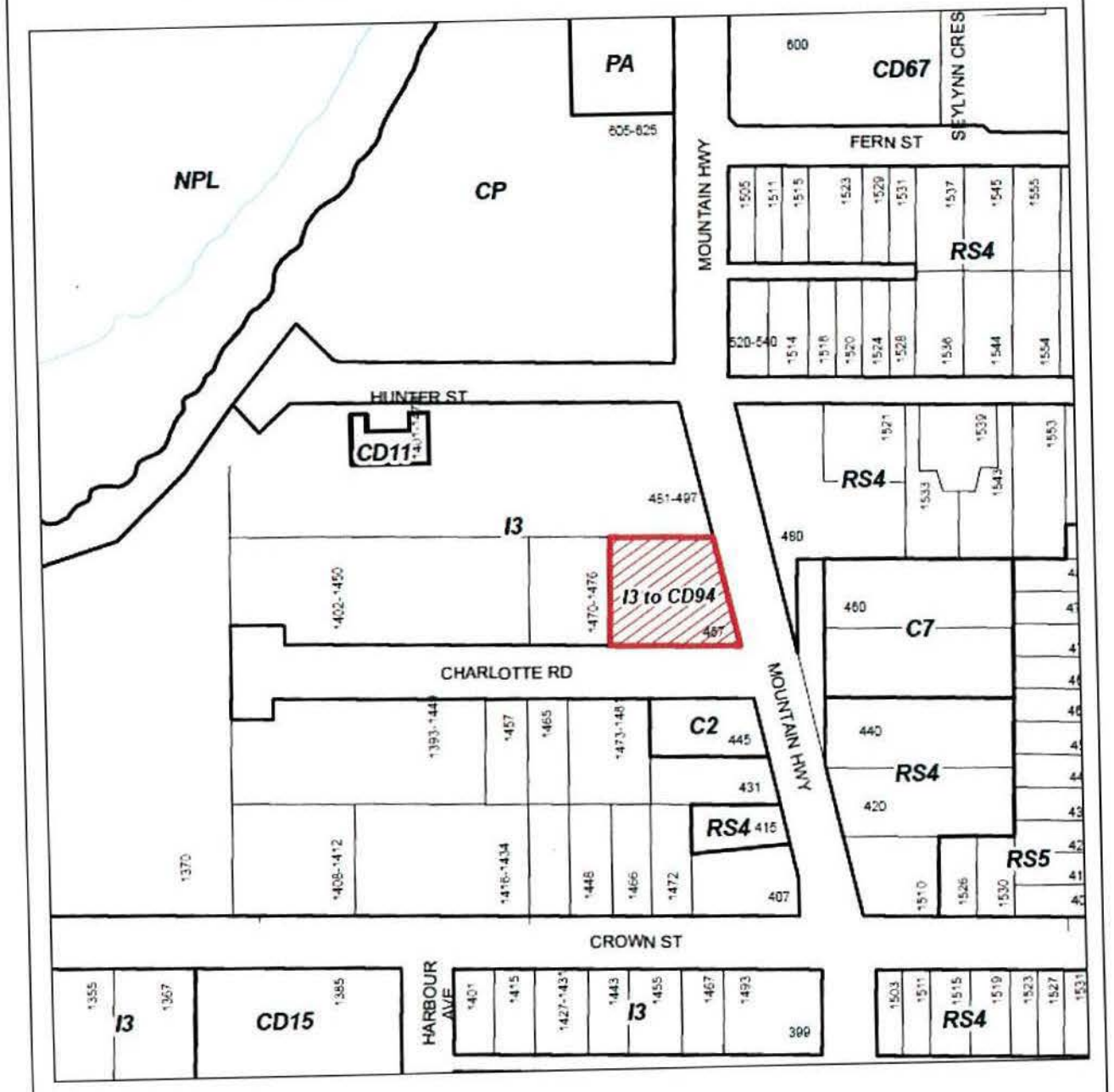
Certified a true copy

_____
Municipal Clerk

Schedule A to Bylaw 8183

BYLAW 8183

The District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)



The Corporation of the District of North Vancouver

Bylaw 8184

A bylaw to enter into a Housing Agreement (467 Mountain Highway)

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "Housing Agreement Bylaw 8184, 2016 (467 Mountain Highway)".

2. Authorization to Enter into Agreement

2.1 The Council hereby authorizes a housing agreement between The Corporation of the District of North Vancouver and Wanson (Lynn Creek) Development Ltd., Inc No. BC1028348 substantially in the form attached to this Bylaw as Schedule "A" with respect to the following lands:

a) Lot 2 (Explanatory Plan 15163) Block J District Lot 613 Plan 10064 (008-067-856)

3. Execution of Documents

The Mayor and Municipal Clerk are authorized to execute any documents required to give effect to the Housing Agreement.

READ a first time

READ a second time

READ a third time

ADOPTED

_____ _____

Mayor Municipal Clerk

Certified a true copy

Municipal Clerk

Schedule A to Bylaw 8184

SECTION 219 COVENANT – HOUSING AGREEMENT (Rental Protection)

THIS COVENANT dated for reference the ____ day of _____, 2015, is

BETWEEN:

WANSON (LYNN CREEK) DEVELOPMENT LTD., Inc No. BC1028348 a corporation incorporated under the laws of the Province of British Columbia with an office at 950 – 1200 W. 73rd Avenue, Vancouver, BC V6P 6G5

(the "**Owner**")

AND:

THE CORPORATION OF THE DISTRICT OF NORTH VANCOUVER, a municipality incorporated under the *Local Government Act*, RSBC 2015, c. 1 and having its office at 355 West Queens Road, North Vancouver, BC V7N 4N5

(the "**District**")

RECITALS:

A. The Owner is the registered owner in fee simple of land in the District of North Vancouver legally described in item 2 of Part 1 of the *Land Title Act* Form C to which this Agreement is attached and which forms part of this Agreement (the "**Land**");

B. The Owner has agreed to grant and the District agrees to accept the Section 219 Covenant contained in this Agreement over the Land; and

C. Section 219 of the *Land Title Act* (R.S.B.C. 1996, c. 250) provides that there may be registered as a charge against the title to any land a covenant in favour of a municipality in respect of the use of land or the use of a building on or to be erected on land or that land is or is not to be built on or is not to be subdivided except in accordance with the covenant.

NOW THEREFORE in consideration of $2.00 and other good and valuable consideration paid by the District to the Owner, the receipt and sufficiency of which are hereby acknowledged, the Owner covenants and agrees with the District under section 219 of the *Land Title Act* of the Province of British Columbia as follows:

1. **USE**

(a) The Land must not be used or developed except in strict accordance with this Agreement.

2. **DEFINITIONS**

(a) "**Director**" means the General Manager of Planning, Permits and Bylaws and his or her designate;

(b) "**Owner**" means the Owner and any other person or persons registered in the Lower Mainland Land Title Office as owner of the Land from time to time, or of any parcel into which the Land is consolidated or subdivided, whether in that person's own right or in a representative capacity or otherwise;

(c) "**Proposed Development**" means the proposed development to be constructed on the Land;

(d) "**Unit**" means a residential dwelling strata unit in any building in the Proposed Development; and

(e) "**Unit Owner**" means the registered owner of a Unit in any building in the Proposed Development.

3. **RENTAL ACCOMODATION**

(a) No Unit in a building in the Proposed Development may be occupied unless the Owner has:

(i) before the first Unit in the building is offered for sale, or conveyed to a purchaser without being offered for sale, filed with the Superintendent of Real Estate pursuant to the *Strata Property Act* (or any successor or replacement legislation) a Form J Rental Disclosure Statement (the "**Form J**") designating all of the Units in the building as rental strata lots and imposing a minimum 99 year rental period in relation to all of the Units; and

(ii) given a copy of the Form J to each prospective purchaser of any Unit in the building before the prospective purchaser enters into an agreement to purchase in respect of the Unit. For the purposes of this paragraph 3(a)(ii), the Owner is deemed to have given a copy of the Form J to each prospective purchaser of any Unit in the building if the Owner has included the Form J as an exhibit to the disclosure statement for the Proposed Development prepared by the Owner pursuant to the *Real Estate Development Marketing Act* (the "**Disclosure Statement**").

(b) The Units constructed on the Land from time to time may always be used to provide rental accommodation as the Owner or a Unit Owner may choose from time to time.

(c) This agreement shall be binding upon all strata corporations created upon the strata title subdivision of the Land pursuant to the *Strata Property Act* or any subdivided parcel of the Land, including the Units.

(d) Any Strata Corporation bylaw which prevents, restricts or abridges the right to use any of the Units as rental accommodations shall have no force or effect.

(e) The Strata Corporation shall not pass any bylaws preventing, restricting or abridging the use of the Land, the Proposed Development or the Units contained therein from time to time as rental accommodation.

(f) No Unit Owner, nor any tenant or mortgagee thereof, shall vote for any strata corporation bylaw purporting to prevent, restrict or abridge the use of the Land, the Proposed Development and the units contained therein from time to time as rental accommodation.

(g) The Owner will provide notice of this Agreement to any person or persons intending to purchase a Unit prior to any such person entering into an agreement of purchase and sale, agreement for sale, or option or similar right to purchase as part of the Disclosure Statement.

4. **GENERAL PROVISIONS**

(a) The Owner shall comply with all requirements of this Agreement at its own cost and expense.

(b) The parties agree that this Agreement creates only contractual obligations and obligations arising out of the nature of this document as a covenant under seal. The parties agree that no tort obligations or liabilities of any kind exist between the parties in connection with the performance of, or any default under or in respect of, this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract and under the law pertaining to covenants under seal.

(c) This Agreement shall restrict use of the Land in the manner provided herein notwithstanding any right or permission to the contrary contained in any bylaw of the District.

(d) Forthwith after registration of a strata plan (the "**Strata Plan**") under the *Strata Property Act* (British Columbia) to stratify the building on the Land, or any part thereof, and in any event before the first conveyance of any of the strata lots created by said Strata Plan (the "**Strata Lots**"), the Owner will cause the strata corporation (as hereinafter defined) to assume the Owner's obligations hereunder to the same extent as if the strata corporation had been an original party to this

Agreement by executing and delivering to the District an assumption agreement in all material respects in the form attached hereto as Schedule "A". If the Owner fails to comply with this section 4(d), then the Owner will remain liable for the performance of the obligations hereunder notwithstanding the strata subdivision.

(e) The strata corporation shall not enact any bylaw or make any rules or regulations in respect of the Strata Lots or the Land which are inconsistent with this Agreement.

(f) For the purposes of this Agreement "**strata corporation**" means the strata corporation established pursuant to the *Strata Property Act* (British Columbia) upon registration of the Strata Plan to create the Strata Lots.

(g) The covenants herein shall charge the Land pursuant to Section 219 of the *Land Title Act* and shall run with the Land and bind the Land and every part or parts thereto, and shall attach to and run with the Land and each and every part into which the Land may be divided or subdivided, whether by subdivision plan, Strata Plan or otherwise. The covenants set forth herein shall not terminate if and when a purchaser becomes the owner in fee simple of the Land or any part thereof, but shall charge the whole of the interest of such purchaser and shall continue to run with the Land and bind the Land and all future owners of the Land and any portion thereof, including all Strata Lots thereon. If the Land or any part thereof or any building or buildings on the Land are subdivided by means of a Strata Plan then the obligations of the Owner hereunder will be the obligations of the owners of Strata Lots in accordance with the *Strata Property Act*.

(h) The rights given to the District by this Agreement are permissive only and nothing in this Agreement imposes any duty of any kind of the District to anyone or obliges the District to perform any act or to incur any expense for any of the purposes set out in this Agreement. Where the District is required or permitted by this Agreement to form an opinion, exercise a discretion, make a determination or give its consent, the Owner agrees that the District is under no public law duty of fairness or natural justice in that regard and agrees that the District may do any of those things in the same manner as if it were a private party and not a public body.

(i) The Owner is only liable for breaches of this Agreement caused or contributed to by the Owner or which the Owner permits or allows. The Owner is not liable for the consequences of the requirements of any enactment or law or any order, directive, ruling or government action thereunder. The Owner is liable only for breaches which occur while the Owner is the registered owner of any of the Land and only to the extent that the Owner is the registered owner of any of the Land.

(j) This Agreement does not:

(i) affect or limit the discretion, rights, duties or powers of the District under any enactment or at common law, including in relation to the use or subdivision of the Land;

(ii) affect or limit any enactment relating to the use or subdivision of the Land; or

(iii) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Land.

(k) Nothing in this Agreement affects any obligations of the Owner to pay all property taxes, rates, charges and levies payable under any enactment on or in respect of the Land.

(l) The Owner agrees that this Agreement is intended to be perpetual in order to protect the Land as set out in this Agreement. In view of the importance of protecting the Land for ecological and other reasons, the Owner agrees not to seek a court order modifying, discharging or extinguishing this Agreement under the *Property Law Act* (British Columbia), any successor to that enactment, any other enactment or at common law.

(m) Every obligation and covenant of the Owner in this Agreement constitutes both a contractual obligation and a covenant granted under s.219 of the *Land Title Act* in respect of the Land and this Agreement burdens the Land and runs with it and binds the successors in title to the Land. This Agreement burdens and charges all of the Land and any parcel into which it is subdivided by any means and any parcel into which the Land are consolidated.

(n) The Owner agrees to do everything necessary at the Owner's expense to ensure that this Agreement is registered against title to the Land with priority over all financial charges, liens and encumbrances registered or pending at the time of application for registration of this Agreement

(o) An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach. A waiver of a breach of this Agreement does not operate as a waiver of any other breach of this Agreement.

(p) If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.

(q) This Agreement is the entire agreement between the parties regarding its subject and it terminates and supersedes all other agreements and arrangements regarding its subject.

(r) By executing and deliver this Agreement each of the parties intends to create both a contract and a deed executed and delivered under seal.

(s) This Agreement shall not be modified or discharged except in accordance with the provisions of section 219 of the *Land Title Act*.

SCHEDULE "A"

ASSUMPTION AGREEMENT

THIS AGREEMENT is dated for reference _____

BETWEEN:

THE OWNERS, STRATA PLAN _____

(the "Strata Corporation")

AND:

THE CORPORATION OF THE DISTRICT OF NORTH VANCOUVER, a municipal corporation, having offices at 355 West Queens Road, North Vancouver, British Columbia, V7N 4N5

(the "District")

AND:

(the "Owner")

WHEREAS:

A. On the date that application was made to the Vancouver Land Title Office for deposit of Strata Plan ___, the Owner was the registered owner of the freehold estate in the land shown on the Strata Plan (the "Lands");

B. The owner has granted to the District a Housing Agreement to prohibit rentals which said housing agreement is registered in the Vancouver Land Title Office as a section 219 covenant against title to the Lands under number _____ (the "Housing Agreement");

C. It is a condition of the Housing Agreement that the Strata Corporation enter into this Assumption Agreement in respect of the Owner's covenants and obligations as set out in the Housing Agreement,

NOW THEREFORE IN CONSIDERATION of the premises and the sum of $10.00 paid by each of the Owner and the District to the Strata Corporation and for other good and valuable consideration (the receipt and sufficiency of which are hereby acknowledged by the Strata Corporation), the Strata Corporation hereby covenants and agrees as follows:

1. The Strata Corporation covenants and agrees that as of the date hereof the Strata

Corporation will assume, be bound by and observe and perform all of the Owner's covenants, conditions, restrictions and agreements contained in the Housing Agreement (collectively, the "Obligations").

2. The Strata Corporation agrees that the District is entitled to obtain an order for specific performance or a prohibitory or mandatory injunction in respect of any breach by the Strata Corporation of the Obligations. The Strata Corporation agrees that this section is reasonable given the public interest in compliance with the Obligations.

3. This Agreement will enure to the benefit of and will be binding upon the parties hereto and their heirs, executors, administrators, successor and assigns.

4. To evidence its agreement, the Strata Corporation has executed this Assumption Agreement as of the date set out above.

THE OWNERS, STRATA PLAN ____ by its authorized signatory:

_____
Authorized Signatory

C/S

Wanson Development
Public Information Meeting
Holiday Inn
March 9, 2016

Summary Report

Presenters:

Barry Savage, Savage Development
Walter Francl, Francl Architecture
Stephen Vincent, DKL Landscape

Q & A Responders:
All presenters plus:
Daniel Fung, Bunt & Associates, Traffic Consultant
Casey Peters, District of North Vancouver Community Planner

Also attending: Rosie Cindrich- Wanson Developnent

Facilitator: Brenda Chaddock, Odyssey Leadership Centre

The evening opened at 6:30 p.m. with refreshments, an informal viewing of the boards and personal conversation with the project consultants. There were displays around the room

At 7:00 Brenda opened the formal portion of the evening, introducing the Presentation Panel and going over the agenda.

She reminded the group that there are a variety of ways in which they can have questions answered and communicate their thoughts, concern and opinions.

These include:

- Ability to have questions answered verbally with the panelists / consultants within the evening
- The meeting is being recorded by several note takers
- There are Comment Sheets available for people who choose to put their words in writing

- Casey Peters, the Community Planner at the District of North Vancouver on this project welcomes calls to provide more information
- The public is welcome to attend the Public Hearings and the presentation to Council

There were approximately 12 people in attendance.

After the presentations by Barry, Walter and Stephen, the floor was opened to questions.

Q & A

Q: After the development is complete, what is the plan for maintenance over time given the impact of weather?

A: Walter: This should not be difficult. The materials used are relatively free of care. All external materials are considered carefully for durability and ease of maintenance. The maintenance of the exterior and the walkways will be done by a maintenance company.

Q: What is the access to the courtyard?

A: Walter – The access is designed to be 'semi-private – open'. This means that there is no access to the public, only to the residence.

Q: What is the arrangement for managing noise between residences and commercial / industrial businesses?

A: Casey – A Restrictive Covenant ("nuisance covenant") will be required as a condition of approval of the development that informs potential impact from adjacent businesses.

Walter – due to the awareness of the project developers around traffic noise from Mountain Hwy. there has been attention to insulation particularly in sleeping rooms.

Q: Why did DNV rezone this area mixed industrial now?

A: Casey – The DNV completed extensive planning work in advance of adopting the 2011 Official Community Plan and further planning work to complete the Lower Lynn Implementation Plan. That work resulted in the creation of a "heart" for this town centre and the proposal is located within that "heart". There is a small amount of industrial land available for redevelopment under the OCP but the majority of the industrial land is proposed to remain.

Q: Has there been any consultation with Port. There is a concern about businesses closing as residential building increases. There may be as many as 250 businesses lost.

A: Casey. We cannot speak for what may occur on land that is under Port jurisdiction.

Q: What is the price range of these condos?

A: Barry- can't say at this time

Q / Comment: Green spaces are insufficient for the increasing density

A: Casey – there are nice, safe play spaces both in the condo development and at a nearby park. There are also plans for 'town centres' designed for 'live, work, play'

Q: What about rental of condo units?

A: Casey – It is a requirement for all new developments to have housing agreements that prevent future stratas from restricting owners from renting their units. Staff has heard that 10 – 20% are typically made available for rental

Q: What about pets?

A: Casey – There are no restrictions by the DNV
Barry – the Strata can make a decision on this

Q: What studies have been done on the angle of sunlight for the courtyard?

A: Walter – this has been considered in the design. The structure has been dropped one story on the south side to increase sunlight.

Q: What is the length of the courtyard?

A: Barry – 69 ft.

Q: What is the consideration for parking? It doesn't seem enough.

A: Barry – There are 2 levels of parking. There cannot be a third level due to the technical issue of the water table.
Daniel. – We are also working on encouraging car share and leveraging transit pass subsidies. Parking is planned per DNV requirements.

Comments: This last issue had several participants commenting that Seylynn parking is insufficient and gave other examples.

Q: what the plans for growth strategy?

A: Metro Vancouver governs the growth strategy for the Lower Mainland and each municipality is given their portion of that commitment. The District of North Vancouver adopted an Official Community Plan in 2011 that proposes to where to direct growth

The evening adjourned and some participants remained to have more personal conversation with the consultants and DNV

Submitted by:
Brenda Chaddock, Odyssey Leadership Centre

4070 Dollar Road, Deep Cove, BC Ph 604-929-4290 Fax 604-929-0180
e-mail Brenda@followtheleader.ca website www.followtheleader.ca

The Corporation of the District of North Vancouver

Bylaw 8183

A bylaw to amend District of North Vancouver Zoning Bylaw 3210, 1965

The Council for The Corporation of the District of North Vancouver enacts as follows:

1. Citation

This bylaw may be cited as "The District of North Vancouver Rezoning Bylaw 1342 (Bylaw 8183)".

2. Amendments

(a) Part 2A, Definitions is amended by adding CD 94 to the list of zones that Part 2A applies to.

(b) Section 301 (2) by inserting the following zoning designation:

"Comprehensive Development Zone 94 CD 94"

(c) Part 4B Comprehensive Development Zone Regulations by inserting the following, inclusive of Schedule B:

"4B94 Comprehensive Development Zone 94 CD 94

The CD 94 zone is applied to:

467 Mountain Hwy
Lot 2 (Explanatory Plan 15163) Block J District Lot 613 Plan 10064 (008-067-856);

4B 94 – 1 Intent

The purpose of the CD 94 Zone is to permit a commercial and residential mixed use development.

4B 94 – 2 Permitted Uses:

The following *principal* uses shall be permitted in the CD 94 Zone:

a) Uses Permitted Without Conditions:

Not applicable.

b) Conditional Uses:

The following *principal* uses are permitted when the conditions outlined in Section 4B 94-3 Conditions of Use, are met:

Conditional Uses defined in Part 2	**Conditional Uses defined in Part 2A**
Artist's studio	Office use
Custom manufacturing establishments	Personal service use
Hobby beer and wine making establishment	Residential use
Liquor store (limit of one per lot)	Retail use
Pet care establishment	
Retail Food Service	
Veterinarian	

4B 94-3 Conditions of Use

a) **All conditional uses**: All uses of land, buildings and structures are only permitted when the following condition of use is met:
   i) All aspects of the use are completely contained within an enclosed building except for:
      (1) Parking and loading areas;
      (2) *Outdoor customer services areas*;
      (3) The display of goods; and
      (4) Outdoor amenity areas (play areas and private or semi-private outdoor space).

b) ***Residential****: Residential uses* are only permitted when the following conditions are met:
   i) Residential uses are not permitted on the ground floor;
   ii) Each dwelling unit has access to private or semi-private outdoor space;
   iii) Each dwelling unit has exclusive access to a private storage space; and
   iv) Enclosed patios and balconies are not permitted.

4B 94-4 Accessory Use

a) *Accessory uses* customarily ancillary to the principal uses are permitted.

b) *Home occupations* are permitted in *residential* dwelling units.

4B 94 - 5 Density

a) The maximum permitted density is 1.2 *gross floor area*, inclusive of any density bonus for energy performance, and a maximum of 10 residential dwelling units.

b) For the purpose of calculating *gross floor area* the following are exempted:
   i. Any areas completely below natural and finished grade
   ii. Ground level parking up to 136m ² (1,463 sq ft);
   iii. Residential and commercial garbage areas up to 45m² (479 sq ft);
   iv. Residential storage rooms up to 185.8m² (2000 sq ft) in total on the lot;
   v. The area of balconies and covered patios.

4B 94-6 Amenities

a) Despite Subsection 4B94 – 5, permitted density in the CD 94 Zone is increased to a maximum of 3.5 FSR *gross floor area,* including any density bonus for energy performance, and a maximum of 63 residential dwelling units if the owner:
   i. Contributes $705,000 the municipality to be used for any of the following amenities (with allocation and timing of expenditure to be determined by the municipality in its sole discretion): public art; park, trail, environmental, plaza or other public realm improvements; municipal or recreation service facility, or facility improvements; and/or the affordable housing fund.
   ii. Enters into a Housing Agreement prohibiting any restrictions preventing the owners in the project from renting their units.

b) For the purposes of calculating FSR the lot area is deemed to be 1,728.2m ² (18,603 sq ft) being the site size at the time of rezoning.

4B94 – 6 Height

a) The maximum permitted height for the building is 23m (75.5 ft).

4B 94 - 7 Setbacks

a) Buildings shall be set back from property lines to the closest building face as established by development permit and in accordance with the following regulations:

Setback	Minimum Required Setback
North	0.0 m (0.0 feet)
East (Mountain Hwy)	3.0 m (9.8 feet)
South (Charlotte Rd)	1.5 m (5.0 feet)
West	0.0 m (0.0 feet)

a) For the purpose of measuring setbacks, measurements exclude:
   (i) Balconies, canopies, overhangs, architectural elements and awnings.

4B 94 - 8 Coverage

a) Building Coverage: The maximum building coverage is 85%.

b) Site Coverage: The maximum site coverage is 96%.

4B 94 - 9 Landscaping and Storm Water Management

a) All land areas not occupied by buildings, and patios shall be landscaped in accordance with a landscape plan approved by the District of North Vancouver.

b) All electrical kiosks and garbage and recycling container facilities not located underground or within a building must be screened.

4B 94 – 10 Parking, Loading and Servicing Regulations

a) Parking and loading are required as follows:

Use	Parking Requirement
Residential	1.1 space/ unit
Residential Visitor Parking	0.1 space / unit
Commercial	1 space/ 40m^2
Shared commercial and visitor parking	2 of the visitor parking spaces shall available for shared use with commercial uses

b) Bicycle storage for residents shall be provided on the basis of one space per unit.

c) Except as specifically provided in 4B94-10 (a) and (b) Parking and Loading shall be provided in accordance with Part 10 of this Bylaw."

(d) The Zoning Map is amended in the case of the lands illustrated on the attached map (Schedule A) by rezoning the land from the Light Industrial Zone (I3) to Comprehensive Development Zone CD 94.

(e) The Siting Area Map section is amended by deleting Plan Section I/2B and replacing it with the attached revised Plan Section I/2B (Schedule B).

READ a first time the 26th day of July, 2016.

READ a second time as amended the 12th day of September, 2016.

PUBLIC HEARING held

READ a third time

Certified a true copy of "Rezoning Bylaw 1342 (Bylaw 8183)" as at Third Reading

_____
Municipal Clerk

APPROVED by the Ministry of Transportation and Infrastructure on

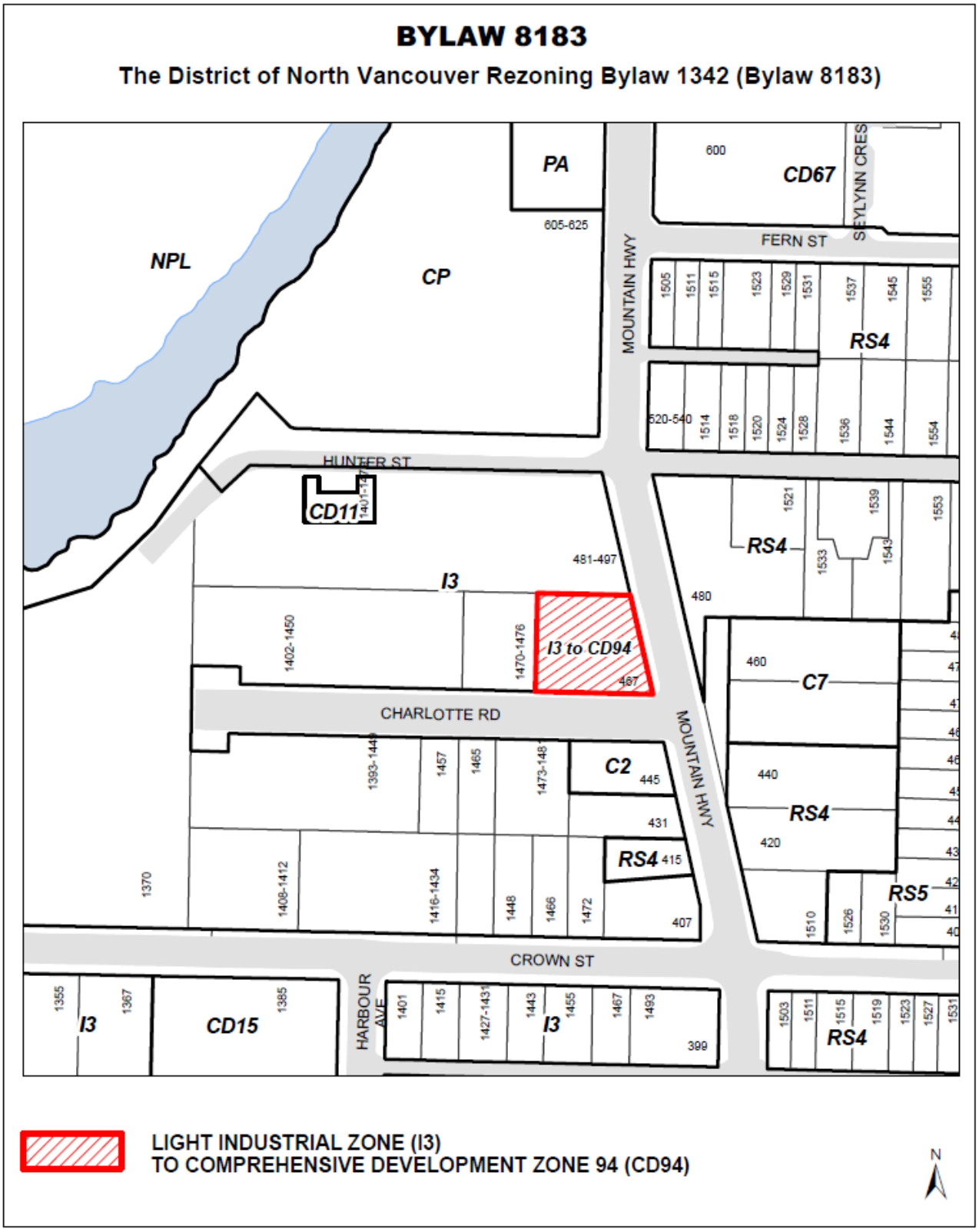
ADOPTED

_____ _____
Mayor Municipal Clerk

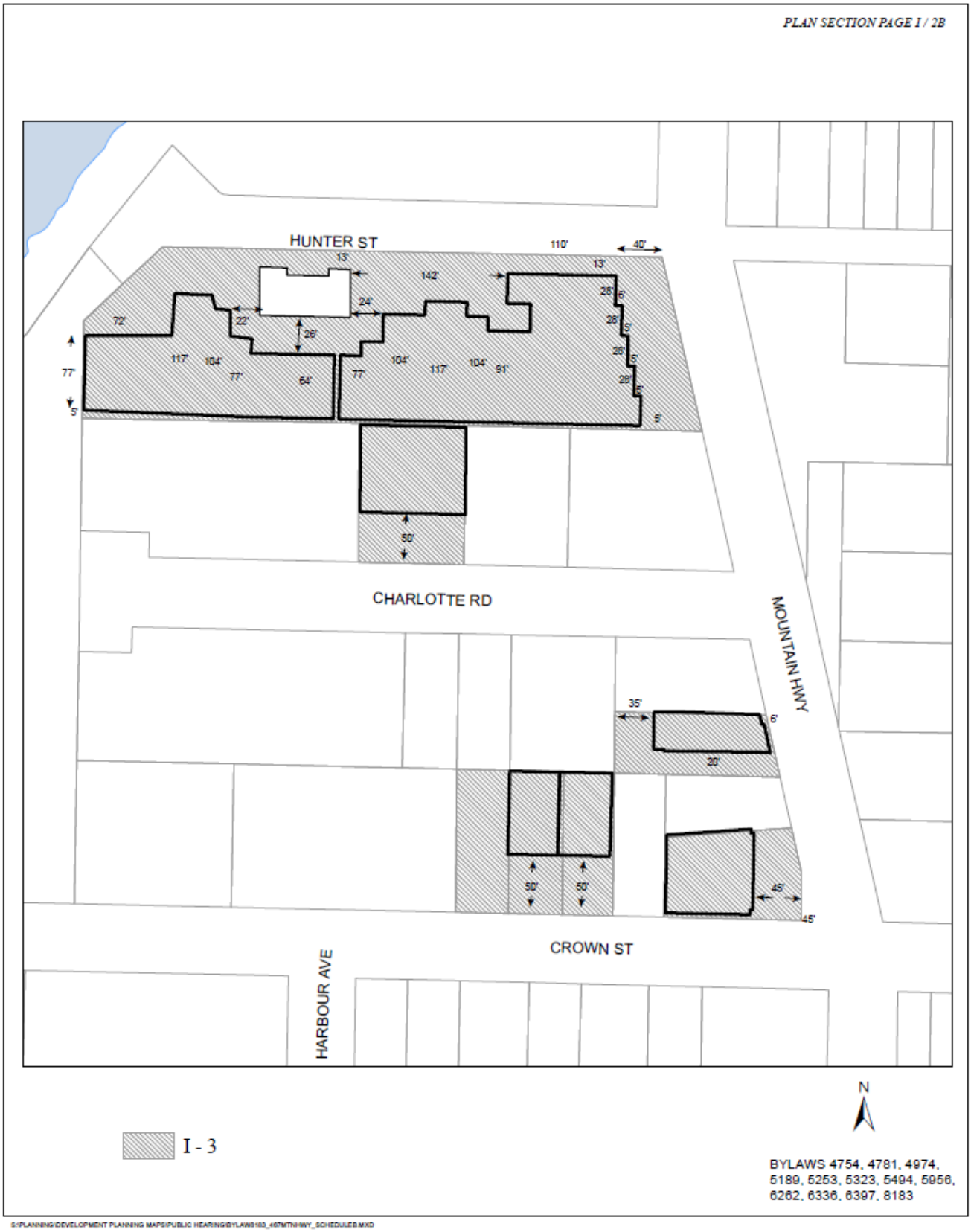
Certified a true copy

_____
Municipal Clerk

Schedule A to Bylaw 8183



Schedule B to Bylaw 8183



DISTRICT OF NORTH VANCOUVER

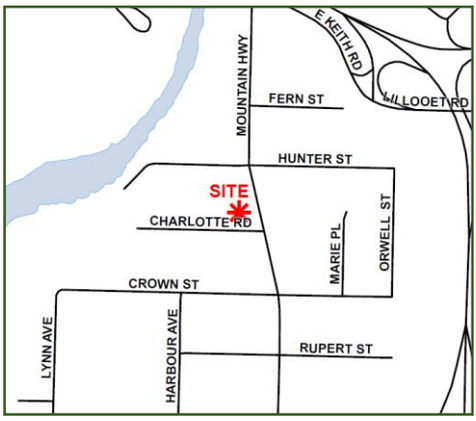
PUBLIC HEARING

467 Mountain Highway
6-Storey Mixed Use Building

What: A Public Hearing for Bylaw 8183, a proposed amendment to the Zoning Bylaw to permit the development of a six-storey mixed use building at 467 Mountain Highway.

When: 7 pm, Tuesday, October 4, 2016

Where: Council Chambers, District of North Vancouver Municipal Hall, 355 West Queens Road, North Vancouver, BC



Proposed*

*Provided by applicant for illustrative purposes only.
The actual development, if approved, may differ.

What changes?

Bylaw 8183 proposes to amend the District's Zoning Bylaw by creating a new Comprehensive Development Zone 94 (CD94) and rezone the subject lands from Light Industrial (I3) to CD94 to permit the development of a six-storey mixed use building.

When can I speak?

We welcome your input Tuesday, October 4, 2016, at 7 pm. You can speak in person by signing up at the hearing, or you can provide a written submission to the Municipal Clerk at input@dnv.org or by mail to Municipal Clerk, District of North Vancouver, 355 West Queens Road, North Vancouver, BC, V7N 4N5, before the conclusion of the hearing.

Please note that Council may not receive further submissions from the public concerning this application after the conclusion of the public hearing.

Need more info?

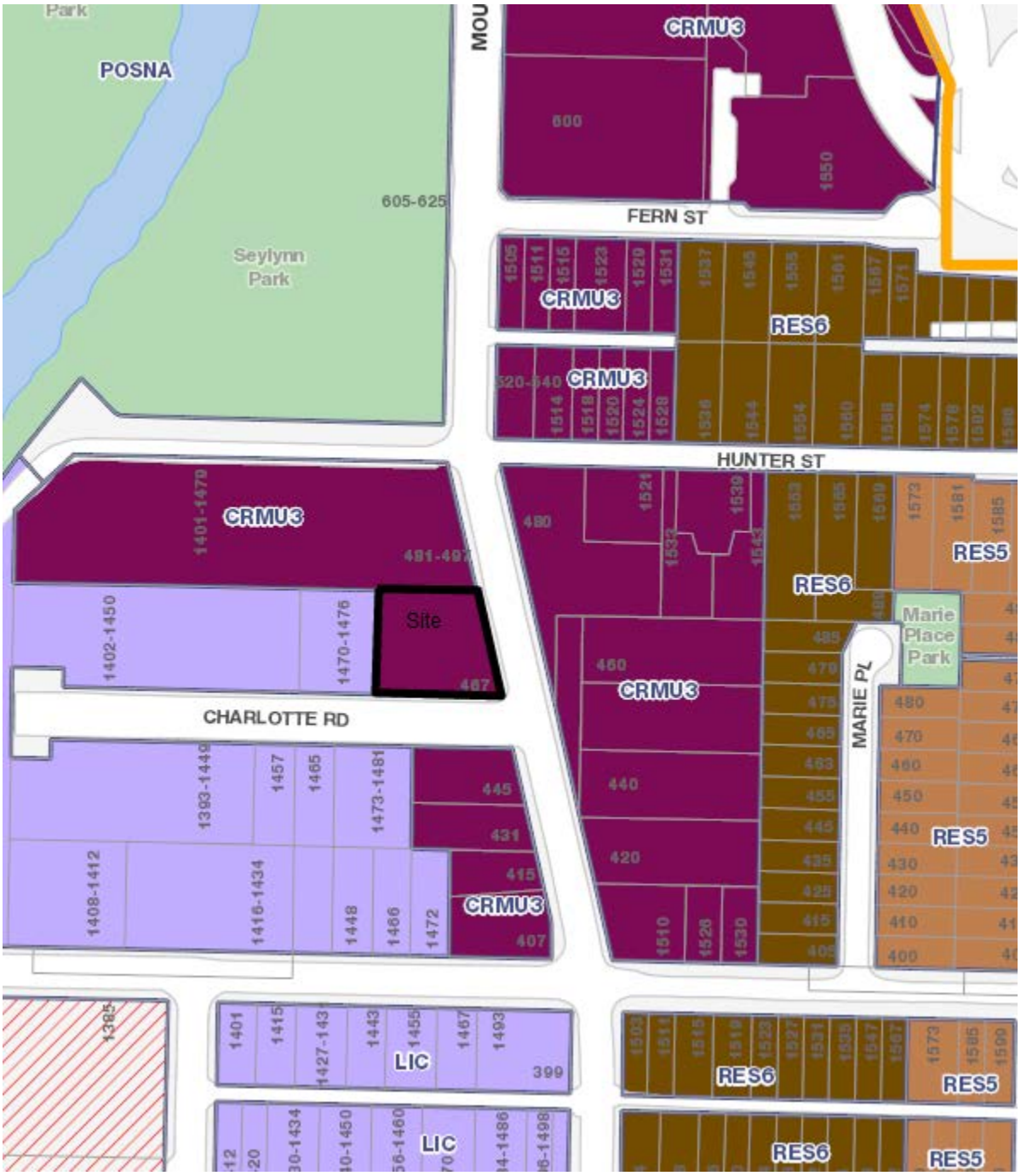
Relevant background material and copies of the bylaw are available for review at the Municipal Clerk's Office or online at dnv.org/public_hearing from July 27 to October 4. Office hours are Monday to Friday 8 am to 4:30 pm, except statutory holidays.

Who can I speak to?

Casey Peters, Community Planner, at 604-990-2388 or petersc@dnv.org

467 Mountain Hwy

OCP Map for Public Hearing Binder



TRANSPORTATION PLANNERS AND ENGINEERS

467 Mountain Highway
Transportation Impact Assessment

Draft Report Revision 1

Prepared for

Wanson (Lynn Creek) Development Limited Partnership

Date

May 30 2016

Prepared by

Bunt & Associates

Project No.

4672.03

TABLE OF CONTENTS

EXHIBITS

TABLES

1. INTRODUCTION

A rezoning process is proposed for a mixed used (residential and commercial) development located at 467 Mountain Highway in the District of North Vancouver. The site is located west of Mountain Highway and north of Charlotte Road where a commercial building currently exists. Bunt & Associates has been retained by Wanson (Lynn Creek) Development Limited Partnership to conduct a traffic study for the rezoning application. The purpose of this traffic study is to determine the traffic impacts of the proposed development, justify proposed parking reductions and to review the current site plan in relation to loading, garbage and emergency vehicles.

1.1 Background

For the purpose of analysis, the development opening day is expected to be year 2018. Based on Planning horizon for the project as 2030 (as noted in the Transportation Information Required for Development Review document from the District of North Vancouver), analysis was performed for the 2030 full build out scenario to reflect the build out traffic conditions.

1.2 Proposed Development

The development is planned to consist of residential units and commercial uses. **Exhibit 1.1** illustrates the proposed site plan layout.

Table 1.1 below summarizes the expected development uses.

Table 1.1 – Summary of the Proposed Development Land Uses

LAND USE	SIZE (GFA) sq.ft.	Units
Commercial	5,998	-
Residential (Apartments)	-	63

Notes:
GFA = Gross Floor Area

The proposed development has designs for access to the parking areas for the site via an access on the west edge of the development on Charlotte Road. Delivery vehicles will be via a signed loading area on the street in front of site on Charlotte Road. The design vehicle is anticipated to be a single unit truck loading vehicles. Garbage pick-up is anticipated to be just outside of the building, and in front of the garbage room, on Charlotte Road. **Exhibit 1.1** shows the layout of the site.

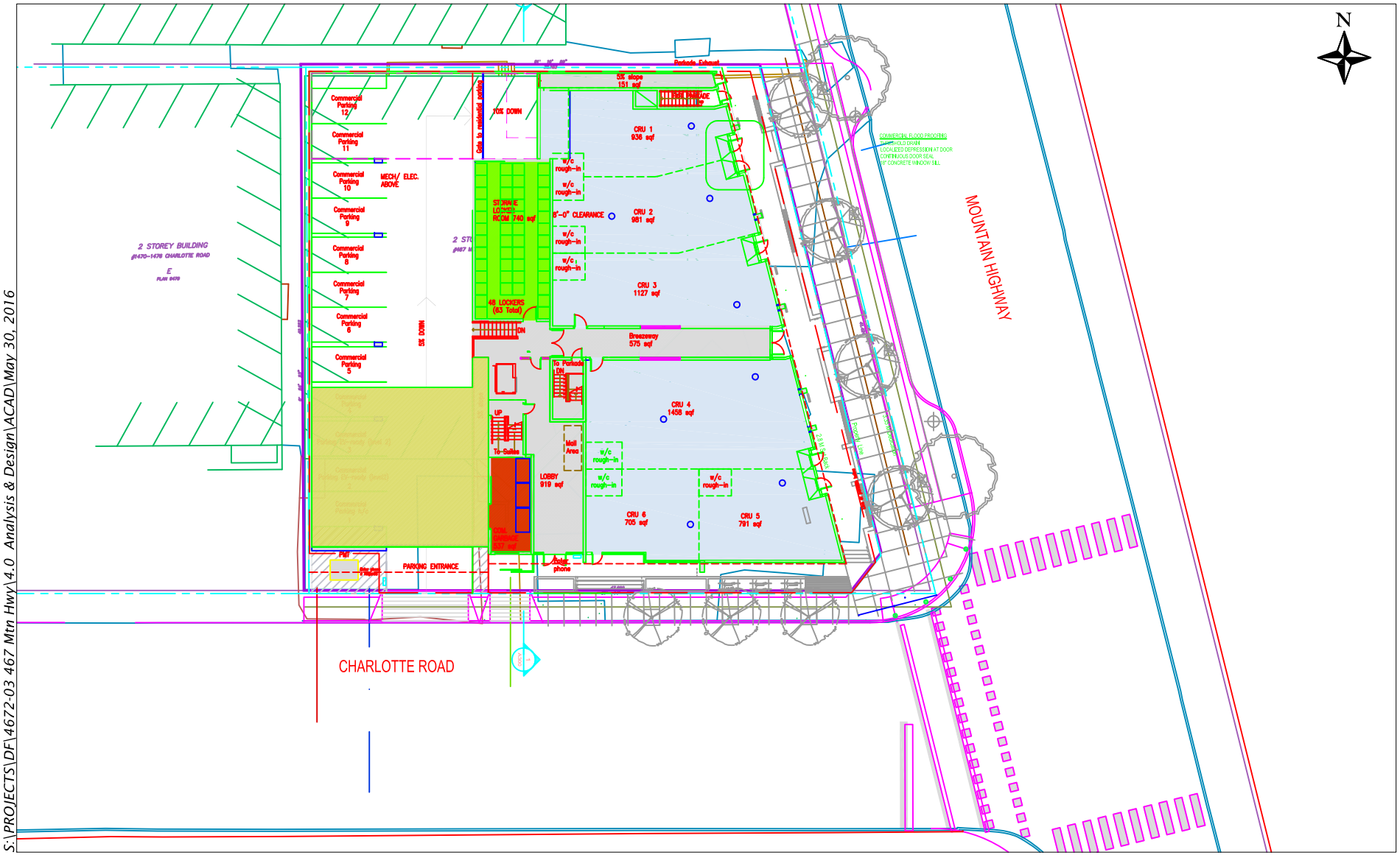


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Exhibit 1.1

Proposed Site Plan

467 Mountain Highway

4672.03 May 2016 Scale NTS

bunt & associates

1.3 Site Location and Study Area

Exhibit 1.2 shows the location of the site while **Exhibit 1.3** shows the general study area. The intersection of Mountain Highway and Charlotte Road, in addition to the Charlotte Road / Site Access intersection, was analyzed to ascertain traffic impacts imposed by the site, along with the site volumes. Both the AM and PM peak hour periods were analyzed for the purpose of this study.

The 2030 planning horizon forecasts for the AM and PM peak hour were based on the study area and traffic projections provided by conducting traffic counts at the Charlotte Road / Mountain Highway, the access intersection, and through the BC Ministry of Transportation's (MOTI) road annual average daily traffic (AADT) information set. Data from 2003, 2006 and 2009 showed the general trend of traffic through Mountain Highway decreases. Hence a projected compounded annual growth rate of 0.5% was used for this study. This is further discussed in Section 3.2 of this report.

1.4 Report Structure

The report is divided into 6 sections, and the purpose and scope of each is discussed in the following.

- Section 1.0 Introduction: provides an overview of the proposed development and outlines the traffic impact study purpose and scope.
- Section 2.0 Existing Conditions: provides an overview of the existing traffic operations within the study area, establishing the base case scenario.
- Section 3.0 Traffic Volume Forecasts: summarizes the estimated site traffic generation and distribution to the study area intersections, as well as the projected future background and total traffic volumes.
- Section 4.0 Future Traffic & Road Network Conditions: summarizes the capacity analysis of the study area intersections.
- Section 5.0 Site Plan Review / Parking / TDM Strategies: discusses the site's sustainability features from a transportation perspective, including opportunities for Transit use, nearby bicycle routes and pedestrian facilities.. This section also provides an overview of the on-site circulation review for fire truck access to/from the loading bays as well as summarizes the strategy to justify a reduction of parking by implementing sustainable features and programs for future residents
- Section 6.0 Conclusions: summarizes the findings and recommendations of the study.

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Exhibit 1.2
Site Location

bunt & associates

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Exhibit 1.2
Site Location

bunt & associates

2. EXISTING CONDITIONS

2.1 Study Area Context

Per existing conditions, this section of Mountain Highway where the proposed development is located is comprised of residential and commercial developments. The site is also adjacent to Translink's Frequent Transit Network (FTN) and approximately 100m to the closet bus stop on Mountain Highway. The existing traffic control and laning configuration for the study intersections is highlighted in **Exhibit 2.1**. Note, in the drawing, only major movements are shown. There is actually an east leg (westbound movements) from the Dykhof Nurseries that was included as part of the analysis but not shown in this drawing.

Also of importance, the study area is within the Lower Lynn Town Centre area, an area planned, as part of the Official Community Plan, to "rejuvenate the residential areas through quality urban design and place making, to increase connectivity between neighbourhoods that have been isolated by the TransCanada Highway, and to establish a central community "heart" or focal point that serves as a hub for community services and facilities". The Lower Lynn Implementation Plan looks at how this could be done and within a transit oriented development approach.

2.2 Road Network

Currently, **Mountain Highway** is classified as a major arterial that runs north-south and connects Upper Lynn to Lower Lynn. Mountain Highway functions as both an arterial route for travelling north to south through North Vancouver. It allows for local traffic access to area shops, services, community centres and various residential areas. The section of Mountain Highway adjacent to the site is part of Translink's FTN and serves multiple routes connecting the various communities within North Vancouver City and District, West Vancouver and the City of Vancouver. Mountain Highway has one travel lane northbound (with on-street parking in some areas) two travel lanes southbound. Sidewalks on both sides of Mountain Highway make it pedestrian friendly and allow commuters to walk to the nearby Phibbs Exchange bus terminal.

Charlotte Road is an east-west local road that connects with Mountain Highway to the east. It provides access to a mix of small commercial land uses. It is not a through road and has a cul-de-sac turnaround at the western end. Charlotte Road has two travel lanes with on-street parking on either side. There are no sidewalks along the entire stretch of Charlotte Road.

2.3 Existing Traffic Volumes

Traffic counts were conducted by Bunt & Associates' counter staff on a typical Wednesday, September 30, 2015 at the existing access of existing site housing the proposed development and the intersection of Mountain Highway and Charlotte Road. These traffic counts were conducted to determine the existing driveway volumes along with the traffic along Mountain Highway. Existing traffic volumes are provided in **Exhibit 2.2**.

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Scale: NTS

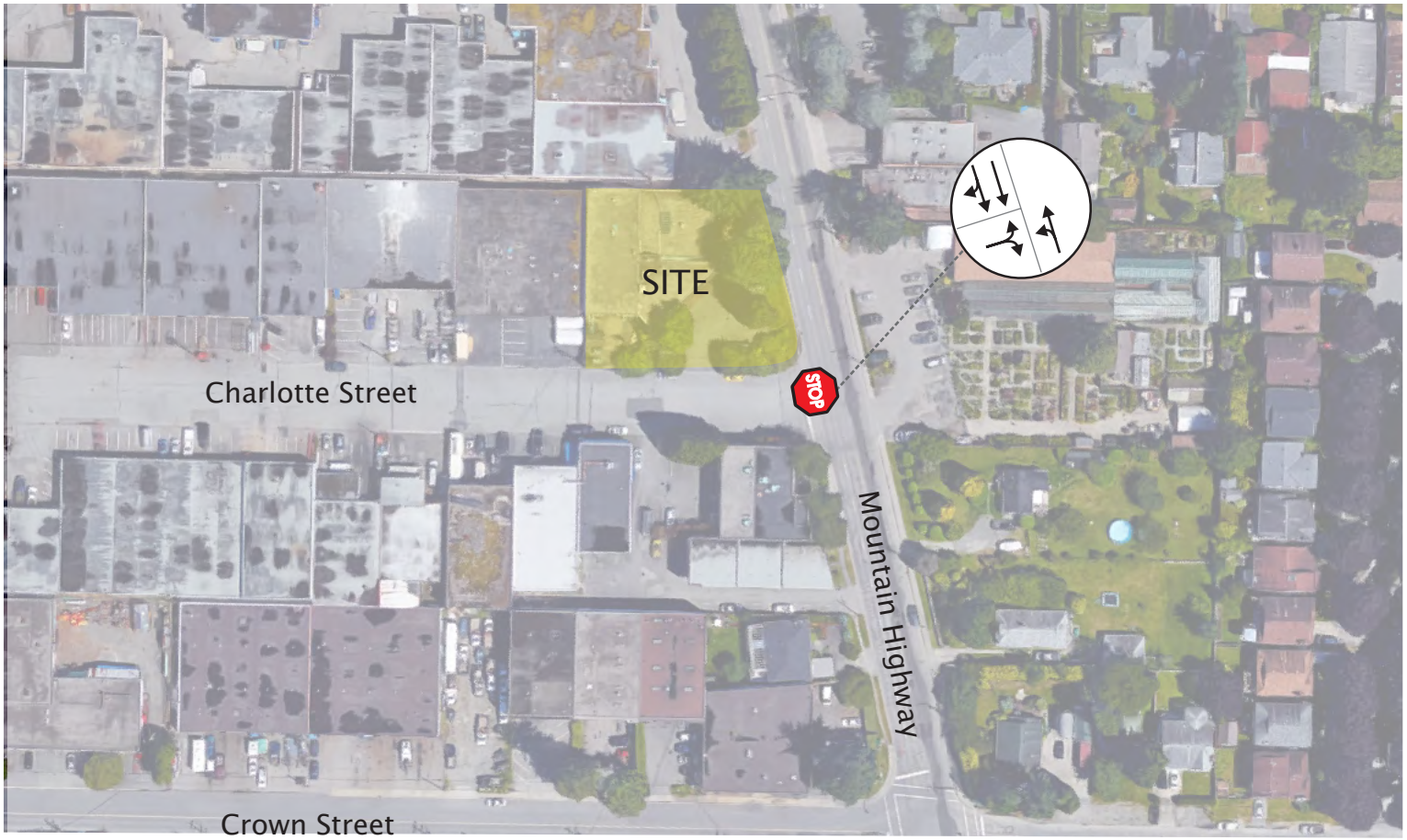

Exhibit 2.1

Existing Traffic Control and Laning Configuration

bunt & associates

Exhibit 2.2

Existing Traffic Volumes

bunt & associates

2.4 Existing Traffic Operations

The existing conditions analysis was undertaken using the Synchro/SimTraffic Software (v9) and the results summarized in the tables provided below.

The summary tables report the calculated Volume to Capacity (V/C) ratio and a corresponding delay-based traffic Level of Service (LOS) indicator ranging from ideal LOS A conditions with minimal delay through to LOS E 'near capacity' conditions and LOS F 'over-saturated' conditions when drivers may have to wait through several signal cycles, yield to a good number of people, to perform their desired movements through the intersection. The 95th percentile predicted average queue length for each lane group is also summarized, measured in metres.

Typically, the intersection as a whole or individual movements need to be better than the following performance thresholds:

- V/C = 0.90 or greater for the overall intersection operations;
- V/C = 0.95 or greater for individual movements and Levels of Service at E or F;
- 95th percentile queue length of greater than the existing available storage length. When this occurs for left or right turn movements, it is likely turn bays occasionally overflow during the analyzed time period, possibly blocking through traffic on the approach and causing excessive delays and/or queuing. When this occurs for through movements, it is likely queues are backing up to adjacent intersection and causing blockages to side street movements.

The existing conditions analysis is summarized in **Tables 2.1** and **2.2.** Detailed Synchro analysis printouts of existing conditions are provided in **Appendix A** at the end of this report.

Table 2.1 – Unsignalized Intersection Capacity Analysis – Existing 2015 AM

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.04	C	1
Westbound LTR	0.00	A	0
Northbound LTR	0.04	A	1
Southbound LTR	0.22	A	0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.02**	A	0
Westbound TR	**0.06**	A	1
Southbound LR	**0.00**	A	0

Table 2.2 – Unsignalized Intersection Capacity Analysis – Existing 2015 PM

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.15	C	4
Westbound LTR	0.00	A	0
Northbound LTR	0.03	A	1
Southbound LTR	0.16	A	0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.07**	A	2
Westbound TR	**0.05**	A	1
Southbound LR	**0.00**	A	0

Based on the results of the AM and PM peak hour analysis, the existing conditions of the Charlotte Road / Mountain Highway intersection operates acceptably. Only minimal queues are formed for all movements.

2.5 Transit Routes & Services

The proposed development is served by public transit routes on Mountain Highway with three bus stops within a 400m walk distance of the site. These bus stops are shown in **Exhibit 2.3**, with the nearest bus stop located at the intersection of Mountain Highway and Crown Street, while **Table 2.2** summarizes the bus routes that service these stops.

The routes, summarized in **Table 2.2,** provide connections with Vancouver, West Vancouver, Capilano University, Lonsdale Quay, Upper Lonsdale and Upper Capilano. As shown service headways are around 10 to 15min in the peak periods, with the highest frequency service between the Park Royal Shopping Centre and Capilano University.

Table 2.3 – Existing Transit Services within Walking Distance of Site

Route / Stop		Service Period Adjacent to Site		Service Headways (minutes)			
#	Name	Start	End	AM Period	Mid-day Period	PM Period	Saturday Mid-day
028	Capilano U/Joyce Stn	6:50 AM	12:50 AM	15	15	15	20
130	Capilano U/Metrotown Stn	7:00 AM	6:15 PM	15	-	15	15
209	Upper Lynn Valley/Vancouver	7:30 AM	1:45 PM	30	30	-	30
210	Upper Lynn Valley/Vancouver	5:30 AM	8:20 PM	12	30	15	30
211	Seymour/Vancouver/Phibbs Exchange	5:30 AM	12:20 AM	15	30	15	30
227	Lynn Valley Centre/Phibbs Exchange	5:50 AM	6:50 PM	30	30	30	30
239	Capilano U/Park Royal	6:20 AM	12:15 AM	10	10	10	15

2.6 Cycling and Walking

Existing cycling routes near to the site, as summarized in the North Vancouver Bicycle Master Plan (2012) are illustrated in **Exhibit 2.3**. As shown, there are a number of accessible cycling routes near to the site specifically, on-street routes on Mountain Highway, Fern Street, Crown Street and off-street routes on St. Denis Avenue. In addition, the existing pedestrian connections in the area of the development are also

shown in **Exhibit 2.3**. There are no sidewalks on either side of Charlotte Road fronting the site but Mountain Highway has either one or both sidewalks on each side depending on the specific leg of the intersection.

Of side note, based on information from the District, it looks like there may be a shared use path (bicycles and pedestrians) to the west of Mountain Highway on Hunter Street north of the site. This is based on a cross section of the immediate area as provided by District staff (Exhibit 3.1 of this study).

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Exhibit 2.3

Existing Bicycle, Pedestrian Routes and Transit Stops

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3. TRAFFIC VOLUME FORECASTS

3.1 Future Road Network Plans

Based on information received from the District of North Vancouver, Mountain Highway is planned to be upgraded from its current cross section. Specifically, Mountain Highway is expected to have the following cross-sectional elements:

- 2 x 1.5m movement zone
- 2 x 1.5 tree grate tree grate
- 2x 1.8m bike lane
- 2x 0.6m median buffer curb
- 2x 2.4m parking
- 2x 3.4m travel lane
- 3.6m median (with trees) or left turn lane

Exhibit 3.1 shows the anticipated cross-section of Mountain Highway.

The above improvement as compared to the existing Mountain Highway in the vicinity of the development, which has two southbound and one northbound lane with sidewalks on either one or both sides of the travel lanes, as well as parking on the east edge of the corridor.

Additionally, Charlotte Road, fronting the site, is not indicated to be planned to be improved aside from the improvements brought forth by this development.

For the purposes of analysis, it is expected opening day (2018) Mountain Highway will still have the existing cross-section while in the 2030 planning horizon, Mountain Highway is expected to have the improved cross-section constructed.

3.2 Background Traffic Forecasts

Background traffic is traffic expected to be present on the road system regardless of whether this specific site is redeveloped. Traffic growth was determined based on a Ministry of Transportation (MOTI) count permanent station in the near vicinity. Specifically, we studied the 15-960NS count station (Mountain Highway at Route 1 in North Vancouver). With that, the following average annual daily traffic (AADT) was found.

Table 3.1 - 15-960NS Station Road AADT

Year	2003	2006	2009
Road AADT	16,744 vehicles	16,647 vehicles	5,137 vehicles

We think the decrease in 2009 traffic counts may be attributed to construction or other reasons. In general, for the purposes of analysis, we assumed the flow to be fairly steady from the data available (0% growth). To be conservative, we have utilized a growth rate of 0.5% per annum for growth even though we had not found any growth from the previous AADT information. This growth rate was verified for use with the District prior to application within this study.

Therefore, in the context of this TIA, background traffic would be existing traffic on the roadway system, plus traffic generated by new developments within the surrounding area as assumed with growth rate noted above. **Exhibit 3.2** and **3.3** illustrates the projected background traffic volumes for the opening day 2018 and 2030 horizon year.

To summarize the traffic flows on Mountain Highway for the 2018 opening day and 2030 planning horizon in tabular form:

Table 3.2 Forecast Traffic Summary

		AM (vph)			PM (vph)		
		Existing	2018	2030	Existing	2018	2030
North of Charlotte Road	Northbound	282	286	304	485	492	523
South of Charlotte Road	Southbound	657	667	707	473	480	510
North of Charlotte Road	Northbound	311	315	335	498	505	537
South of Charlotte Road	Southbound	646	656	696	501	509	540

Of note, we acknowledge that there is a Lower Lynn Transportation Strategy (LLTS) dated January 2011 with information on the 2008 AM/PM and 2030 PM traffic volumes. As our count information seemed to render different results than the LLTS (in addition to some other regional fundamental assumption changes that could have been made since the writing of the LLTS), the traffic analysis was completed with the staff agreed +0.5% per annum growth applied to the counted traffic volumes in 2015.

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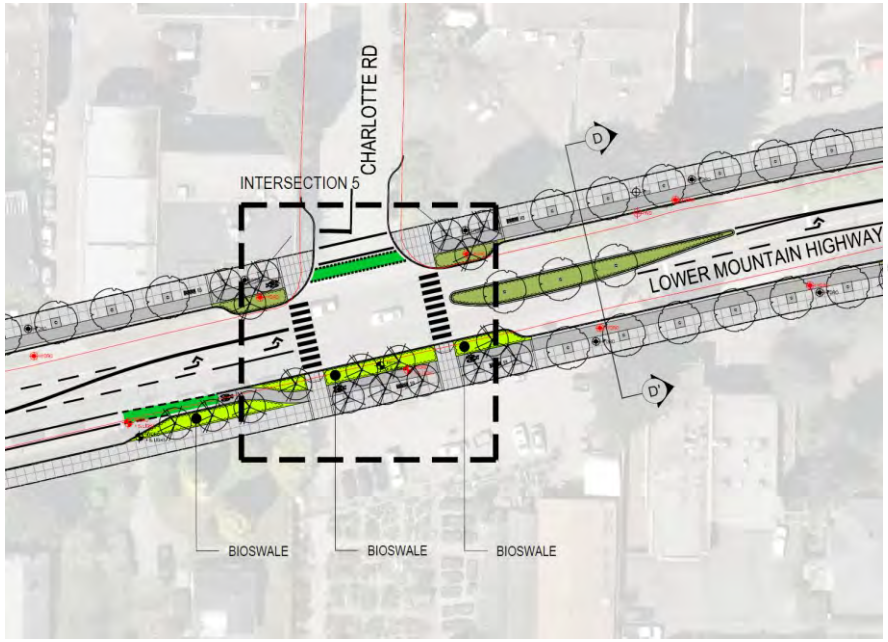
Scale: NTS



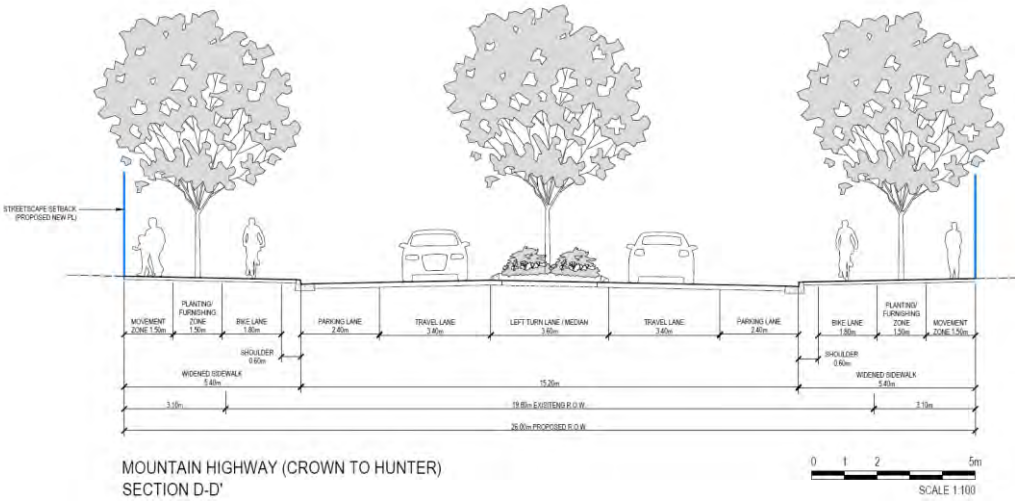


Exhibit 3.1

Mountain Highway Future Cross-Section

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Exhibit 3.2

Background (2018) Traffic Volumes

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Exhibit 3.3

Background (2030) Traffic Volumes

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3.3 Site Generated Traffic

The Wanson (Lynn Creek) Development site trip generation for the proposed development was prepared based on a mix of trip generation rates as proposed by the Institute of Transportation Engineers (ITE) Trip Generation Manual. According to the ITE Trip Generation Manual (v9) the anticipated trip generation for the development is summarized in **Table 3.3** below.

Table 3.3 – Site Generated Trip Rates

Use	Size	Trip Rate Source	ITE Code	AM Peak Hour Trip Rates *			PM Peak Hour Trip Rates *		
				In	Out	Total	In	Out	Total
Condominium	63 units	ITE	230	0.07	0.37	0.44	0.35	0.17	0.52
Shopping Centre	5,998 sq ft	ITE	820	0.59	0.36	0.95	1.78	1.93	3.71

Notes: * Trip Rates expressed in # vehicle trips / residential unit, and # vehicle trips / 1,000 SF of GFA.

Table 3.4 – Site Generated Trip Estimated Volumes

Use	Size	Trip Rate Source	ITE Code	AM Peak Hour Traffic Volumes			PM Peak Hour Traffic Volumes		
				In	Out	Total	In	Out	Total
Condominium	63 units	ITE	230	5	23	28	22	11	33
Shopping Centre	5,998 sqft	ITE	820	3	2	5	10	11	21
			Total Traffic	**8**	**25**	**33**	**32**	**22**	**54**

Notes: The site trips generated were calculated based on an older version of the site plan where the commercial area was 5,676 sqft. As the change in the site plan resulted only in a difference of approximately 1 trip during the AM peak hour and 1 trip during the PM peak hour, the analysis results were unchanged due to negligible differences expected for traffic operations.

In general, there may be some internal capture between the residential and shopping centre trips. However, to be conservative, an internal capture rate was not applied to this analysis for trip generation. As such, the proposed trip generation proposed is considered conservative.

With the above information, **Table 3.5** below summarizes the net generated trips taking into account the removal of the existing site trips.

Table 3.5 – Net Generated Trips

Use	AM Peak Hour Traffic Volumes			PM Peak Hour Traffic Volumes		
	In	Out	Total	In	Out	Total
Site Generated Trips (proposed development)	8	25	33	32	22	54
Site Generated Trips (existing development)	4	0	4	0	0	0
Net Generated Trips	**4**	**25**	**29**	**32**	**22**	**54**

3.4 Site Traffic Distribution

The site traffic distribution was assumed to roughly match the existing observed splits at the study area intersection. **Table 3.6** summarizes the assumed distributions for the new site traffic.

Table 3.6 – Site Traffic Distribution

Site Traffic	AM Peak Hour		PM Peak Hour	
To/From	% In	% Out	% In	% Out
Mountain Highway South	68%	30%	49%	49%
Mountain Highway North	32%	70%	51%	51%
Total	100%	100%	100%	100%

3.5 Total Traffic Volumes

Exhibit 3.4 and **3.5** illustrates the projected total (background with site) traffic volumes for the 2018 and 2030 horizon year and assumed road networks.

Exhibit 3.4

Total (2018) Traffic Volumes

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Exhibit 3.5

Total (2030) Traffic Volumes

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4. FUTURE TRAFFIC & ROAD NETWORK CONDITIONS

4.1 Traffic Impact Analysis

Capacity analysis of the future traffic condition, both with and without the site redeveloped was carried out using the same traffic analysis methodology and criteria as noted in Section 2.4 above. The results of these analyses are provided below.

4.1.1 Capacity Analysis - 2018

This section summarizes the capacity analysis of the 2018 opening day scenario. Both background traffic conditions (forecast future traffic without the site redeveloped) and total traffic conditions (forecast future traffic with the site redeveloped) were assessed and are summarized below. Detailed 2018 Synchro analysis printouts are provided in **Appendix B** at the end of this report.

As noted earlier, for the 2018 opening day scenario, it is assumed that Mountain Highway is in its current form. It is not until the 2030 planning horizon that the corridor will be updated to the proposed design / cross-section as noted in Section 3.1 Future Road Network Plans. The following table summarizes operations at the Mountain Highway / Charlotte Road intersection for the background and total (background with site traffic) scenarios.

Table 4.1 - 2018 Unsignalized Intersection Capacity Analysis AM Peak Hour – Background

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.04	C	1 / 1
Westbound LTR	0.00	A	0 / 0
Northbound LTR	0.04	A	1 / 1
Southbound TR	0.22	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.02**	A	0 / 0
Westbound TR	**0.06**	A	2 / 1
Southbound LR	**0.00**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.2 - 2018 Unsignalized Intersection Capacity Analysis PM Peak Hour - Background

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.16	C	4 / 1
Westbound LTR	0.00	C	0 / 0
Northbound LTR	0.03	A	1 / 1
Southbound TR	0.16	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.07**	A	2 / 1
Westbound TR	**0.05**	A	2 / 1
Southbound LR	**0.00**	A	0 / 1

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.3 - 2018 Unsignalized Intersection Capacity Analysis AM Peak Hour – Total

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.13	C	3 / 1
Westbound LTR	0.00	A	0 / 0
Northbound LTR	0.04	A	1 / 1
Southbound TR	0.22	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.02**	A	0 / 0
Westbound TR	**0.07**	A	2 / 1
Southbound LR	**0.00**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.4 - 2018 Unsignalized Intersection Capacity Analysis PM Peak Hour - Total

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.24	C	7 / 1
Westbound LTR	0.00	A	0 / 0
Northbound LTR	0.03	A	1 / 1
Southbound TR	0.17	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.07**	A	2 / 1
Westbound TR	**0.08**	A	1 / 1
Southbound LR	**0.00**	A	0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Similar to the existing day conditions, for the 2018 without site and with site scenarios, the Charlotte Road / Mountain Highway intersection as well as the Charlotte Road / Access intersection continues to operate acceptably with little to no queues formed.

4.1.2 Capacity Analysis – 2030

As noted above, for both background / total traffic scenario, it is expected that Mountain Highway will have been updated to the new design / cross-section as outlined in Section 3.1 Future Road Network Plans. For the purposes of analysis, the intersection was assumed unsignalized. The following table summarizes operations at the Mountain Highway / Charlotte Road intersection for the background and total (background with site) traffic scenarios.

Table 4.5 - 2030 Unsignalized Intersection Capacity Analysis AM Peak Hour – Background

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.05	C	1 / 1
Westbound LTR	0.00	A	0 / 0
Northbound L	0.04	A	1 / 1
Northbound TR	0.19	A	0 / 0
Southbound LTR	0.00	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.02**	A	0 / 0
Westbound TR	**0.06**	A	2 / 1
Southbound LR	**0.00**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.6 - 2030 Unsignalized Intersection Capacity Analysis PM Peak Hour - Background

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.19	C	5 / 1
Westbound LTR	0.01	D	0 / 0
Northbound L	0.03	A	1 / 1
Northbound TR	0.33	A	1 / 1
Southbound TR	0.00	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.07**	A	2 / 0
Westbound TR	**0.05**	A	1 / 0
Southbound LR	**0.00**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.7 - 2030 Unsignalized Intersection Capacity Analysis AM Peak Hour – Total

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.15	C	4 / 1
Westbound LTR	0.00	A	0 / 0
Northbound L	0.04	A	1 / 1
Northbound TR	0.19	A	0 / 0
Southbound TR	0.00	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.02**	A	0 / 0
Westbound TR	**0.07**	A	2 / 1
Southbound LR	**0.00**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

Table 4.8 - 2030 Unsignalized Intersection Capacity Analysis PM Peak Hour - Total

Intersection	Weekday AM		
Movement	**V/C**	**LOS**	**Q (m) / Q (veh lengths)**
Mountain Highway / Charlotte Road			
Overall			A
Eastbound LTR	0.29	C	9 / 2
Westbound LTR	0.01	D	0 / 0
Northbound L	0.05	A	1 / 1
Northbound TR	0.33	A	0 / 0
Southbound LTR	0.00	A	0 / 0
Charlotte Road / Driveway Access			
Overall			A
Eastbound TR	**0.08**	A	2 / 1
Westbound TR	**0.09**	A	2 / 1
Southbound LR	**0.01**	A	0 / 0

Note, 1 car length is anticipated to be in the order of 6.5m-7m (this includes space between vehicles). When the calculated queue is less than the length of 1 car length, it is assumed that there is 1 car length of queue (to be conservative).

With the anticipated new laning configuration at the Mountain Highway / Charlotte Road intersection, the background and the total scenario shows that the intersection operates acceptably with the proposed condition without additional mitigation measures.

4.2 General Traffic Impact Analysis Notes

Of note to the above traffic analysis, it can be seen that there are similar vehicular queues for movements having dissimilar LOS (and therefore average delay per vehicle). This is possible considering the example of when a movement has few traffic volumes and the average control delay is high. With few traffic volumes for the movement throughout the hour, the resulting queue lengths could be low (even though the average delay is high). In comparison, for a movement with higher traffic flows but has a general right-of-way and therefore operates at lower average control delay per vehicle, it is therefore possible to have higher queue lengths as a result (vehicles continuous move while a queue is created). As such, it is difficult to directly correlate LOS / control delay to queue lengths.

5. TDM STRATEGIES / PARKING / SITE PLAN REVIEW

5.1 Sustainability Measures

Sustainable developments generally incorporate a diversity of land uses, higher densities, and are within walking distance to everyday facilities and transit. Walking, cycling and transit are each promoted through provision of attractive pedestrian connections, safe and convenient bicycle routes and nearby transit access. In conjunction with increased accessibility, reduced parking levels are provided to minimize the number of automobiles and automobile trips in general.

The District of North Vancouver has identified sustainability as an important initiative, evident in their Vision Statement:

> *"Our community is effectively addressing and adapting to the challenges of climate change. Our air is clean, our water is pure, our waste is minimal: our lifestyle is sustainable. We have ensured the District remains a great place to live, learn, work and play for generations to come."*

The proposed development is located within the Lower Lynn Town Centre with regards to the Official Community Plan. The vision for this neighbourhood further echoes the vision of overall OCP vision:

> *"Lower Lynn will be a transit-oriented mixed use community comprised of a wide range of housing types for people of all stages of life, all incomes, with accessible places of work and convenient shopping, amenities and civic uses and services. Over time, Lower Lynn will become an outstanding model of urban living in harmony with the North Shore's natural environment."*

The proposed development site is well located from a sustainability perspective and is in keeping with the local community plan policies and objectives. It is our view that the proposed development has the potential to generate lower than typical traffic volume generation due to the sustainable features associated with the site. In time as the neighbourhood is redeveloped with more mixed-use and higher density residential projects, it is anticipated that the area will become a more walk-able, bicycle-friendly and transit-supported neighbourhood with numerous nearby shops/restaurants/services/amenities within walking distance.

5.1.1 Transit

A person's willingness to use transit is based on a number of factors including: eligibility to drive, cost, convenience, relative journey times with other modes, personal choice, income level, etc. Generally transit is a practical proposition for journeys of 4 kilometres and more. Other than the shops/businesses in the immediate area of the development, which are for the most part within walking distance, other destinations that residents of this development would be expected to journey to (Vancouver, Park Royal and Lonsdale) generally fall within the over 4 kilometre threshold, suggesting that transit is a viable travel mode for residents of this development for many trips. The site is serviced by many frequent bus transit

routes within 400m convenient walking distance to the site which, according to TransLink, have the capacity to absorb additional ridership demand generated by this development.

5.1.2 Cycling

A person's willingness to cycle is based on a number of lifestyle factors, including health benefits, cost savings (automobile use and parking) and convenience. Infrastructure also plays an important role through the safety of routes, gradients, cycle storage facilities, etc. Cycling is a realistic transportation option for most people over short to medium distances, i.e. up to 8 kilometres, or a 30-35 minute cycle. Based on this distance criterion, downtown Vancouver, West Vancouver and many areas of North Vancouver would be readily accessible by bicycle from the proposed development.

5.1.3 Walking

Walking is a realistic form of travel for most people, especially over short distances, i.e. up to 2 kilometers or a 40 minute walk. The distance that a person is willing to walk is to a large extent dependent on the purpose of the journey, but also influenced by factors such as urban form, traffic, safety, personal fitness, car ownership, parking availability, etc.

Guidelines on the distances that people are willing to walk to for various trip purposes are set out in **Table 5.1**. This table focuses on land uses that can reasonably be accessed by walking from the site today.

Table 5.1 – Walking thresholds

Facility	Threshold Distances	Facilities that are within Threshold Distances to the development
us/Transit	400m (a)	3 bus stops on Mountain Highway
Schools	600-1200m (b)	North Star Montessori Elementary School, Lynnmour Community School
Leisure Facilities	600-1200m (b)	Seylynn Community Recreation Centre, Marie Place Park, Seylynn Park
Shops, restaurants, commercial	800-1200m (b)	Canadian Tire, Deep Cove Outdoors, McDonald's, Toby's North Shore Pub and Grill, Tim Hortons, Quizno's Class Subs and etc.
Employment	2000m (b)	Businesses / commercial uses at the proposed site, numerous businesses in the immediate vicinity

Sources: (a) TransLink
(b) Institute of Highways and Transportation (UK)

From this information, it is clear the site has the potential to have a relatively high mode split to walking, which will only grow as the rest of the Lower Lynn Implementation Plan develops, resulting in more destinations within convenient walking distance.

5.1.4 TDM Strategies / Plan

The site developer has proposed a number of key Transportation Demand Management (TDM) strategies / as part their TDM Plan:

- Bicycle Parking: In terms of bicycle end-of-trip facilities, the site developer is proposing to provide secure bicycle parking spaces. Based on the District of North Vancouver Zoning Bylaw, multiple family residential buildings require 0.2 stalls per unit for any development containing 5 or more units, and for commercial land uses, a minimum of 6 spaces for each 500m^2 of gross floor area or portion thereof. This equates to 19 total parking stalls for both residential and commercial purposes. To encourage bike use, the site developer is ready to commit to providing 65 secure lockers capable of storing 2 bikes at a time. This equates to 130 bike stalls total. Also bike racks will be provided on the surface near the commercial area with 18 bike parking locations.

- Transit Passes: The developer is planning to provide six-month two zone transit passes for every parking space reduced. Per calculations provided in Table 5.2, this equates to 52 bus passes.

- Car Share Program: At this time, the developer is looking to provide a car share vehicle / stall in place of one of the commercial stalls located on the ground floor of the development. MODO has currently accepted to putting a vehicle at this location, in theory, assuming collaboration and active support of the DNV - that is definition of a coherent approach at the neighbourhood level (Lynn Creek), which includes several variables currently being discussed between the District and MODO. At this time, the developer will continue to work with MODO on the car-share program details.

- Electric Vehicle Charging Facilities: The developer is planning to meet the District's requirement on electric vehicle charging facilities. This policy indicates that:

    - Multi-family Development are to have 20% of parking stalls EV-ready, wired for level 1 (110v) charging and Conduit in place so all stalls can later be wired for level 1 (110v) charging. As of the latest plans, 14 stalls of this nature will be provided.

    - Commercial Developments are to have approximately 10% of parking stalls wired for level 2 (240v) charging. Appropriate amounts of level 1 (110v) and level 2 (240v) charging will be determined based on proximity to regional roads and highways and expected length of stay based on long term land use tenure. As of the latest plans, 2 stalls of this nature will be provided.

- Resident Travel Planning Information: Based on the information outlined in the document as well as based on any changes to the future road, transit, pedestrian, and cycling network, the

developer is planning to provide this information to future residents, before they move in. The information package will be provided to the residents during their pre-delivery inspections.

- Post-Implementation Information to District: It is possible to gather vehicle ownership information (number of) at a certain address from the Insurance Corporation of British Columbia. With this information, it is possible to determine the actual residential parking rates as compared to the Lower Lynn Town Centre Implementation parking rates. Also, the visitor demand could be recorded for a typical day to confirm / compare against the Lower Lynn Town Centre rates. The developer is ready to do this exercise at an appropriate time (likely when residents have all moved in).

- Reduced Parking Provision: The site will have a reduced parking supply for the residential units, below those specified by the District of North Vancouver Zoning Bylaw (Part 10), which should encourage reduced auto ownership and use.

  In addition, per information provided in previous sections of this report, it is expected that with the close proximity of cycling routes, adequate sidewalk fronting the site for pedestrians, the close proximity of the frequent transit network, and the provision of committed TDM actions / measures, the reduced parking supply from the Zoning Bylaw, is sound. At this point in time, the site developer is to follow those parking rates proposed in the Lower Lynn Town Centre Implementation Plan. .

  Information on the existing parking rates as compared to the bylaw are provided in the following section. A summary table of TDM measures are also provided in the parking section to compare parking provision and TDM measures anticipated.

5.2 Parking

The parking strategy for the proposed development has been developed with a number of key inputs:

- Requirements of the District of North Vancouver Zoning By-Law Part 10 (Off-Street Parking Space Regulations) for the proposed redevelopment;
- District of North Vancouver's Lower Lynn Town Centre Implementation Plan;
- Practical considerations of minimum requirements to satisfy market housing sales expectations.

The proposed parking and loading strategy, in our opinion, achieves a well considered response to these different inputs.

5.2.1 On-Site Parking

The proposed site layout includes a total of 88 passenger car stalls on the site assuming the proposed TDM measures above are accepted by the District. Although the proposed parking provision is based on

the Lower Lynn Town Centre parking rates, it is below that of the parking requirements as noted within the DNV Zoning Bylaw (3210). As such, a parking variance is sought based on the proposed TDM plan. **Table 5.2** below summarizes the breakdown.

Table 5.2 – Proposed Parking Breakdown

Unit Type	Description	Rate in Zoning Bylaw	Required # of Spaces Assuming Without TDM Measures	Proposed # of Spaces Assuming With Accepted TDM Plan
Multiple Unit Residential Building	63 units	1 space per unit plus 1 space per 1,076 sq ft of gross residential floor area (to a maximum of 2 spaces per unit inclusive of 0.25 per dwelling unit designated for visitor parking)	110 Residential Parking Stalls 16 Visitor Parking	70 Residential Stalls 6 Visitor Parking
Commercial Use	5,998 sq ft	1 space per 40m2[1] (431 sq ft)	14	12[2]
Total			140	**88**

[1]A 1 space per 40m2 commercial parking rate is a village blended rate as proposed by District staff which would allow any permitted use to get a business licenses without having to prove that there is sufficient parking available

[2]We are proposing that we share 2 spaces with the visitor parking in order to meet the required 14 commercial spaces. We propose that the 2 shared spaces will remain behind the visitor/residential security gate and that they are to be used by the owners/operators of the commercial units.

As noted above, the proposed parking is based on the Lower Lynn Town Centre rates. **Table 5.3** summarizes the parking requirement for based on the Lower Lynn Town Centre Implementation Report rates being used.

Table 5.3 – Lower Lynn Parking Requirements Breakdown

Unit Type	Description	Proposed Rate	Proposed # of Spaces
Residential	63 apartment units	-1.1 spaces per unit for apartments; -0.1 spaces per unit for visitor parking.	70 apartment residents 6 visitors
Commercial Use	5,676 sq. ft.	1 per 40 sq ft GFA (unchanged from bylaw rates)	14
Total			**88 (with 2 shared stalls[1])**

[1]We are proposing that we share 2 spaces with the visitor parking in order to meet the required 14 commercial spaces. We propose that the 2 shared spaces will remain behind the visitor/residential security gate and that they are to be used by the owners/operators of the commercial units.

To summarize:

- DNV Bylaw Parking Requirement: 146 stalls
- Proposed Parking per Design: 88 stalls
- Lower Lynn Town Centre Requirement: 88 stalls (with two shared stalls).

5.2.2 On-Street Parking

It is anticipated that all parking demand will be served by the onsite parking provision. Although additional street parking can be found on Charlotte Road and Mountain Highway, it is not anticipated that the site users will normally occupy these spaces.

5.2.3 TDM Measures

In order to meet the reduced parking supply using the Lower Lynn Town Centre Parking Rates, TDM Measures have been within Section 5.1 above. To summarize, anticipated TDM measures for this site are summarized in **Table 5.4** below.

Table 5.4 Summary of TDM Measures

TDM Measures	Quantity Provided (if applicable)
Provision of bicycle parking	130 (maximum) parking stalls in lockers for residents 18 short term bike parking stalls associated for commercial use
Provision of 6-month 2 zone transit passes for every parking stall reduced	52 transit passes to be provided on a first come first serve basis to residents
Car share program	1 stall / vehicle to be provided
Provision of electric charging facilities	A total of 16 E-V ready (wired) stalls will be provided for this development
Resident Travel Planning Information	The developer will provide an information package to residents on transit, pedestrian, and cycling network in the nearby vicinity to the site during their pre-delivery inspections
Post-Implementation Information to District	The developer will provide vehicle ownership information (number of vehicles owned on-site) for the District of North Vancouver once all residents has taken occupancy of their suites. This information will be provided to the District once only.
Reduced Parking Provision	Parking provision is reduced to foster fewer trips associated with the site.

5.3 Bicycle Stall Provision

As noted above, in addition to vehicle parking, the bicycle parking space requirements, based on DNV's parking bylaw, are as follows:

- Residential – 13 bike spaces; and
- Retail – 6 bike spaces.

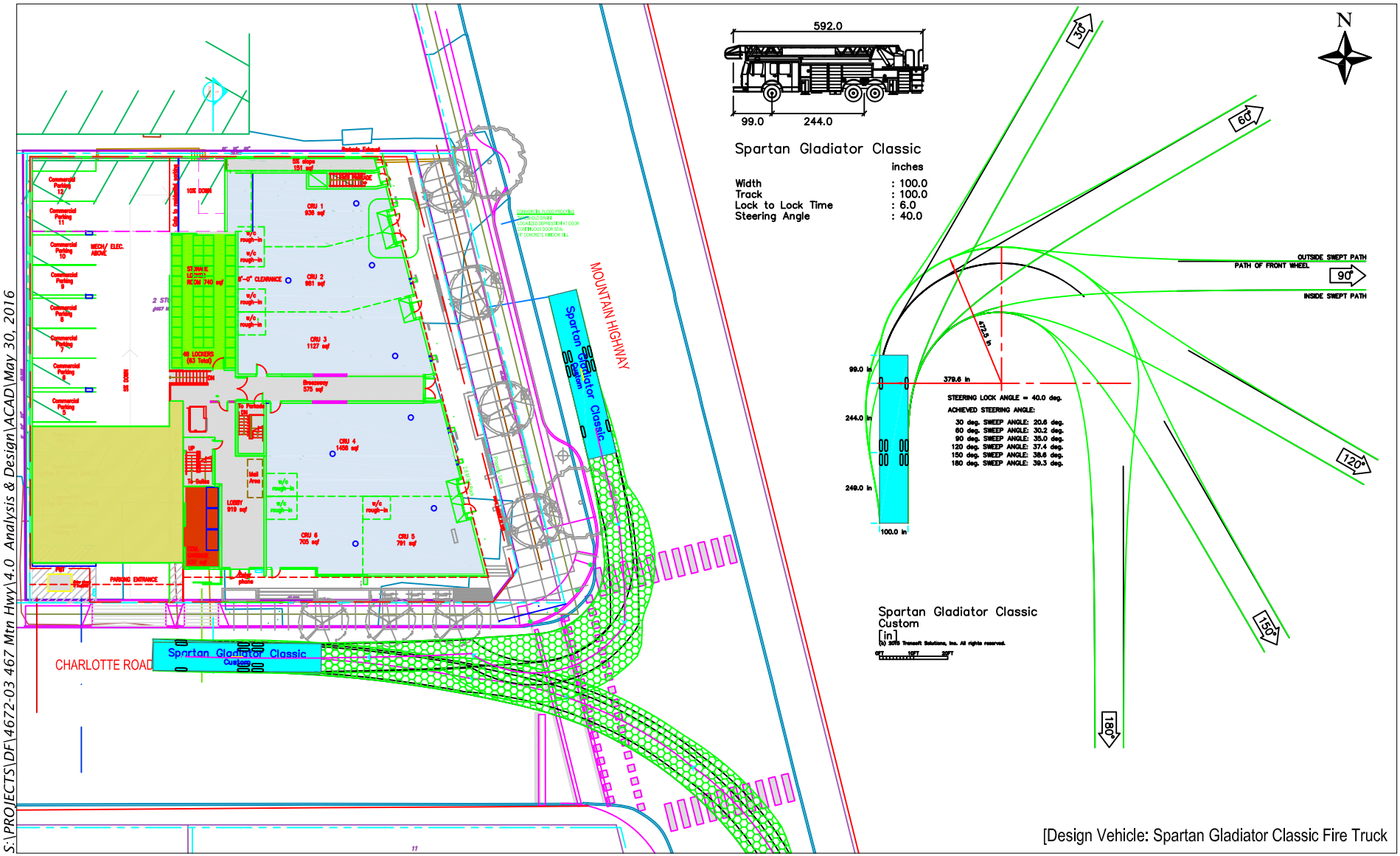
The total bike storage space requirement is 19 spaces. To further encourage bike use, our client is committed to providing 65 storage lockers capable of storing 130 bicycles in additional to 18 bicycle parking locations on racks on the surface of the site.

5.4 Loading and On-Site Circulation Review

The onsite circulation has been reviewed that adequate circulation can be achieved. In addition, a fire truck can access the sides of the building on Charlotte Road and Mountain Highway **Exhibit 5.1** show the circulation swept paths for the firetruck.

Loading is anticipated to be in front of the building on Charlotte Road. We recommend that this frontage be signed for 15 minute loading only for all periods when loading may occur for both commercial and residential uses (this may end up to be loading only for all time periods). The loading area could start at approximately 15m east of the parking entrance east edge. The location is based on the sight distance to the Charlotte Road / Mountain Highway intersection to/from the parking entrance. A swept path of a single unit truck in the anticipated loading area is provided as **Exhibit 5.2**below.

Finally, garbage is expected to be serviced from Charlotte Road in front of the garbage room of the site. **Exhibit 5.3** below summarizes this movement.



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[Design Vehicle: Spartan Gladiator Classic Fire Truck

Exhibit 5.1

Firetruck Vehicle Swept Paths

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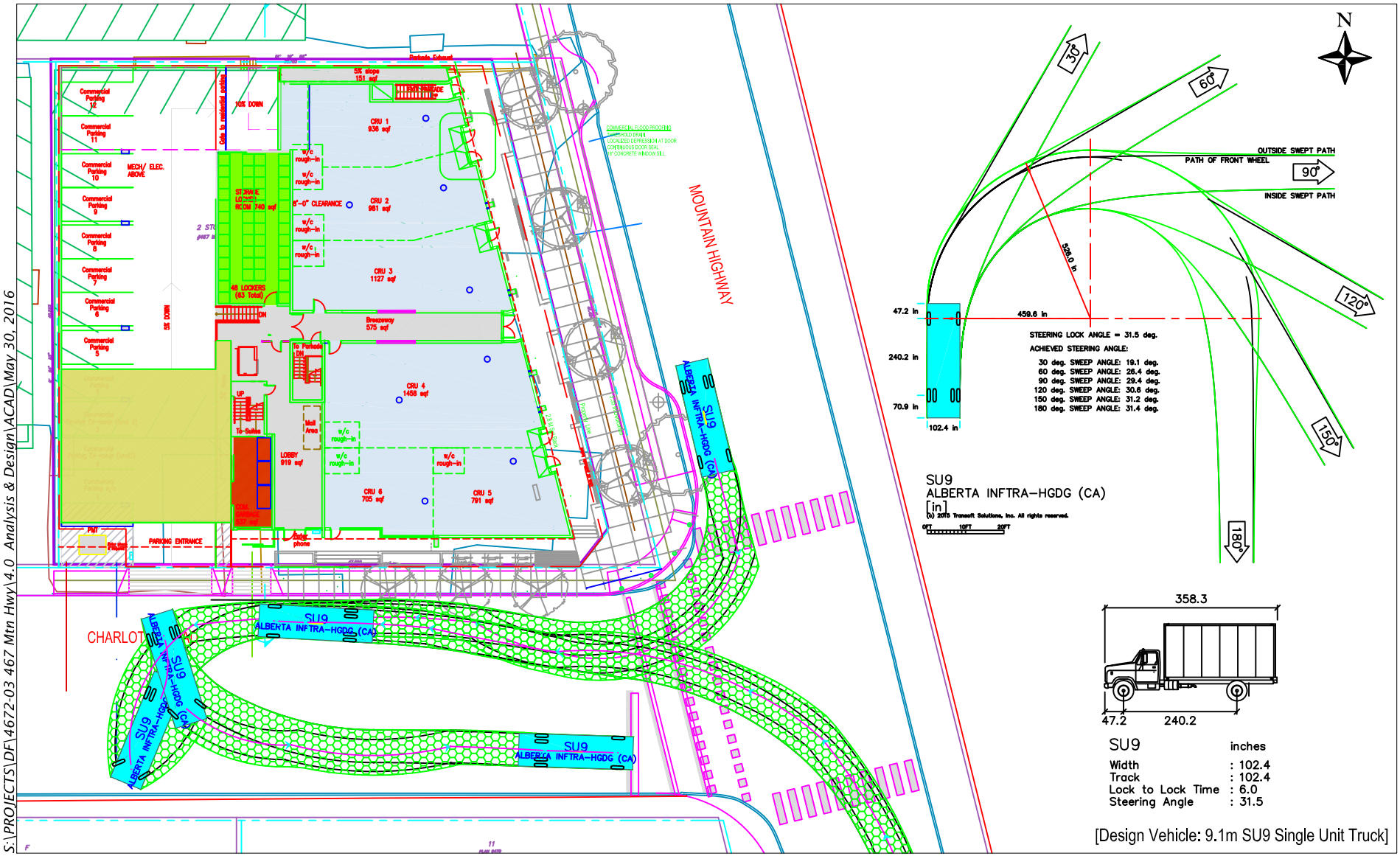

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Exhibit 5.2

Loading Vehicle Swept Path

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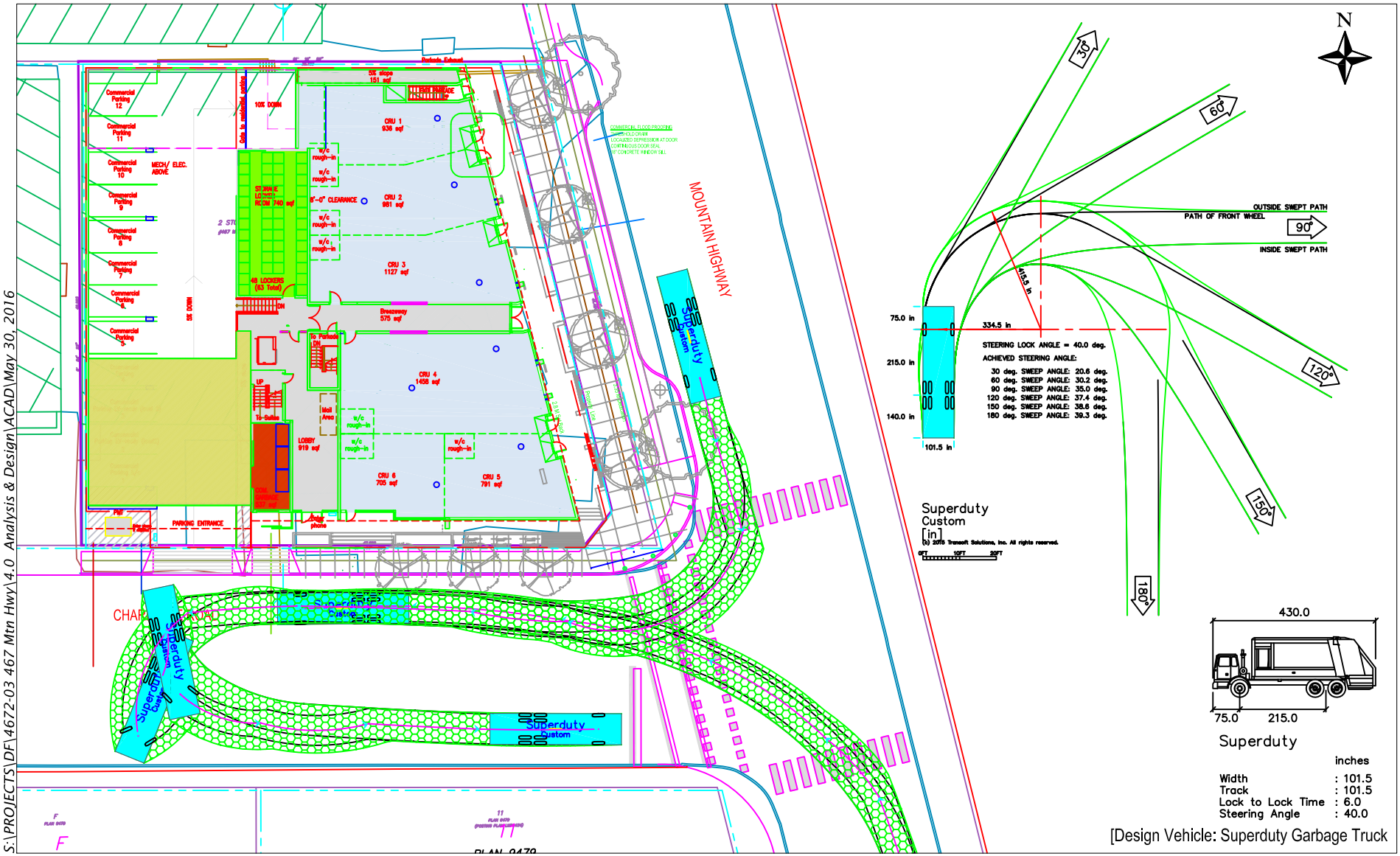

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Exhibit 5.3
Garbage Truck Swept Path

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5.5 Sight Distance

The predicted available sight lines and distances for the new access on Charlotte Road were assessed, and the following section outlines the stopping and turning sight distances for the new access.

5.5.1 TAC Sight Distance Guidelines

The Transportation Association of Canada Geometric Design Guide for Canadian Roads (TAC Manual - 1999) procedures and specifications on sight distance were used to establish appropriate sight distance requirements. For this access review, two types of sight distances were investigated: Stopping Sight Distance (SSD), and Turning Site Distance (TSD).

The TAC manual defines SSD in Section 1.2.5.2 as "the sum of the distance travelled during the perception and reaction time and the braking distance", where the braking distance is "the distance that it takes to stop a vehicle once the brakes have been applied". It is imperative that SSD be met for safety reasons. The SSD evaluation was completed for both eastbound and westbound vehicles on Charlotte Road near the site access.

TSD is the distance required to reduce operational and safety impacts on through traffic on the main road (Charlotte Road) caused by vehicles turning onto and off of the main road. TAC defines TSD in section 2.3.3.3 (b) as the distance such that a vehicle "is sufficiently far away so that the turning vehicle can accelerate to a speed which does not significantly interfere with the vehicles approaching from the right" (or left). This also applies to right-turning vehicles with vehicles approaching from the left. In the TAC guidelines, it is assumed that it is acceptable for vehicles on the main road to have to slow down to a speed of 70% of the posted speed in order to accommodate vehicles turning from the site access, and that there should be a gap of at least 2.0 seconds between the turning vehicle and vehicles on the main road.

The potential conflicts that were evaluated for the TSD are as follows:

a) Right-turning vehicles from the future site access conflicting with westbound vehicles on Charlotte Road; and,

b) Left-turning vehicles from the future site access conflicting with both west and eastbound vehicles on Charlotte Road.

The legal speed limit for Charlotte Road is 50km/h, however due to the urban conditions and proximity of the access to Mountain Highway this maximum speed is not thought to be reflective of the actual conditions near the site. For the analysis, vehicles speeds were estimated based on the accesses' proximity to the intersection of Charlotte Road and Mountain Highway. For vehicles turning from Mountain Highway onto Charlotte Road, the estimated speed used for the analysis was 30 km/h based on a typical maximum turning speed at intersections for typical passenger vehicles. For vehicles travelling westbound along Charlotte road and approaching Mountain Highway, it was assumed the that vehicles would be beginning to slow down by the time they reached the new access, and an estimated vehicles speed of 40

km/h was used. These estimated turning speeds are considered to be conservative and consistent with the urban environment surround the site.

5.5.2 Available Sight Distances

Note, the approximate sight line distances were estimated using a combination of the site plan, aerial photos and Google Maps Street view to provide context.

Exhibits 5.4 and **5.5** show the sight distance triangles from eastbound and westbound vehicles along Charlotte Road. To prepare the sight line triangles, an exiting vehicle from the site was drawn, along with on-street parking near the access and conflicting vehicles on Charlotte Road. Sight lines were then drawn between the vehicles traveling along Charlotte Road and the vehicle exiting from the site. The distance between the conflicting Charlotte Road vehicles and the potential contact location was measured. These measured sight distance triangles are used for the following SSD and TSD analysis.

5.5.3 Stopping Sight Distance (SSD) Requirements

TAC identifies the required SSD as a function of the design speed, perception-reaction time, and coefficient of friction and grade. SSD is a safety measurement and therefore it is critical that these minimum sight distances are met.

As stated earlier, speeds were estimated for Charlotte Road based on the close proximity between the site access and Mountain Highway. **Table 5.5** summarizes the SSD requirements.

Table 5.5 - SSD for Movements along Charlotte Road Approaching Site Access

Movement	Available SSD (m)	TAC Required SSD for 50 km/h (m)	SSD Required for Estimated Speed [Distance (m) (Speed)]	Adequate (Y/N)
Eastbound	46	63	44 (40 km/h)	Y
Westbound	40	63	30 (30 km/h)	Y

As shown in the table above, the SSD for vehicles traveling along Charlotte Road is deficient of the TAC requirement of 63m if 50 km/h speed could be achieved on Charlotte Road. However, using the estimated speeds for the vehicles on Charlotte, both stopping sight distances are adequate. Note that the on-street parking restrictions should be placed according to Exhibit 5.4 and 5.5 in order to meet the above sight distances.

5.5.4 Turning Site Distance (TSD) Requirements

Turning sight distance (TSD), defined by TAC, is separated into different scenarios depending on the vehicle movement. The following scenarios were applicable to this case:

1. Vehicles turning right from the site onto Charlotte Road with traffic approaching from the left from Mountain Highway.

2. Vehicles turning left across the major roadway (Charlotte Road) travelling towards Mountain Highway, conflicting with eastbound and westbound vehicles on Charlotte Road. For this analysis, TSD was calculated using the 'minimum gap' methodology as specified in TAC Table 2.3.3.2a.

For both of the scenarios, the TAC 'Lower Boundary of Design Domain' (Section 2.3.3) was used. This guideline specifies the minimum gap required so that turning vehicles do not slow down vehicles traveling on the major road to less than 70% of their initial speed.

The above scenarios were used to determine the required time gaps and the results are shown in **Table 5.6**.

Table 5.6 - TSD for Access Movements onto Charlotte Road

Movement	Conflicting Vehicle	Available TSD (m)	TAC Required TSD 50 km/h (m)	TSD Required for Estimated Speed [Distance (m) (Speed)]	Adequate (Y/N)
Right turn from site access onto Charlotte Road	Westbound on Charlotte Road	40	90	54 (30 km/h)	N
Left turn from site access onto Charlotte Road	Westbound on Charlotte Road	40	100	70 (30 km/h)	N
	Eastbound on Charlotte Road	46	104	83 (40 km/h)	N

As shown in the table above, the available TSD for all movements exiting the site access do not meet the 50km/h or estimated speed requirements.

Due to the site access proximity to Mountain Highway, the TSD conflicting with vehicles heading westbound cannot be improved. The westbound vehicles will have to adjust their speed for vehicles exiting from the site. This is not anticipated to be a concern though as this situation is typical of other sites in the area.

For vehicles travelling eastbound along Charlotte Road, the TSD could be improved by further restricting on-street parking west of the site access. However this is not considered necessary, because westbound vehicles will already be slowing down as they approach the intersection. Exiting vehicles are not

anticipated to have a significant effect on the speed of these vehicles, and no further mitigations are recommended.

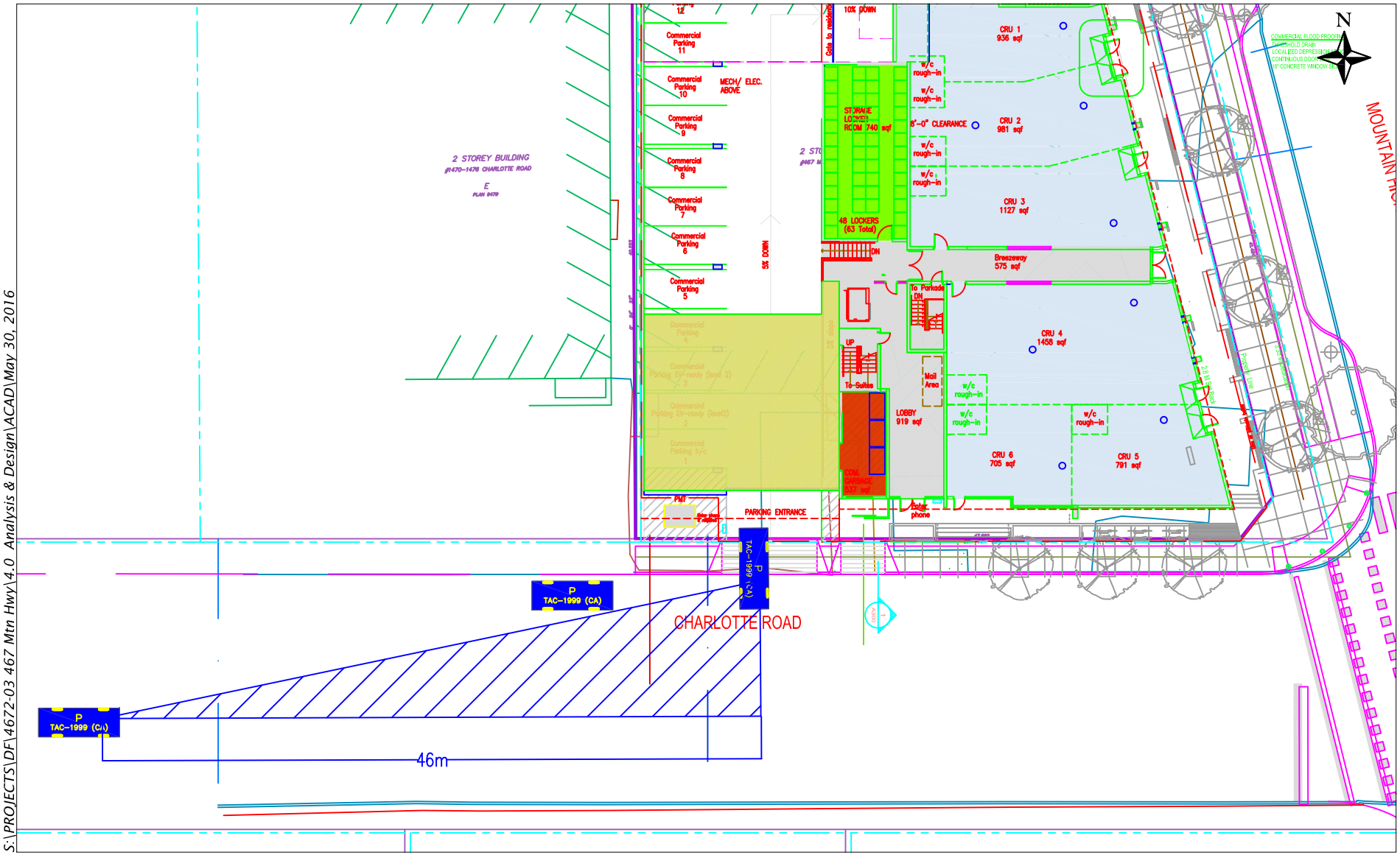

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Exhibit 5.4

Sight Distance Analysis - Eastbound Vehicle

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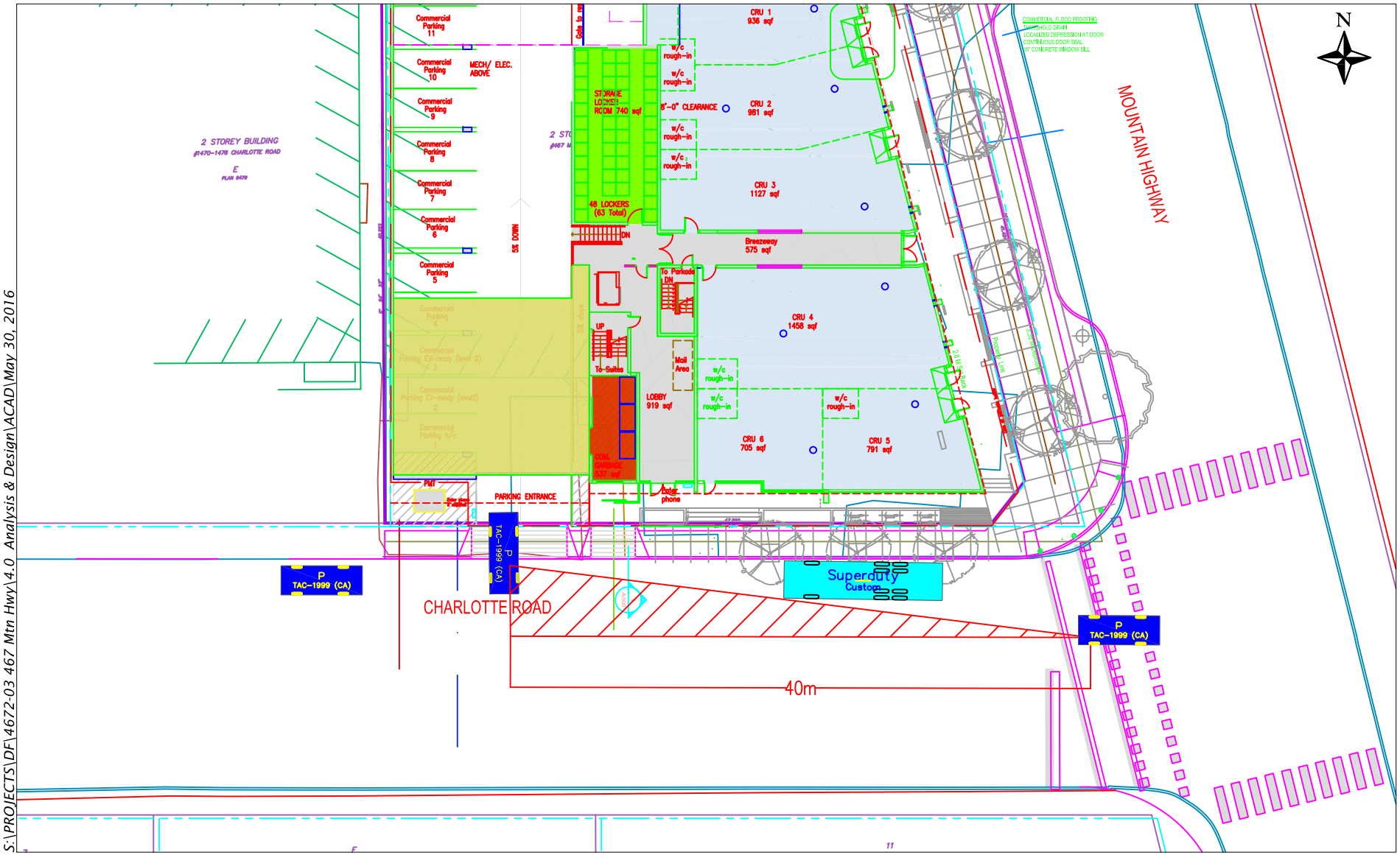

Exhibit 5.5

Sight Distance Analysis - Westbound Vehicle

467 Mountain Highway

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6. CONCLUSIONS

1. The proposed site is anticipated to generate in the order of 33 trips during the AM peak hour (8 trips inbound and 25 trips outbound) and 54 trips during the PM peak hour (32 trips inbound and 22 trips outbound).
2. The analysis was conducted assuming a conservative growth rate of 0.5% per annum for the opening day of 2018, and the planning horizon of 2030.
3. From a traffic operations standpoint, the intersection of Charlotte Road / Mountain Highway and the Site Access / Charlotte Road, is expected to operate acceptably for all analyzed peak hours and planning horizons.
4. The total parking supply to be provided per rezoning application documents is 88 spaces. This is lower than the space requirement per the Zoning Bylaw rates (145 spaces) but is at the same rate as the Lower Lynn Town Centre Implementation Plan assuming TDM measures / actions are included as part of the development. A parking variance is sought with the proposed TDM measures.
5. TDM measures provided as part of this development are in line with those set forth by the District requirements.
6. The stopping site distances associated with traffic entering / exiting the site and with Charlotte Road were found to be acceptable based on the expected speeds within the vicinity of the development.
7. The turning site distances (TSD) were found to be deficient wit the traffic entering / exiting the site and with Charlotte Road. However, it must be noted that generally it is not a requirement to satisfy TSD requirements. Also, due to the site access proximity to Mountain Highway, the TSD conflicting with vehicles heading westbound cannot be improved. The westbound vehicles will have to adjust their speed for vehicles exiting from the site. This is not anticipated to be a concern though as this situation is typical of other sites in the area.
8. The AutoTurn swept path analysis of loading and fire trucks accessing the site show that the current site design can be adequate serviced by loading (SU-9), firetrucks, and garbage trucks for this site.

APPENDIX A

Existing Conditions 2015 Synchro Analysis

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	13	46	4	0	0
Future Volume (Veh/h)	0	13	46	4	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	50	4	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	29	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	98	94	100	100	
cM capacity (veh/h)	935	896	896	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	54	0
Volume Left	0	0	0
Volume Right	0	4	0
cSH	896	908	1700
Volume to Capacity	0.02	0.06	0.00
Queue Length 95th (m)	0.4	1.4	0.0
Control Delay (s)	9.1	9.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	9.2	0.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	9	0	0	0	31	278	2	1	637	19
Future Volume (Veh/h)	4	0	9	0	0	0	31	278	2	1	637	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	10	0	0	0	34	302	2	1	692	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1076	1076	356	729	1086	303	713			304		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1076	1076	356	729	1086	303	713			304		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	100	100	100	96			100		
cM capacity (veh/h)	169	209	640	297	206	693	883			1254		

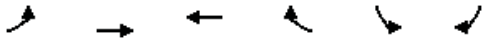
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	14	0	338	347	367
Volume Left	4	0	34	1	0
Volume Right	10	0	2	0	21
cSH	356	1700	883	1254	1700
Volume to Capacity	0.04	0.00	0.04	0.00	0.22
Queue Length 95th (m)	0.9	0.0	0.9	0.0	0.0
Control Delay (s)	15.5	0.0	1.3	0.0	0.0
Lane LOS	C	A	A	A	
Approach Delay (s)	15.5	0.0	1.3	0.0	
Approach LOS	C	A			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	48.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	41	1	0	0	25	470	3	0	459	14
Future Volume (Veh/h)	15	0	41	1	0	0	25	470	3	0	459	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	45	1	0	0	27	511	3	0	499	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1073	1074	257	861	1080	512	514			514		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1073	1074	257	861	1080	512	514			514		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	100	94	100	100	100	97			100		
cM capacity (veh/h)	171	213	742	230	211	507	1048			1048		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	61	1	541	250	264
Volume Left	16	1	27	0	0
Volume Right	45	0	3	0	15
cSH	396	230	1048	1048	1700
Volume to Capacity	0.15	0.00	0.03	0.00	0.16
Queue Length 95th (m)	4.1	0.1	0.6	0.0	0.0
Control Delay (s)	15.7	20.8	0.7	0.0	0.0
Lane LOS	C	C	A		
Approach Delay (s)	15.7	20.8	0.7	0.0	
Approach LOS	C	C			

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	52.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	56	39	0	3	0
Future Volume (Veh/h)	0	56	39	0	3	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	61	42	0	3	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	27	6	6	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	27	6	6	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	93	95	100	100	
cM capacity (veh/h)	946	888	888	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	61	42	3
Volume Left	0	0	3
Volume Right	0	0	0
cSH	888	888	1623
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.7	1.1	0.0
Control Delay (s)	9.4	9.3	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.4	9.3	7.2
Approach LOS	A	A	

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

APPENDIX B

Future Conditions Synchro Analysis

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	9	0	0	0	31	282	2	1	647	19
Future Volume (Veh/h)	4	0	9	0	0	0	31	282	2	1	647	19
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	10	0	0	0	34	307	2	1	703	21
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1092	1092	362	740	1102	308	724			309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1092	1092	362	740	1102	308	724			309		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	98	100	100	100	96			100		
cM capacity (veh/h)	164	205	635	291	202	688	874			1248		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	14	0	343	352	372
Volume Left	4	0	34	1	0
Volume Right	10	0	2	0	21
cSH	349	1700	874	1248	1700
Volume to Capacity	0.04	0.00	0.04	0.00	0.22
Queue Length 95th (m)	1.0	0.0	0.9	0.0	0.0
Control Delay (s)	15.8	0.0	1.3	0.0	0.0
Lane LOS	C	A	A	A	
Approach Delay (s)	15.8	0.0	1.3	0.0	
Approach LOS	C	A			

Intersection Summary				
Average Delay	0.6			
Intersection Capacity Utilization	48.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	13	47	4	0	0
Future Volume (Veh/h)	0	13	47	4	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	51	4	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	30	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	98	94	100	100	
cM capacity (veh/h)	933	896	896	1085	1623	

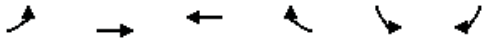
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	55	0
Volume Left	0	0	0
Volume Right	0	4	0
cSH	896	907	1700
Volume to Capacity	0.02	0.06	0.00
Queue Length 95th (m)	0.4	1.5	0.0
Control Delay (s)	9.1	9.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	9.2	0.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	0	42	1	0	0	25	477	3	0	466	14
Future Volume (Veh/h)	15	0	42	1	0	0	25	477	3	0	466	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	46	1	0	0	27	518	3	0	507	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1088	1090	261	873	1096	520	522			521		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1088	1090	261	873	1096	520	522			521		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	94	100	100	100	97			100		
cM capacity (veh/h)	167	208	738	225	207	501	1041			1041		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	62	1	548	254	268
Volume Left	16	1	27	0	0
Volume Right	46	0	3	0	15
cSH	392	225	1041	1041	1700
Volume to Capacity	0.16	0.00	0.03	0.00	0.16
Queue Length 95th (m)	4.2	0.1	0.6	0.0	0.0
Control Delay (s)	15.9	21.1	0.7	0.0	0.0
Lane LOS	C	C	A		
Approach Delay (s)	15.9	21.1	0.7	0.0	
Approach LOS	C	C			

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	53.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	57	40	0	3	0
Future Volume (Veh/h)	0	57	40	0	3	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	62	43	0	3	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	28	6	6	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	28	6	6	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	93	95	100	100	
cM capacity (veh/h)	945	888	888	1085	1623	

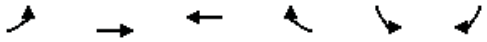
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	62	43	3
Volume Left	0	0	3
Volume Right	0	0	0
cSH	888	888	1623
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.7	1.2	0.0
Control Delay (s)	9.4	9.3	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.4	9.3	7.2
Approach LOS	A	A	

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	0	10	0	0	0	33	300	2	1	686	20
Future Volume (Veh/h)	4	0	10	0	0	0	33	300	2	1	686	20
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	0	11	0	0	0	36	326	2	1	746	22
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1157	1159	757	1169	1169	327	768			328		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1157	1159	757	1169	1169	327	768			328		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	100	97	100	100	100	96			100		
cM capacity (veh/h)	168	187	408	160	185	714	846			1232		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	15	0	36	328	769
Volume Left	4	0	36	0	1
Volume Right	11	0	0	2	22
cSH	295	1700	846	1700	1232
Volume to Capacity	0.05	0.00	0.04	0.19	0.00
Queue Length 95th (m)	1.2	0.0	1.0	0.0	0.0
Control Delay (s)	17.9	0.0	9.4	0.0	0.0
Lane LOS	C	A	A		A
Approach Delay (s)	17.9	0.0	0.9		0.0
Approach LOS	C	A			

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	48.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	14	50	4	0	0
Future Volume (Veh/h)	0	14	50	4	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	54	4	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	31	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	31	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	98	94	100	100	
cM capacity (veh/h)	929	896	896	1085	1623	

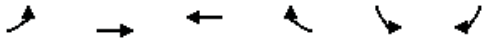
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	58	0
Volume Left	0	0	0
Volume Right	0	4	0
cSH	896	907	1700
Volume to Capacity	0.02	0.06	0.00
Queue Length 95th (m)	0.4	1.6	0.0
Control Delay (s)	9.1	9.2	0.0
Lane LOS	A	A	
Approach Delay (s)	9.1	9.2	0.0
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	0	44	1	0	0	27	507	3	0	495	14
Future Volume (Veh/h)	16	0	44	1	0	0	27	507	3	0	495	14
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	17	0	48	1	0	0	29	551	3	0	538	15
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1154	1158	546	1204	1164	552	553			554		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1154	1158	546	1204	1164	552	553			554		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	100	91	99	100	100	97			100		
cM capacity (veh/h)	170	191	538	143	189	533	1017			1016		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	65	1	29	554	553
Volume Left	17	1	29	0	0
Volume Right	48	0	0	3	15
cSH	344	143	1017	1700	1016
Volume to Capacity	0.19	0.01	0.03	0.33	0.00
Queue Length 95th (m)	5.2	0.2	0.7	0.0	0.0
Control Delay (s)	17.9	30.3	8.6	0.0	0.0
Lane LOS	C	D	A		
Approach Delay (s)	17.9	30.3	0.4		0.0
Approach LOS	C	D			

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	36.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	42	0	3	0
Future Volume (Veh/h)	0	60	42	0	3	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	65	46	0	3	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	29	6	6	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	29	6	6	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	93	95	100	100	
cM capacity (veh/h)	940	888	888	1085	1623	

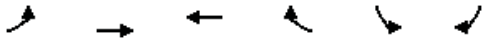
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	65	46	3
Volume Left	0	0	3
Volume Right	0	0	0
cSH	888	888	1623
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.8	1.2	0.0
Control Delay (s)	9.4	9.3	7.2
Lane LOS	A	A	A
Approach Delay (s)	9.4	9.3	7.2
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.3		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	0	27	0	0	0	31	282	2	1	647	24
Future Volume (Veh/h)	12	0	27	0	0	0	31	282	2	1	647	24
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	0	29	0	0	0	34	307	2	1	703	26
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1094	1095	364	758	1107	308	729			309		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1094	1095	364	758	1107	308	729			309		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	95	100	100	100	96			100		
cM capacity (veh/h)	163	204	632	274	201	688	871			1248		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	42	0	343	352	378
Volume Left	13	0	34	1	0
Volume Right	29	0	2	0	26
cSH	335	1700	871	1248	1700
Volume to Capacity	0.13	0.00	0.04	0.00	0.22
Queue Length 95th (m)	3.2	0.0	0.9	0.0	0.0
Control Delay (s)	17.3	0.0	1.3	0.0	0.0
Lane LOS	C	A	A	A	
Approach Delay (s)	17.3	0.0	1.3	0.0	
Approach LOS	C	A			

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	48.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	13	47	8	0	25
Future Volume (Veh/h)	0	13	47	8	0	25
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	14	51	9	0	27
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	48	14	27	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48	14	27	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	98	94	99	100	
cM capacity (veh/h)	902	881	866	1085	1623	

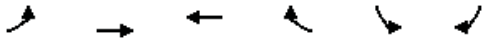
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	14	60	27
Volume Left	0	0	0
Volume Right	0	9	27
cSH	881	893	1623
Volume to Capacity	0.02	0.07	0.00
Queue Length 95th (m)	0.4	1.6	0.0
Control Delay (s)	9.2	9.3	0.0
Lane LOS	A	A	
Approach Delay (s)	9.2	9.3	0.0
Approach LOS	A	A	

Intersection Summary				
Average Delay	6.8			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	51	1	0	0	25	477	3	0	466	30
Future Volume (Veh/h)	25	0	51	1	0	0	25	477	3	0	466	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	55	1	0	0	27	518	3	0	507	33
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1097	1098	270	882	1114	520	540			521		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1097	1098	270	882	1114	520	540			521		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	84	100	92	100	100	100	97			100		
cM capacity (veh/h)	164	206	728	218	202	501	1025			1041		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	82	1	548	254	286
Volume Left	27	1	27	0	0
Volume Right	55	0	3	0	33
cSH	342	218	1025	1041	1700
Volume to Capacity	0.24	0.00	0.03	0.00	0.17
Queue Length 95th (m)	7.0	0.1	0.6	0.0	0.0
Control Delay (s)	18.8	21.6	0.7	0.0	0.0
Lane LOS	C	C	A		
Approach Delay (s)	18.8	21.6	0.7	0.0	
Approach LOS	C	C			

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	54.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	57	40	32	22	0
Future Volume (Veh/h)	0	57	40	32	22	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	62	43	35	24	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	104	48	48	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104	48	48	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	93	95	97	99	
cM capacity (veh/h)	805	831	831	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	62	78	24
Volume Left	0	0	24
Volume Right	0	35	0
cSH	831	929	1623
Volume to Capacity	0.07	0.08	0.01
Queue Length 95th (m)	1.8	2.1	0.3
Control Delay (s)	9.7	9.2	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	9.2	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	14.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	0	27	0	0	0	33	300	2	1	686	25
Future Volume (Veh/h)	12	0	27	0	0	0	33	300	2	1	686	25
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	0	29	0	0	0	36	326	2	1	746	27
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1160	1162	760	1190	1174	327	773			328		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1160	1162	760	1190	1174	327	773			328		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	92	100	93	100	100	100	96			100		
cM capacity (veh/h)	167	187	406	148	183	714	842			1232		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	42	0	36	328	774
Volume Left	13	0	36	0	1
Volume Right	29	0	0	2	27
cSH	281	1700	842	1700	1232
Volume to Capacity	0.15	0.00	0.04	0.19	0.00
Queue Length 95th (m)	3.9	0.0	1.0	0.0	0.0
Control Delay (s)	20.0	0.0	9.5	0.0	0.0
Lane LOS	C	A	A		A
Approach Delay (s)	20.0	0.0	0.9		0.0
Approach LOS	C	A			

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	48.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	14	50	8	25	0
Future Volume (Veh/h)	0	14	50	8	25	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	15	54	9	27	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	90	54	54	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	90	54	54	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	98	93	99	98	
cM capacity (veh/h)	832	823	823	1085	1623	

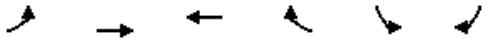
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	15	63	27
Volume Left	0	0	27
Volume Right	0	9	0
cSH	823	853	1623
Volume to Capacity	0.02	0.07	0.02
Queue Length 95th (m)	0.4	1.8	0.4
Control Delay (s)	9.5	9.6	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.5	9.6	7.3
Approach LOS	A	A	

Intersection Summary				
Average Delay	9.0			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	0	53	1	0	0	43	507	3	0	495	31
Future Volume (Veh/h)	26	0	53	1	0	0	43	507	3	0	495	31
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	0	58	1	0	0	47	551	3	0	538	34
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	1200	1203	555	1242	1218	552	572			554		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1200	1203	555	1242	1218	552	572			554		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	82	100	89	99	100	100	95			100		
cM capacity (veh/h)	156	176	531	130	172	533	1001			1016		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	86	1	47	554	0	572
Volume Left	28	1	47	0	0	0
Volume Right	58	0	0	3	0	34
cSH	298	130	1001	1700	1700	1700
Volume to Capacity	0.29	0.01	0.05	0.33	0.00	0.34
Queue Length 95th (m)	8.9	0.2	1.1	0.0	0.0	0.0
Control Delay (s)	21.9	32.9	8.8	0.0	0.0	0.0
Lane LOS	C	D	A			
Approach Delay (s)	21.9	32.9	0.7		0.0	
Approach LOS	C	D				

Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	45.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	60	42	32	22	0
Future Volume (Veh/h)	0	60	42	32	22	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	65	46	35	24	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	106	48	48	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	48	48	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	92	94	97	99	
cM capacity (veh/h)	801	831	831	1085	1623	

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	65	81	24
Volume Left	0	0	24
Volume Right	0	35	0
cSH	831	925	1623
Volume to Capacity	0.08	0.09	0.01
Queue Length 95th (m)	1.9	2.2	0.3
Control Delay (s)	9.7	9.3	7.3
Lane LOS	A	A	A
Approach Delay (s)	9.7	9.3	7.3
Approach LOS	A	A	

Intersection Summary			
Average Delay	9.1		
Intersection Capacity Utilization	14.2%	ICU Level of Service	A
Analysis Period (min)	15		

467 MOUNTAIN HIGHWAY

CONSTRUCTION IMPACT MITIGATION STRATEGY

Wanson (Lynn Creek) Development Partnership

Revised - June 2016

EXECUTIVE OVERVIEW

This Construction Impact Mitigation Strategy (CIMS) has been prepared by Wanson Development for the proposed 467 Mountain Highway project at the northwest corner of Mountain Highway and Charlotte Road. The goal of the CIMS is to minimize, and eliminate, any negative impacts to all residents and businesses in close proximity to our project.

Project Description

The proposed development will consist of 63 market housing units, 1 level of commercial use and 2 levels of underground parking. The parking access will be located on Charlotte Road. The proposed project will also feature an interior courtyard with a children's play area.

Project Statistics

- Site Area: 18,655 SF
- Proposed building height: 58.0 feet
- Number of Units: 63
- Commercial Area: 5663 SF
- Parking Stalls: 70 Residential, 12 Commercial and 6 Visitor (88 Total)
- Bicycle stalls: 65 Residential and 18 Commercial
- Project construction duration: 18 months

Project Team

Developer: Wanson (Lynn Creek) Development Partnership

General Contractor: TBD

Architect: Francl Architecture

Code Consultant: GHL Consultants

Surveyor: Butler Sundvick Land Surveyors

Structural Consultant: Weiler Smith Bowers Consulting Structural Engineers

Mechanical Consultant: Reinbold Engineering Group

Electrical Consultant: Nemetz (S/A) & Associates

Civil Consultant: R.F. Binnie and Associates

Landscape Architect: Durante Kreuk

Arborist: Arbortech Consulting

Traffic and Parking Consultant: Bunt & Associates Engineering

Sustainability Consultant: Kane Engineering

PART A – PROJECT DETAILS

Developer Contact Information:

Wanson (Lynn Creek) Development Partnership
950 – 1200 W. 73rd Avenue
Vancouver, BC V6P-6G5
Tel: 604-730-8959

Schematic Site Plan

Refer to Appendix A.

Description of Work and Sequencing

The redevelopment of the property at the corners of Mountain Highway and Charlotte Road will be broken into three main stages; demolition, excavation and construction.

- Stage 1: demolition and removal of the existing office and warehouse building is scheduled to be completed in 4 weeks. The work will be performed using a team of manpower to deconstruct and remove windows, doors, flooring, cabinets etc. Following this, the drywall will be removed, binned and taken off-site. The structure will be demolished using larger equipment. All materials will be separated for recycling on-site and shipped to the dump site. Access to the site will be maintained using the existing driveways. Security fencing will be installed at the beginning of demolition. Construction infrastructure (disposal bins and trailers) will be required and installed by the construction crew toward the end of this stage.

- Stage 2: site strip, excavation and slope stabilization shoring is scheduled to be completed in 3 months. This stage will begin with tree removal and stripping of top soil and asphalt using equipment and trucks. The excavation phase will require more trucking to remove the fill material. Access to the site will be through a gate (utilizing a ramp) at the south west corner of the site, on Charlotte Road. This gate location will become the parkade entrance ramp and any sidewalk letdowns required during construction will be installed at this time. Slope stabilization shoring of the excavation will require the drilling of anchors.

- Stage 3: construction of the new development is schedules to be completed in 15 months. The development will have two levels of concrete parkade and foundation and one level on concrete commercial space. There will be 5 levels of wood frame apartments above. This stage will require the most manpower involved and the most trade traffic required. The parkade will be utilized for material storage and trade parking. Site staging will occur within the property adjacent to the building. The main site access point during this stage will be a gate located at the southeast corner of the site on Charlotte Road. There will be a secondary access point at the northeast corner of the site on Mountain Highway. The crane will be positioned in the south portion of the site adjacent to Charlotte Road. Disposal bins will be located inside the security fencing toward the east end of the property, adjacent to the existing sidewalk. Site trailers will

be located inside the security fencing toward the east end of the property, adjacent to the existing sidewalk. Toward the end of the construction stage, Wanson Development will coordinate with the District of North Vancouver while they undertake the planned road widening and sidewalk relocation. Civil tie-in work at the east and south portion of the property will be performed at this time.

Civil Works Requirements

The proposed development will require connections to municipal water supply lines, sanitary discharge tie-ins, and storm water discharge tie-ins (refer to Appendix B for locations). The scheduling of this work will be coordinated with the District of North Vancouver. R.F. Binnie and Associates, Wanson Development's civil consultant, will be involved in the planning and coordination of this work with the District.

The District of North Vancouver is planning a road widening of Mountain Highway and the introduction of a new bike lane. There will also be modifications to the District Boulevard which will include the construction of a new sidewalk, ramp crossing, and handicap accessible pedestrian crossing at the corner of Mountain Highway and Charlotte Road.

PART B – SCHEDULE

Overall Construction Schedule

Demolition: May 2017 (4 weeks)

Excavation: June 2017 (3 months)

Construction: September 2017 (15 months)

Civil Works / Perimeter Improvements: October 2018 (2 months)

Completed Project Date: December 2018

Project Construction Hours:
(In compliance with the District of North Vancouver Bylaw 7188)

- Monday to Friday: 7:00AM to 8:00PM
- Saturday: 9:00AM to 5:00PM
- Sunday and Statutory Holidays: No Work

PART C – MOBILITY IMPACT

Mitigating Impacts to Pedestrian and Vehicular Traffic

During all phases of construction, the General Contractor will manage the sidewalks bordering the development, allowing pedestrian thoroughfare. The General Contractor will also maintain the roadways adjacent to the development, allowing vehicular thoroughfare. All staging of truck traffic will be off the roadway and inside the security fencing perimeter. Traffic control persons will be utilized to safely and efficiently assist the entry and exit of truck traffic through the site gates.

To mitigate any impact to pedestrian foot traffic, the General Contractor will make use of the necessary traffic control persons and warning signage. Safety hoarding will be erected as required to protect pedestrians from any overhead hazards.

To mitigate any impact to disabled persons, the General Contractor will construct wooden or plastic ramps over ledges, curbs, cords and/or tubing to allow persons in wheelchairs to maintain their direction.

To mitigate any impact to cyclists, descriptive signage will be placed according to industry standards to warn cyclists of construction vehicle traffic.

To mitigate any impacts to the existing bus transit service, emergency vehicles, and general purpose traffic, the General Contractor will ensure that construction vehicles do not queue on public roadways. This will be accomplished by creating a dedicated receiving area on-site. The General Contractor will also ensure all freight companies related to this project are made aware of relevant provisions within the District of North Vancouver's Noise Regulation Bylaw 7188 and Street and Traffic Bylaw 7125. The General Contractor will notify the Fire Department and applicable transit authorities of any work that may unavoidably impact public roadway traffic.

The General Contractor will include in our subcontracts wording which will bind our subcontractors to obey the Truck Routing Plan to be developed with the District of North Vancouver. A draft routing plan is included as Appendix E.

Quantity of Truck Traffic

The number and type of vehicles will vary for the different stages of the demolition and construction. This project will consist of typical construction vehicle traffic that is necessary to complete a concrete and wood-frame building. The General Contractor will also manage the trade commuter vehicles coming to the site (refer to 'Construction Worker Parking Plan').

During the demolition phase, the demolition subcontractor will have the appropriate disposal bins and/or dump trucks (maximum 4-8 per day) to safely and efficiently remove all materials. During this phase, trade parking requirements will be minimal as the crew size is anticipated to be a maximum of

eight workers ad two equipment operators. The site will have ground level area for trade parking, bins and equipment.
At the peak of the excavation phase there will be 10 to 20 loads of excavated material leaving the site each day. To mitigate the number of loads, tandem dump trucks may be incorporated into the excavation process. The General Contractor will manage the scheduling of trucks so that there is no off-site queuing of trucks on Mountain Highway.

During the concrete construction phase, construction vehicle traffic will consist mostly of delivery trucks unloading lumber, formwork and rebar shipments. Deliveries will be coordinated so that the truck parking is either within a designated loading zone on Charlotte Road or within the security fencing zone. Concrete delivery trucks and pump trucks will also be staged within the designated loading zone or within the security fencing zone.

Throughout the wood frame construction phase, it is anticipated that there will be approximately one or two material delivery truck per day. Material deliveries will be coordinated so that truck parking is within the designated loading zone or within the security fencing zone. The size of the loads will vary from flat-deck trucks to mid-size trucks carrying various small tools for the trades. Entry and exit of all traffic through the site gates will be managed by traffic control persons. The General Contractor will encourage all subcontractors to arrange for the deliveries around the non-peak traffic hours of 9:00AM to 3:00PM.

Off-Site Queuing
Off-Site queuing will be avoided by detailed scheduling of construction vehicles. The Schematic Site Plan (refer to Appendix A) indicates the planned delivery area. There will be minimal queuing of vehicles at any stage of the construction. On concrete pour days, only two concrete delivery trucks will be on-site at any time. The pump truck will be set up adjacent to the actively unloading concrete delivery truck. A dedicated staging area will be provided for the second delivery truck so that it will not obstruct the demobilization of the first concrete delivery truck.

Oversized Equipment
The project may require the transportation of oversized equipment or machinery on public roadways. If required, the General Contractor will apply for the necessary Oversized Vehicle Permit as required by District regulations.

Trucking Routing and Communication Plan
To avoid potential traffic conflicts and ensure all construction vehicles abide by the District's roadway parameters, each freight company will have included in their contract a copy of a Truck Routing Plan developed in consultation with the General Contractor and the DNV. This plan will be reviewed at the time of the subcontract award and again at the subcontract startup meeting. A draft routing plan is included as Appendix E. Parking and staging will be an ongoing meeting agenda item discussed and managed at the weekly site trade meetings. A delivery schedule will be maintained by the site

superintendant to coordinate all deliveries. Any unscheduled deliveries will be refused access to the site.

PART D – COMMUNITY IMPACT

Worker Generated Construction Vehicles

During construction, the site will should be able to accommodate all trade parking. If required, the General Contractor will secure off site parking within the neighbourhood.

Demolition Phase: 4 to 6 vehicles
Excavation Phase: 10 to 20 vehicles
Construction Phase: 35 to 45 vehicles
Civil Works / Perimeter Improvements Phase: in Construction Phase

Environmental Impacts Best Management Practices

- Noise Control: The project will operate under strict weekday work hours from 7:00AM to 4:00PM. This will mitigate any impact on neighboring residents, who will generally be at work during these hours. If any overtime work is required, The General Contractor will schedule only that work which generates minimal, non-intrusive noise. All overtime work will fall within the District of North Vancouver's noise by-law limit of 8:00PM.

- Dust Control: Mitigation measures will be conducted in accordance with the local District bylaws. Common mitigation measures include the following: silt fencing, watering of dry earthworks spoils, and use of poly to cover spoils left alone for extended periods of time. Dust bags and filters will be used to minimize the amount of dust created by the use of power tools.

- Litter Control: Construction containers will be located in key locations throughout the project with trash being hauled away on a weekly basis. All subcontractors will also be held accountable for all generated waste and will be contractually bound to a daily clean-up program.

- Storm Water Run-off: A complete Erosion and Sediment Control plan will be produced by R.F. Binnie and Associates and monitored for compliance throughout the project. The plan will include best management practices to prevent discharge of sediments or other pollutants into the District's storm water system. In addition, the project will install erosion and sediment controls per the District of North Vancouver bulletin and will incorporate these contractually into the demolition and excavation subcontractor's scope of work.

PART E – COMMUNICATION

An effective communication strategy is an integral part of the project management process. From the very beginning of project planning, the General Contractor will make contact with immediate surrounding neighbours (both in person, via telephone and mailed letters) and will remain in contact and accessible for the duration of the construction process.

Please refer to Appendix C for a highlighted map indicating surrounding neighbourhood that will receive construction impact notices.

Please also refer to Appendix D for a sample notification letter that will be distributed to nearby residents and businesses that may be affected during the construction process.

A standard part of our construction process will also include comprehensive site signage. This includes everything from safety signage, directional signage, team contact signage etc. This will all form an important part of our site organization.

PART F – MONITORING

Wanson Development has retained the services of Bunt & Associates to complete a Transportation Review and to provide traffic monitoring services during the course of the project. All noted deficiencies and/or additional needs that arise from the monitoring services will be addressed and incorporated into the CIMS. Details pertaining to the monitoring services will be included at the Building Permit stage.

PART G – COORDINATION

The General Contractor will ensure that all heavy duty construction vehicles will abide by the Truck Routing Plan as agreed by the District of North Vancouver. The General Contractor will coordinate all right of way alterations and/or closures with the Selynn project to the north and the Mountain Highway/Crown Street development to the south to ensure that all arterial roads remain operational.

PART H – HIGHWAY USE PERMIT

The General Contractor will obtain a Highway Use Permits (HUP) for each phase of construction where a right of way alteration and/or closure is required. A detailed Traffic Management Plan will be submitted with each HUP application.

PART I – TRAFFIC MANAGEMENT PLANS AND WORKS SCHEDULE

The General Contractor will submit a detailed Traffic Management Plan (TMP) for all HUP applications and other instances where traffic will have to be disrupted to accommodate construction and civil works. The TMP will be completed in accordance with the requirements of the District of North Vancouver and Worker's Compensation Board Act – Section 18.

Two weeks prior to commencement of the work, the General Contractor will provide a schedule outlining all construction and civil works that are expected to affect the public realm. The schedule will be updated on a regular basis to reflect any changes.

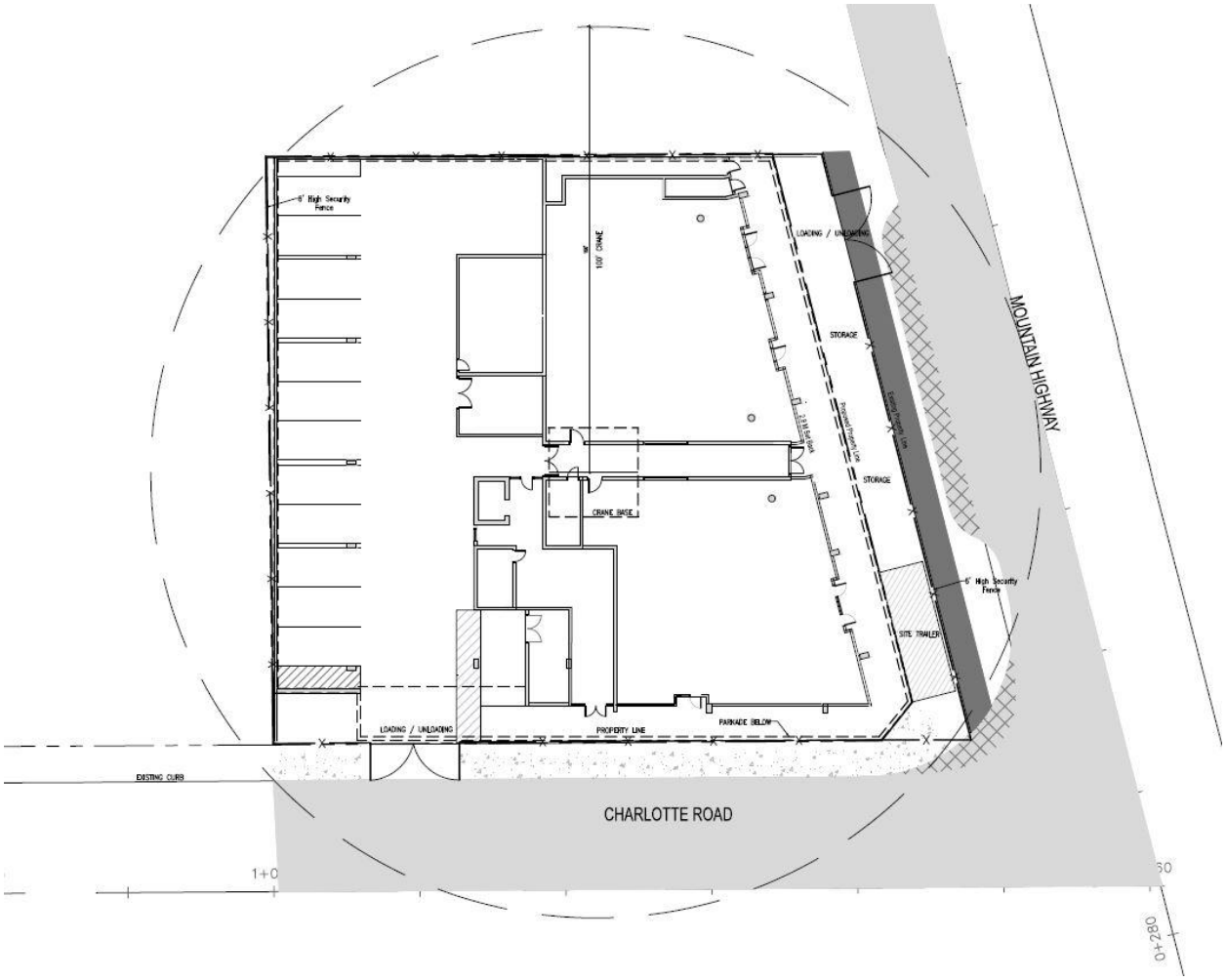
Should you have any questions concerning this Construction Impact Mitigation Strategy, please contact the undersigned at 604-730-8959.

Sincerely,

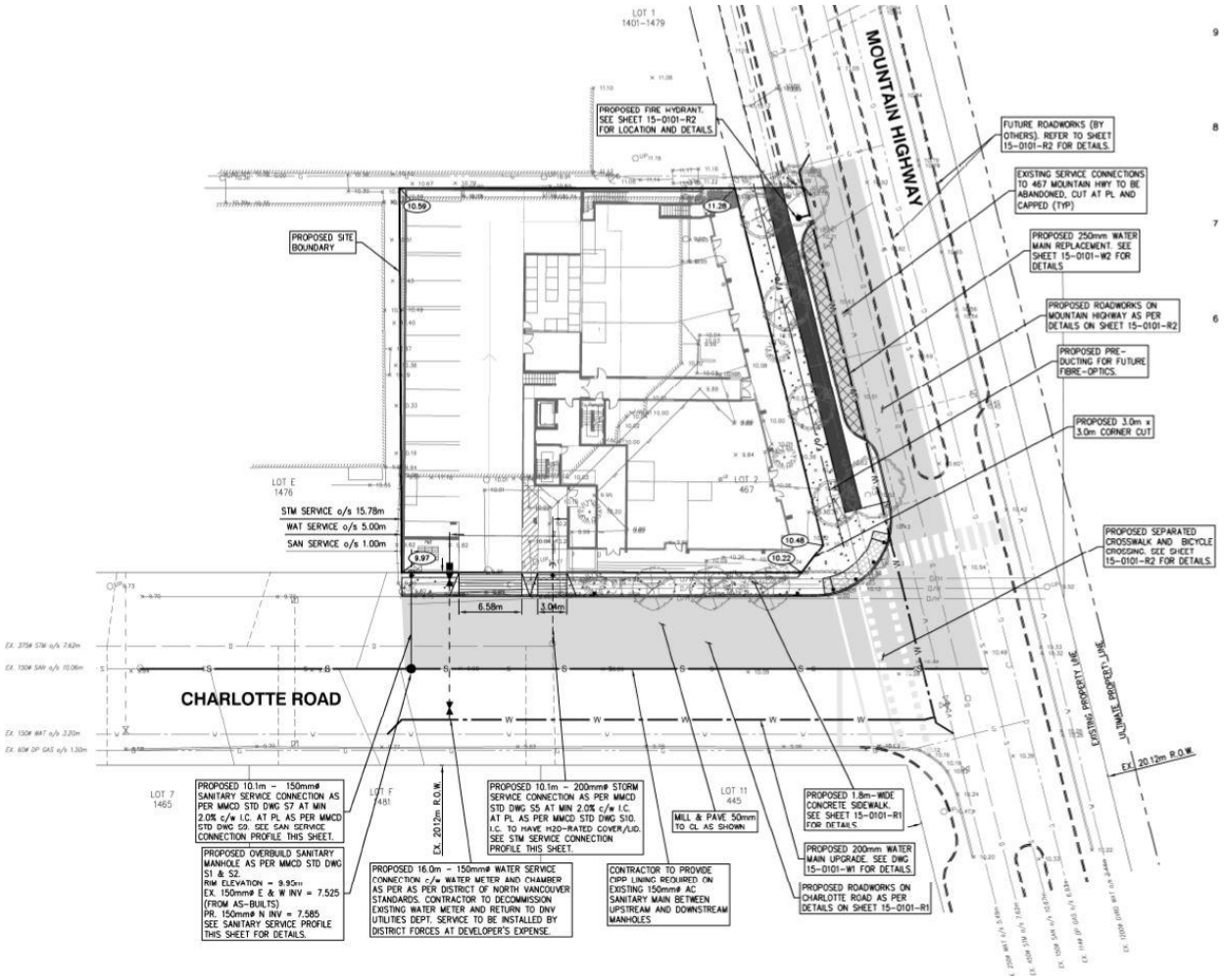
WASNSON (LYNN CREEK) DEVELOPMENT PARTNERSHIP

Per: Rosie Cindrich
Development Manager

APPENDIX A


6' High Security Fence
100' CRANE
LOADING / UNLOADING
STORAGE
Proposed Property Line
STORAGE
CRANE BASE
6' High Security Fence
SITE TRAILER
LOADING / UNLOADING
PROPERTY LINE
PARKADE BELOW
EXISTING CURB
MOUNTAIN HIGHWAY
CHARLOTTE ROAD
1+0
0+280

APPENDIX B


MOUNTAIN HIGHWAY
CHARLOTTE ROAD
PROPOSED FIRE HYDRANT. SEE SHEET 15-0101-R2 FOR LOCATION AND DETAILS.
FUTURE ROADWORKS (BY OTHERS). REFER TO SHEET 15-0101-R2 FOR DETAILS.
EXISTING SERVICE CONNECTIONS TO 467 MOUNTAIN HWY TO BE ABANDONED, CUT AT PL AND CAPPED (TYP)
PROPOSED SITE BOUNDARY
PROPOSED 250mm WATER MAIN REPLACEMENT. SEE SHEET 15-0101-W2 FOR DETAILS
PROPOSED ROADWORKS ON MOUNTAIN HIGHWAY AS PER DETAILS ON SHEET 15-0101-R2
PROPOSED PRE-DUCTING FOR FUTURE FIBRE-OPTICS.
PROPOSED 3.0m x 3.0m CORNER CUT
PROPOSED SEPARATED CROSSWALK AND BICYCLE CROSSING. SEE SHEET 15-0101-R2 FOR DETAILS.
LOT 1 1401-1479
LOT E 1476
LOT 2 467
LOT 7 1465
LOT F 481
LOT 11 445
STM SERVICE o/s 15.78m
WAT SERVICE o/s 5.00m
SAN SERVICE o/s 1.00m
6.58m
3.04m
EX. 2012m R.O.W.
EXISTING PROPERTY LINE
ULTIMATE PROPERTY LINE
EX. 20.12m R.O.W.
PROPOSED 10.1m - 150mmø SANITARY SERVICE CONNECTION AS PER MMCD STD DWG S7 AT MIN 2.0% c/w I.C. AT PL AS PER MMCD STD DWG S9. SEE SAN SERVICE CONNECTION PROFILE THIS SHEET.
PROPOSED OVERBUILD SANITARY MANHOLE AS PER MMCD STD DWG S1 & S2. RIM ELEVATION = 9.95m EX. 150mmø E & W INV = 7.525 (FROM AS-BUILTS) PR. 150mmø N INV = 7.585 SEE SANITARY SERVICE PROFILE THIS SHEET FOR DETAILS.
PROPOSED 16.0m - 150mmø WATER SERVICE CONNECTION c/w WATER METER AND CHAMBER AS PER AS PER DISTRICT OF NORTH VANCOUVER STANDARDS. CONTRACTOR TO DECOMMISSION EXISTING WATER METER AND RETURN TO DNV UTILITIES DEPT. SERVICE TO BE INSTALLED BY DISTRICT FORCES AT DEVELOPER'S EXPENSE.
PROPOSED 10.1m - 200mmø STORM SERVICE CONNECTION AS PER MMCD STD DWG S5 AT MIN 2.0% c/w I.C. AT PL AS PER MMCD STD DWG S10. I.C. TO HAVE H20-RATED COVER/LID. SEE STM SERVICE CONNECTION PROFILE THIS SHEET.
CONTRACTOR TO PROVIDE CIPP LINING REQUIRED ON EXISTING 150mmø AC SANITARY MAIN BETWEEN UPSTREAM AND DOWNSTREAM MANHOLES
MILL & PAVE 50mm TO CL AS SHOWN
PROPOSED 1.8m-WIDE CONCRETE SIDEWALK. SEE SHEET 15-0101-R1 FOR DETAILS
PROPOSED 200mm WATER MAIN UPGRADE. SEE DWG 15-0101-W1 FOR DETAILS.
PROPOSED ROADWORKS ON CHARLOTTE ROAD AS PER DETAILS ON SHEET 15-0101-R1

APPENDIX C


Calverhall St
Adderley St
Cloverley St
Shavington St
Heywood St
8th St
Keith Rd E
Keith Rd
St Denis Ave
Premier St
Old Lillooet Rd
Lillooet Rd
Lillooet Pl
Mt Seymour Pkwy
Seymour Blvd
Fern St
Hunter St
Charlotte Rd
Crown St
Rupert St
Bond St
Oxford St
Lynn Ave
Harbour Ave
Route Transcanadienne
Main St
Barrow St
4th St E
Cotton Rd
Brooksbank Ave
Patriot St
Niobe St
Columbia St
Orwell St
Bay St
Harbour Rd
© 2016 Google
1

APPENDIX D

Temporary Street Use at 467 Mountain Highway

Date: FROM – TO
Time: FROM – TO

Date

Dear Neighbours:

This notice is to inform you of some upcoming work in your neighbourhood that may affect your daily travel. This work is necessary as part of our construction process for our mixed use project at the corner of Charlotte Road and Mountain Highway.

From *(date to date)* the following activities will be occurring:
(list in point form details of construction work that will impact street/traffic)

This may impact vehicle traffic *(sidewalk access, parking etc depending on the work being done)* on Mountain Highway or Charlotte Road from *(date and time range)*.

During this process we will make every effort to ensure that your daily routine will be as minimally affected as possible. Our work site will be kept as compact as possible and our team will work with the residents and businesses to avoid disruptions.

We apologize for any inconvenience that this may cause and thank you for your understanding during this process. We look forward to creating new home ownership opportunities with the Lynn Creek neighbourhood,

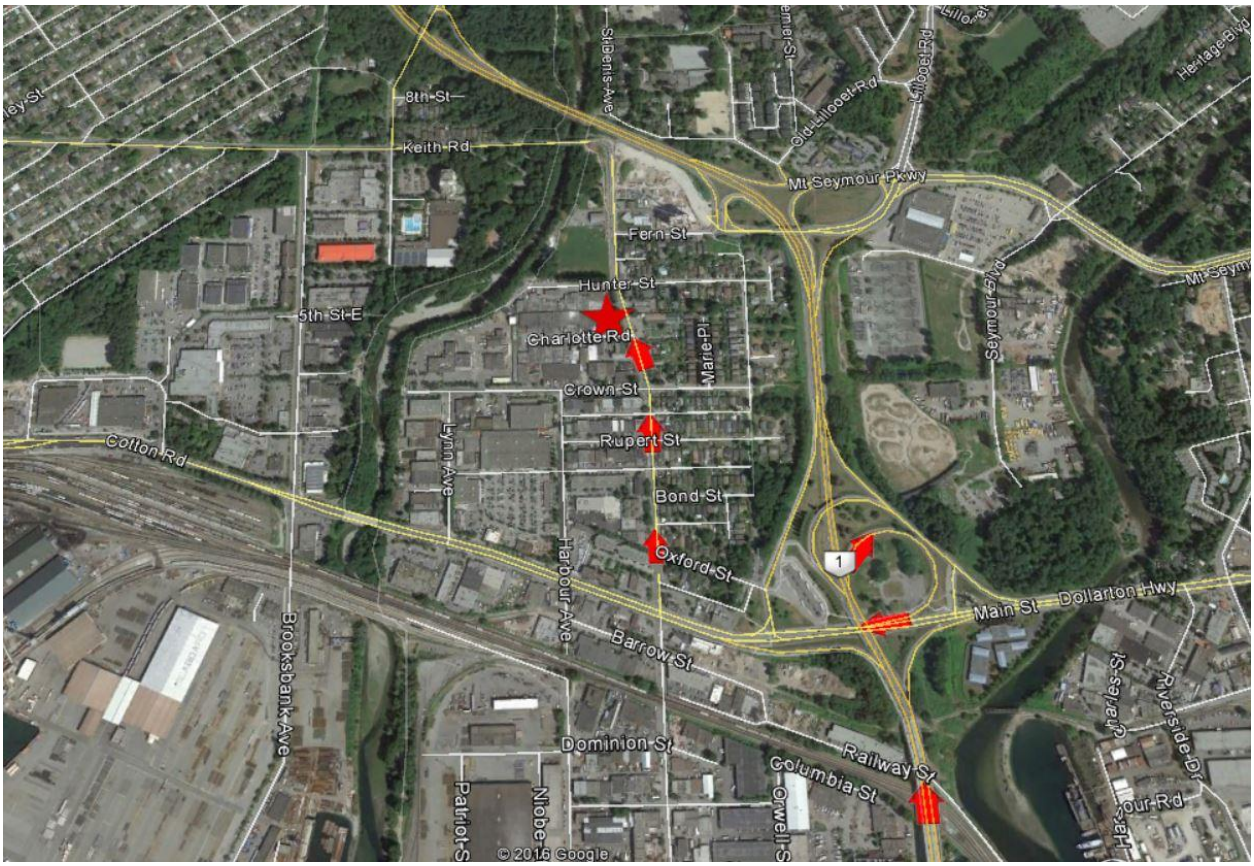
Please feel free to contact the undersigned if you have any questions or require any further information at 604-730-8959.

Sincerely,

XXXXXXX

CC: RCMP
District of North Vancouver Fire Services
District of North Vancouver – Transportation Department
Coast Mountain Bus Company

APPENDIX E


8th St
Keith Rd
Stibens Ave
Old Illoo t Rd
Mt Seymour Pkwy
Fern St
Hunter St
5th St E
Charlotte Rd
Marie Pl
Crown St
Rupert St
Lynn Ave
Collon Rd
Bond St
Oxford St
Harbour Ave
Brooksbank Ave
Barrow St
Main St
Dollarton Hwy
Dominion St
Railway St
Columbia St
Patriot S
Niobe
Orwell S
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Notes:

No.	Date	Description
01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

SITE PLAN

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2016/06/03

Project North
N

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.
A100

Filename: X:\Volumes\Active\21428 467 Mountain Hwy, North Van\Drawings\CAD\Plans - Residential Levels.dwg
Printed: 6/3/2016 3:06:06 PM

VIEW FROM THE CORNER OF MOUNTAIN HIGHWAY AND CHARLOTTE ROAD

VIEW FROM CHARLOTTE ROAD

VIEW FROM MOUNTAIN HIGHWAY

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Notes:

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Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

PERSPECTIVE VIEWS

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2015/12/09

Project North

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.

A008

VIEW FROM CHARLOTTE ROAD 02

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Notes:

No.	Date	Description
01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

PERSPECTIVE VIEWS

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2015/12/09

Project North

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.

A010

COURTYARD VIEW 01

COURTYARD VIEW 02

STREET PERSPECTIVE - CHARLOTTE ROAD

STREET PERSPECTIVE MOUNTAIN HIGHWAY

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01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

PERSPECTIVE VIEWS

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2015/12/09

Project North: N

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.: A009

MATERIAL LEGEND

- A. HARDIE PANEL
  1. WHITE
  2. SAND
  3. BLACK
  4. MAROON
  5. GRAY
- B. BRICK
- BA. SPILT FACE CONCRETE BLOCK
- BB. PAINTED CONCRETE
- C. VINYL WINDOWS – BLACK
- D. ALUMINUM WINDOW WALL – BLACK
- E. SPANDREL PANEL – GRAY
- F. STOREFRONT ALUMINUM WINDOW SYSTEM – BLACK
- G. METAL/GLASS/WOOD CANOPY
- H. CLADDING
  1. WOOD CLADDING
  2. WOOD CLADDING / METAL CLADDING WITH WOOD AESTHETIC
- I. METAL GATE
- J. METAL LOUVER
- K. ALUMINUM ANGLE REVEAL
- L. PRIVACY SCREEN
- M. ELEVATOR OVERRUN

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Consultants

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No.	Date	Description
.01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

ELEVATIONS

Drawn By: RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: Nov 27, 2015

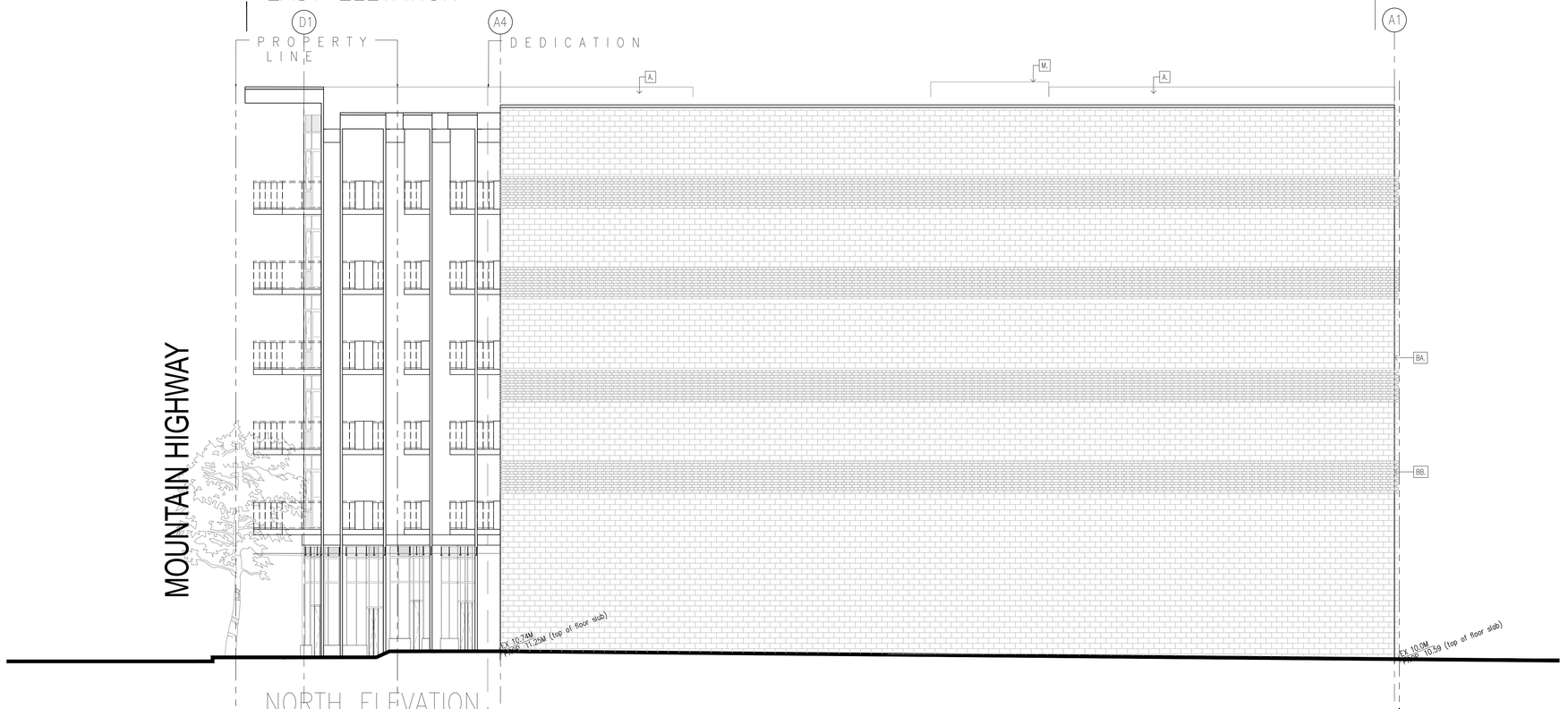
Project North

Graphic Scale

Scale: 1/8"=1'-0"
Project No.: 21428

Drawing No.
A200

EAST ELEVATION



NORTH ELEVATION

MATERIAL LEGEND

- A. HARDIE PANEL
  1. WHITE
  2. SAND
  3. BLACK
  4. MAROON
  5. GRAY
- B. BRICK
- BA. SPLIT FACE CONCRETE BLOCK
- BB. PAINTED CONCRETE
- C. VINYL WINDOWS – BLACK
- D. ALUMINUM WINDOW WALL – BLACK
- E. SPANDREL PANEL – GRAY
- F. STOREFRONT ALUMINUM WINDOW SYSTEM – BLACK
- G. METAL/GLASS/WOOD CANOPY
- H. CLADDING
  1. WOOD CLADDING
  2. WOOD CLADDING / METAL CLADDING WITH WOOD AESTHETIC
- I. METAL GATE
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Consultants

Notes:

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Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

ELEVATIONS

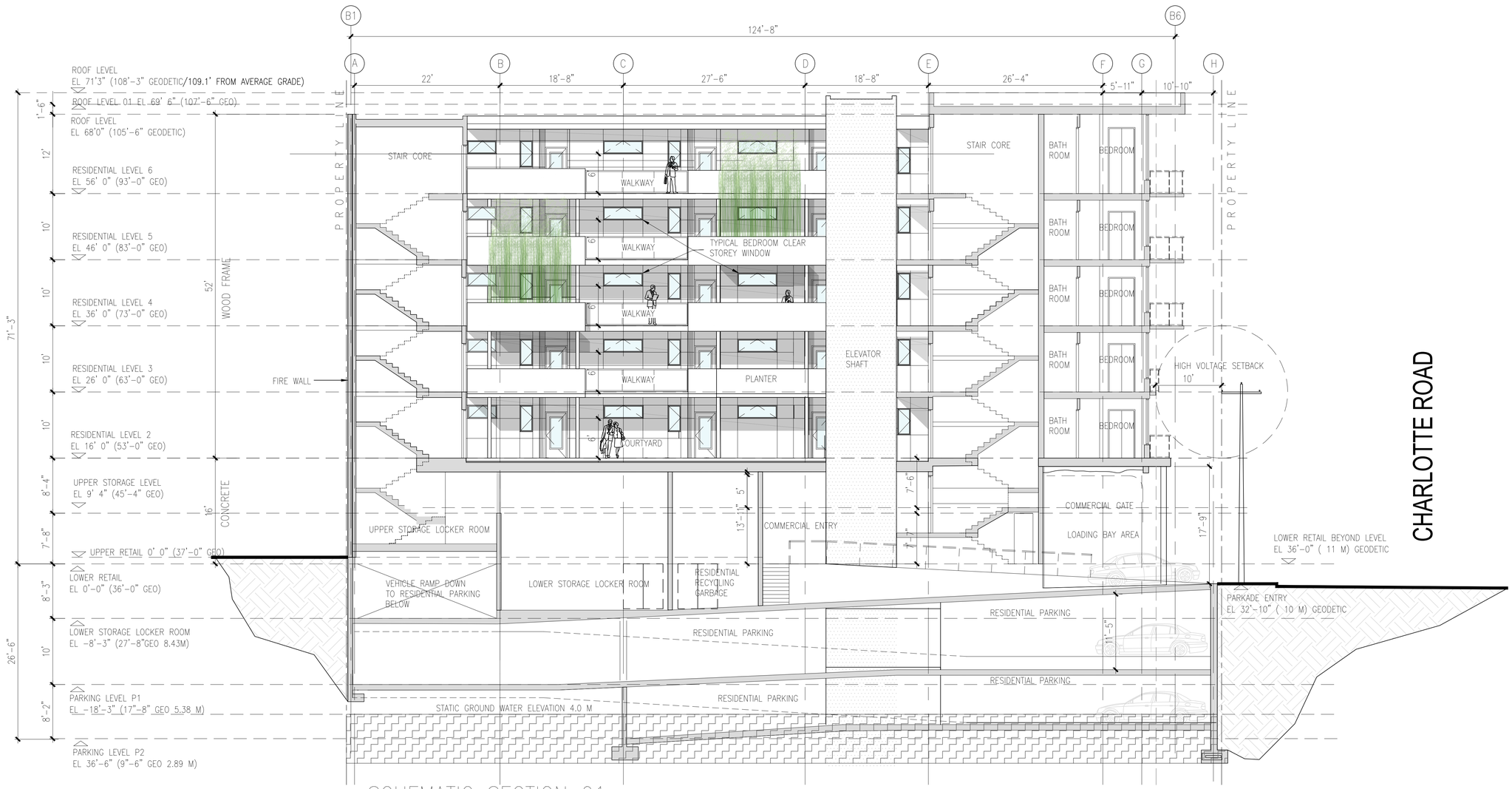
Drawn By: RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: Nov 27, 2015

Project North: N

Graphic Scale

Scale: 1/8"=1'-0"
Project No.: 21428

Drawing No.: A201



SCHEMATIC SECTION 01

CHARLOTTE ROAD

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01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

SCHEMATIC SECTION 01

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: Dec 09, 2015

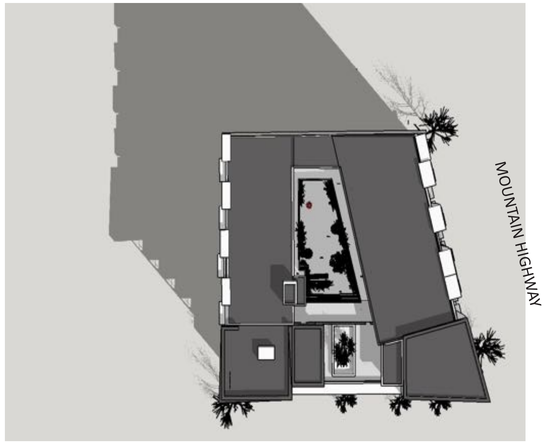
Project North

Graphic Scale

Scale: 1/8"=1'-0"
Project No.: 21428

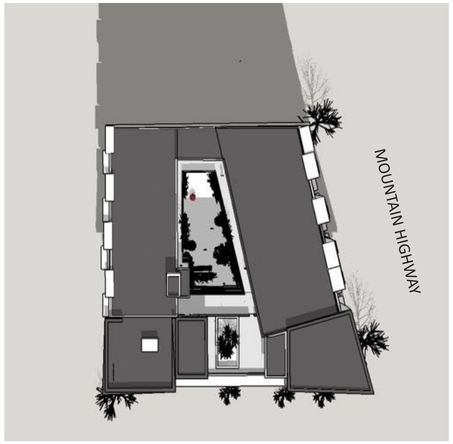
Drawing No.

A300



CHARLOTTE ROAD

MARCH 21ST, 10 AM



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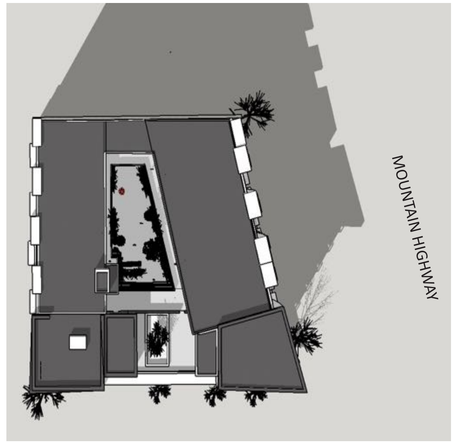
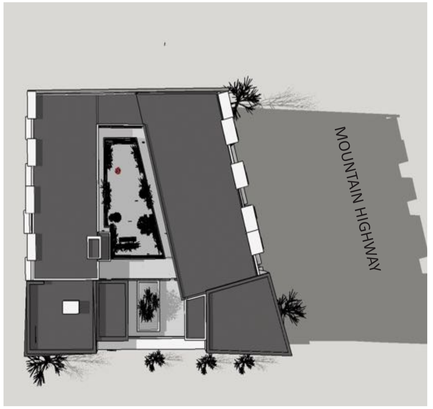
MARCH 21ST,12 PM



CHARLOTTE ROAD

MARCH 21ST, 2 PM

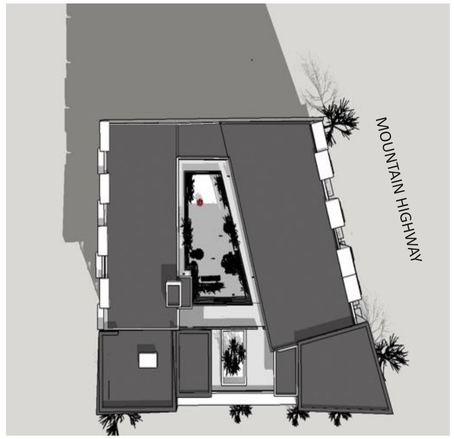


CHARLOTTE ROAD

MARCH 21ST, 6 PM

CHARLOTTE ROAD

SEPT.EMBER 10 AM



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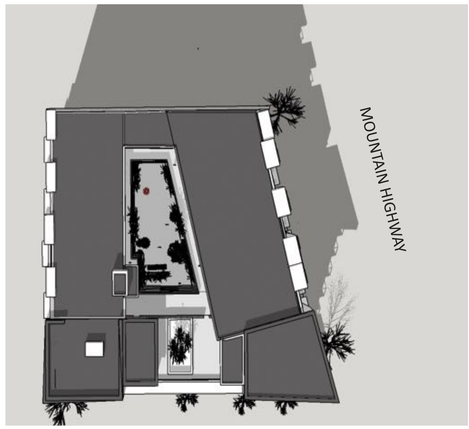
SEPTEMBER 21ST, 12 PM



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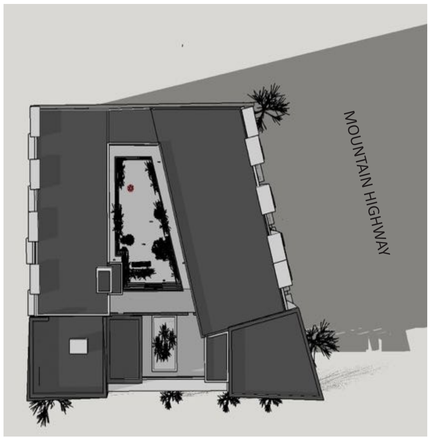


CHARLOTTE ROAD

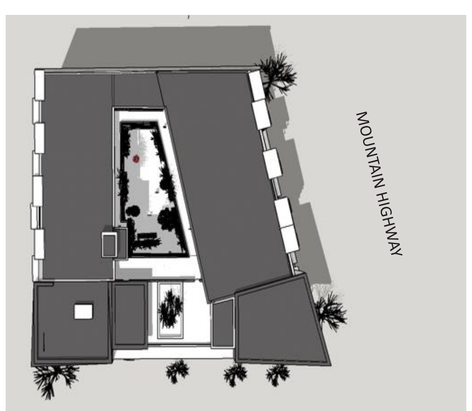
SEPTEMBER 21ST, 6PM

CHARLOTTE ROAD

JUNE 21ST, 10 AM

CHARLOTTE ROAD

JUNE 21ST, 12PM



CHARLOTTE ROAD

JUNE 21ST, 2PM

CHARLOTTE ROAD

JUNE 21ST, 6PM

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Notes:

No.	Date	Description
01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY

North Vancouver, B.C.

Sheet Title:

SHADOW STUDY

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2015/12/09

Project North

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.

A006

LEGEND

- CIP concrete sidewalk
- Concrete Unit Pavers - 24" x 12" x 4" thick - Charcoal colour
- Paving to match lobby
- Shrub and Ground cover planting
- Custom Bench: built on a wall
- Bike Rack: 'Ring' by Landscape Forms

1. The District of North Vancouver is responsible for the on-going maintenance of the street trees on off-site areas. The on-going maintenance of shrubs / ground cover on off-site area (ie boulevards) is the responsibility of the future property owner

2. The District of North Vancouver has the right to refuse any or all of the selected plant material if it does not meet current BCNTA standards - To be inspected by a representative from the DNV

3. Final approval / selection of off-site street trees / site furniture to be made by DNV staff - phone Dimitri Samaridis 604.990.2495 (samaridisd@dnv.org)

LIGHTING LEGEND

- Wall mounted light / step light
- LED strip light mounted to underside of bench

TREES

SYMBOL	QTY	BOTANICAL NAME	COMMONNAME	SIZE	COMMENTS
	1	Nyssa sylvatica	Black Tupelo	7cm cal	B&B 1.8m branch ht.
	4	Cercidiphylum japonicum	Katsura Tree	7cm cal	B&B 1.8m branch ht.
	3	Quercus palustris 'Green Pillar'	Green Pillar Pin Oak	7cm cal	B&B Specimen
	3	Acer palmatum	Japanese Maple	1.5m Ht.	B&B Multistem

SHRUBS

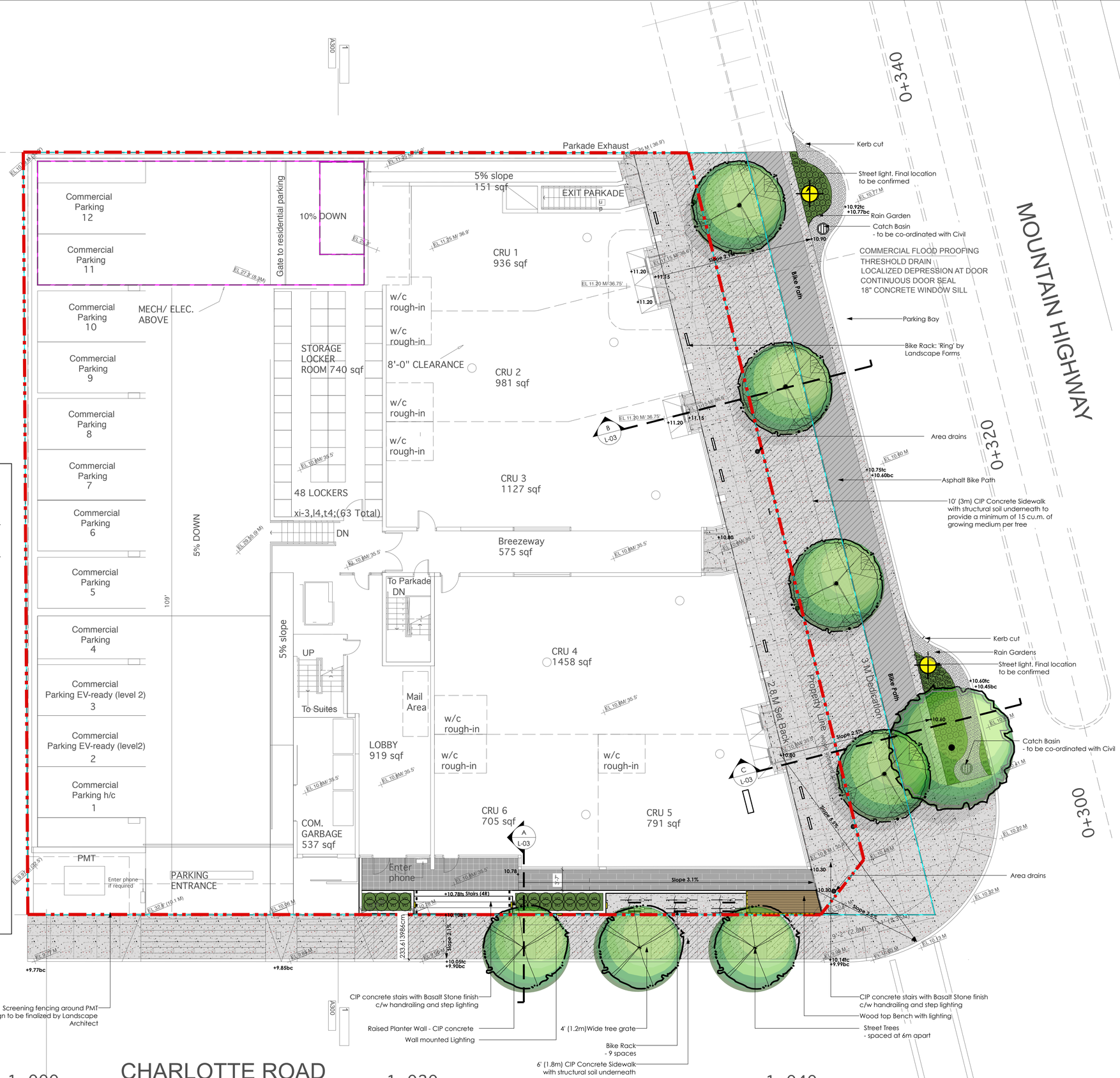
SYMBOL	QTY	BOTANCIAL NAME	COMMON NAME	SIZE	COMMENTS
Ct	23	Choisya ternata	Mexican Orange Blossom	#3 pot	
ND	20	Nandina domestic	Heavenly Bamboo	#2 pot.	
Vo	18	Vaccinium ovatum	Evergreen Huckleberry	#3 pot.	
	70	Taxus x media 'Hicksii'	Yew	1.2mHt.	Male only

PERENNIALS / GRASSES

SYMBOL	QTY	BOTANCIAL NAME	COMMON NAME	SIZE	COMMENTS
bs	78	Blechnum spicant	Deer Fern	#2 pot.	
b	43	Brunnera 'Jack Frost'	Siberian bugloss	#2 pot.	
c	135	Carex stipata	Sawbeak Sedge	#2pot.	
Cv	46	Calluna vulgaris	Scotch Heather	#2 pot.	
	29	Hosta 'Elegans	Hosta	#2pot.	
li	43	Liriope muscari	Dwarf Lilyturf	#1 pot.	
Nt	17	Nassella tenuissima	Mexican Feather Grass	#2 pot.	
ph	52	Pennisetum alopecuroides	Fountain Grass	#2 pot	
Pn	58	Phyllostacys nigra	Black Bamboo	#3 pot	
p	11	Polystichum munitum	Western Sword Fern	#2 pot	
rh	48	Rudbeckia hirta	Black Eyed Susan	#2 pot.	
sy	62	Salvia sylvestris 'Mainacr'	Violet Meadow Sage	#2 pot.	

Irrigation Notes

1. Irrigation is to be provided to all planting areas using a drip system designed for high efficiency.
2. A 'smart' controller is to be installed for on-site and off-site;
3. Provide an isolation valve for Offisite irrigation
4. Provide a sleeve under all hard surface areas



B

PLAN 20072

no.:	date:	item:
2	June. 06, 2016	Issued for Prior To
1	Dec. 11, 2015	Issued for DP

Revisions:

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102 - 1637 West 5th
Avenue Vancouver BC
V6J 1N5
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f: 604 684 0577
www.dkl.bc.ca

Project:

467 Mountain Highway

Drawn by:	RO'C
Checked by:	SJV
Date:	2015-12-09
Scale:	1/8"=1'0"

Drawing Title:

Landscape Plan - Ground Level

Project No.:

15014

Sheet No.:

L-2

LEGEND

- 12" Concrete Hydra-pressed Slabs
- Planting- See Plant List
- Privacy hedge between units -1.2m high min. b&b
- Rubber Safety Surface
- Decking (recycled Plastic)
- Artifical Turf
- Balance Logs
- H.B. Hose Bibs
- Cube Seating. Detail to be confirmed
- Play Hut. See design detail. Final design to be confirmed
- Proposed Multi-stem Trees- See Plant List

TILED PLAY SURFACE

ARITIFICAL TURF

HYDRAPRESSED PAVERS

CHARLOTTE ROAD

BALANCE LOGS

METAL MODULAR PLANTER

North

no.:	date:	item:
02	June 06, 2016	Issued for Prior To
01	Dec. 09, 2015	Issued for DP

Revisions:

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f: 604 684 0577
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Project:

467 Mountain Highway

Drawn by:	RO'C
Checked by:	SVC
Date:	2015-12-09
Scale:	1/8"=1'0"

Drawing Title:

Landscape Concept Plan - Courtyard Level 2

Project No.:

15014

Sheet No.:

L-3

North

no.:	date:	item:
02	June 06, 2016	Issued for Prior To
01	Dec. 09, 2015	Issued for DP

Revisions:

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Avenue Vancouver BC
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www.dkl.bc.ca

Project:

467 Mountain Highway

Drawn by:	RO'C
Checked by:	SVC
Date:	2015-12-09
Scale:	1/8"=1'0"

Drawing Title:

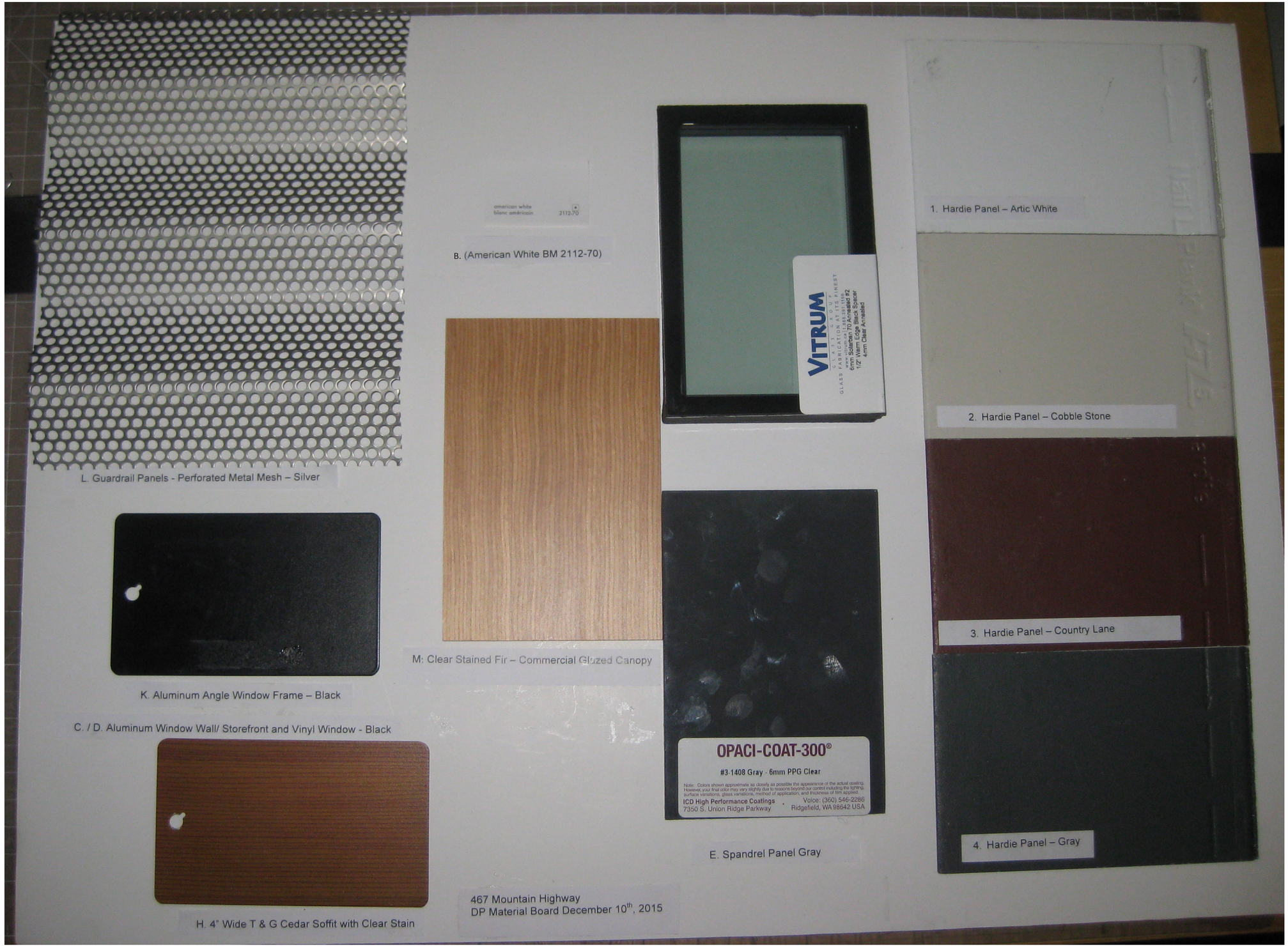
Landscape Concept Plan - Roof

Project No.:

15014

Sheet No.:

L-4



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Notes:

SECTIONS

No.	Date	Description
01	2015/12/10	ISSUED FOR DP APPLICATION

Revisions / Issues:

Project Title:

467 MOUNTAIN HIGHWAY
North Vancouver, B.C.

Sheet Title:

Drawn By: JM/RN
Reviewed by: WF
Date: Dec 10, 2015
Plot Date: 2015/12/09

Project North: N

Graphic Scale

Scale: 1/16"=1'-0"
Project No.: 21428

Drawing No.: A300

Excerpt from ADP minutes February 11, 2016

467 Mountain Hwy - Detailed Application for Rezoning and DP for Six-storey, mixed-use building.

Ms. Casey Peters, Community Planner, introduced the project and explained that the site is at the corner of Charlotte Road and Mountain Highway. The site is currently zoned "I3: Light Industrial Zone" and is designated "CRMU3: Residential Mixed Use Level 3" which allows up to 3.5 FSR. The proposal is to rezone the property to a new comprehensive development (CD) zone. The review of the application is guided by the Lower Lynn Implementation Plan and the Lynn Creek Design Guidelines. The site is also regulated by development permit areas for Form and Character, Energy, Water, and Greenhouse Gas Reduction, as well as Creek Hazard.

The proposal is for a 6 storey, 63 unit apartment building, with 6 commercial units, and 88 parking stalls: 70 residential, 12 commercial and 6 for visitors. Ms. Peters noted that the Advisory Design Panel supported the general concept for the project at the preliminary stage, subject to several items being addressed. Items noted including the courtyard usability with regard to size and shading, the use of natural materials, the need to confirm sufficient soil depths, consideration of the impacts from adjacent industrial sites, and options for increasing planting along the street frontages.

The Chair welcomed the applicant team and Mr. Stefan Aepli of Francl Architecture presented the project to the Panel. Mr. Aepli made note of the following key points:

- The location on the "High Street" for the town centre means the development has worked to achieve the applicable design guidelines
- Warm earthy tones, metal panels (perforated) to immediate west sensitive to industrial character.
- Addressing prior design panel concerns there have been changes on main floor, a widened lobby, introduced breezeway from Mountain Hwy through commercial space to parking.
- Storage mezzanine, all units have a storage locker large enough for at least two bikes.
- Unit layouts include larger, family-oriented units.
- Elevator has been relocated to allow more light into courtyard
- The internal courtyard ranges from 27 to 40 feet wide
- Courtyard allows better design for residential units and improved natural ventilation
- "Frame" elements around windows have been reduced to provide calmer front elevations, and allow greater expression of the corner element.

Mr. Steven Vincent of Durante Kreuk Landscape Architecture presented the landscape design with reference to the following key points:

- Streetscape has been further designed from the preliminary application stage with responses to flood management being a key main theme;
- 3% cross slope on sidewalk proposed, with cycle path and sidewalk separated by trees;

- Gathering spaces and benches will add seating and a natural element on the street frontages;
- Ramps for accessibility are provided at the south corner;
- Format of the courtyard space does not allow it to get a lot of direct sunlight; however opportunities for use are expanded with defined spaces, playful elements, and durable elements such as artificial turf;
- Exterior walkways have a 2 foot planting area along the ledge including bamboo plantings;
- Top floor deck will comprise two private deck areas with planters for small trees.

The Chair thanked the applicant for their presentation and asked if there were any questions of clarification from the Panel. Questions were asked and answered on the following topics:

- More information about format and use of courtyard? Intended as the primary access for units and to offer a pleasant experience. Acts as an outdoor amenity space as well;
- What is the massing of the adjacent building at the west property line? Approximately 20 feet in height – access to light an views should be maintained;
- What is happening on the north wall, it seems blank? The six-story massing is planned to continue along Mountain Highway with a zero lot-line relationship to the north so the north wall is expected to be hidden by future development to the north;
- How are the breezeway gates expected to function? The gates are anticipated to be locked after the closed of commercial businesses and available through fob access for residents;
- What is the finish material for the yellow features at the building corner? Natural fir or cedar siding;
- What sustainability objective is proposed? LEED Gold under LEED Midrise Program;
- What is the flooring material for outdoor walkways? Traffic coating;
- How will the black bamboo be used? Three planters will be located along each outdoor walkway to allow the bamboo to grow toward the light. Some pruning and maintenance will likely be required, but is will provide an attractive green element to the courtyard;
- How does access to the storage lockers work? Elevator and stair access;
- How does garbage and recycling access work? Stairs to the area;
- Was a green roof considered as a useable outdoor space? No, but it could be considered;
- What is the material for the guardrails on the exterior walkways? Glass, planters and solid cementitious panels;
- Are perforated metal panels proposed on the west elevation? Yes, in combination with glass will give an industrial feel while still providing privacy;
- What is the siding material along Mountain Hwy? White cementitious panel.

Mr. Alfonso Tejada, District Urban Design Planner, provided the following comments:

- Model shown does not reflect the project design and should be adjusted;

- There is a need to address the functionality of the courtyard, in terms of weather conditions and helping to create a useable and comfortable space;
- Relationship to the adjacent industrial use to the west seems unresolved;
- North wall needs to incorporate some design element to ensure that it is not left as a blank wall until new developments are completed;
- The proposed “frame” elements on the façade were raised as a topic in the Panel’s previous review – further work is needed to completely resolve this issue.

In their review, members of the Panel noted the following comments and items for consideration:

- There was a general appreciation for the materials and massing and it was suggested that the treatment of the south-east corner works well to address the guidelines;
- Some concern was expressed that the renderings used in the presentation did not successfully show the context of the surrounding neighbourhood;
- It was noted that courtyard-format buildings are common in other parts of the world, and come with some opportunities such as helping to promote ventilation;
- The vertical expression in the design was seen as positive;
- Some lack of clarity was noted in the relationship of the proportions between the commercial and residential elements and the “frame” elements while noted as being popular, where identified for careful handling in order to avoid appearing dated and repetitive;
- Residential lobby entrance could benefit from a greater presence;
- Consideration should be given to the roof overhang at the top level and whether this will create a drip-line on the top floor walkway;
- Approach to the breezeway element was noted as lacking, with more glazing potentially being beneficial for the adjacent commercial units;
- Some concern was expressed with the durability of natural wood façade elements;
- Important to try to incorporate low thresholds for access to the balconies;
- Good security should be ensured in the storage room areas;
- Some review should take place of ensuring barrier-free access to garbage and recycling facilities;
- Allow the courtyard to have an open connection to the public realm could provide more light to the courtyard, increase livability, and provide a better sense of the courtyard’s format from the exterior;
- The approach to landscaping was seen as generally positive, including the proposed streetscape planters and benches, as well as the demarcation of gathering areas in the courtyard;
- It was suggested that more natural materials in the courtyard would be a benefit, with consideration to gravel or sand for the children’s play area, rather than rubber, and careful attention to the drainage for the proposed artificial turf;
- Random allocation of bamboo appears to be a positive addition to the courtyard but some concern was expressed regarding implementation and controlling the bamboo;

- Parkade entrance and transformer could use some attention to soften the appearance;
- North wall of the project needs to be addressed, even if only visible for the short term, and could be addressed through texture or pattern - this could also be a very positive location for a public art installation

The Chair invited the project team to respond.

The applicant team thanked the Panel for their comments and indicated that they will continue to work to refine the project design.

The Chair invited the Panel to compose a motion:

MOVED by Amy Tsang and **SECONDED** by Steve Wong:

THAT the ADP has reviewed the application and recommends **APPROVAL** of the project **SUBJECT** to addressing the items noted in the Panel's consideration of the project.

CARRIED

durantekreuk
100 – 1152 Mainland St. Vancouver BC Canada V6B 4X2 t: 604.684.4611 f: 604.684.0577

REVIEW OF EXISTING TREES, 467 Mountain Highway,
DISTRICT OF NORTH VANCOUVER, B.C.

PREPARED BY: Florian Fisch, Certified Arborist PN – 7921A
DATE: December 11, 2015

1.0 INTRODUCTION

Durante Kreuk Ltd. was requested by Wanson (Lynn Creek) Development Limited Partnership to carry out a visual tree assessment and review of site conditions for all existing trees on and adjacent to the subject site to assess potential for tree retention within the site and adjacent road allowances. The tree locations are based on a March 5th 2015 survey plan by Butler Sundvick, BCLS.

This tree report is prepared on the basis of on site observations made November 24th 2015. The fieldwork and reporting has been done by Florian Fisch, Certified Arborist, Certification Number PN-7921A.

The observations consist of a visual assessment of individual trees using criteria set out by the International Society of Arboriculture (ISA). The object of this review is to determine the species, size and general condition of each tree, and suitability for retention within the proposed new development of the site.

- windfirmness or potential for blowdown in the area
- visible indicators of structural defects in individual trees
- location, exposure
- species, age, size, health, condition and anticipated longevity
- current and potential hazard to persons or property.

The accompanying Trees Plan shows the tree locations, diameters at breast height (DBH) and tree numbers corresponding to tree numbers cited in this report. The plan also shows the suitability for retention and the proposed status (Retain or Remove) for each tree in the proposed development. The report includes all trees as shown on the survey. In addition it included relevant trees on adjacent properties.

As a base for our recommendations outlined in this report, we use the District of North Vancouver Tree Protection Bylaw No. 7671.

2.0 GENERAL OBSERVATIONS

2.1 The Subject Site
The subject site is located in an industrial area on the corner of Mountain Highway and Charlotte Road. This area is part of former flood planes of the near Lynn Creek.

2.2 Existing Trees on Subject Site
The existing trees on this site can be summarized into two general groups. One group contains trees to the east of the existing building, within a landscape buffer towards Mountain

Highway. The other group contains trees to the south of the existing building towards Charlotte Road. Two trees are straddling the property line to the north. Three trees are within the road allowance and one tree is straddling the road allowance of Charlotte Road.

1.) Trees within the landscape buffer to the east mainly consist of conifers (#1 to #3 and #5) but also include one broadleaf (#4). Two *Pseudotsuga menziesii,* trees #1 and #2, are straddling the north property line. One *Pseudotsuga menziesii,* trees #3 is within the road allowance of Mountain Highway. These three trees as well as tree #4, an *Acer macrophylla,* all show signs of stress and early decay, but are in fair condition. Tree #5, a *Thuja plicata* with many codominant leaders, is in good condition. Would tree #2 be intended for retention, further exploration of the condition of the root collar would be recommended.

2.) Trees to the south of the building consist of broadleaf. Tree #6, a *Liquidambar tulipifera,* is located close to the building in a small planting bed within hardscape. It has a lean away from the building. Trees #7 to #9 are all located within or are straddling the road allowance along Charlotte Road. They are located below overhead services and repeatedly received utility pruning, resulting in poor crown structure. All trees are in fair condition.

3.0 SPECIFIC OBSERVATIONS AND RECOMMENDATIONS

Table on following page lists observations of individual trees upon which the recommendations are based:

467 MOUNTAIN HIGHWAY, NORTH VANCOUVER -EXISTING TREES - NOTES	
a)	At this time, this tree is recommended for removal due to construction impact or conflict with proposed public sidewalk along Mountain Highway. Would this change and the tree would be proposed for retention, further root exploration is recommended to ensure structural integrity of this tree.

467 MOUNTAIN HIGHWAY, NORTH VANCOUVER - EXISTING TREES															
Tree Number	TREE TYPE	# of Stems	SIZE			OBSERVATIONS	STATE				RECOMMEN-DATION			
	Species		DBH-cm	Spread - m	Height - m		Dead	Poor	Fair	Good	Remove	Relocate	Retain	Note
1	*Pseudotsuga menziesii* (Douglas fir)		72	14	50	Base next to west retaining wall, building and parking lot. Root development limited to the south through retaining wall. Retaining wall bulging. Sweep south. Limbed up to 6m above ground. 7cm sned. LCR 85%. Joint crown with tree #2. Straddling property line. Signs of sapsucker. Fungal conk(s) near base.			◆		◆			
2	*Pseudotsuga menziesii* (Douglas fir)	2	116	16	50	2 Co-dominant leaders. Included bark. Base next to parking lot and wooden retaining wall (bulging). Root development limited to the south through retaining wall. Retaining wall buging. Grade high at base. Fungal conk(s) and signs of decay (frass) near base. LCR 85%. Joint crown with tree #1. 3 5cm limb(s) shed.			◆		◆			a)
3	*Pseudotsuga menziesii* (Douglas fir)		62	10	40	LCR 58%. Reduced vigour. Sapping from branch collar.			◆		◆			
4	*Acer macrophyllum* (big leaf maple)	4	147	15	30	Other stem(s) 23cm DBH. Grade high at base. 4 Co-dominant leaders. Included bark. Trunk wound. Indications of internal decay.			◆		◆			
5	*Thuja plicata* (western red cedar)	10	118	9	32	Other stem(s) 15-26. Base 2' above parking lot. ± 10 Co-dominant leaders. Barber chair limb(s).				◆	◆			
6	*Liquidambar var.* (sweetgum)		57	10	20	Slight lean northeast. Asymmetrical crown. Large limb(s) removed on building side. Poor wound wood development. Large limb rubbing in crotch.			◆		◆			
7	*Tilia var.* (Linden)		35	7	10	Suckers at base. Previously topped at 5m above ground. Witches broom. Poor crown structure. Below utility lines. Large limb(s) removed. Wound(s) closed 20% - 90%.			◆		◆			
8	*Tilia var.* (Linden)		30	8	10	Suckers at base. Previously topped at 5m above ground. Witches broom. Poor crown structure. Below utility lines. Large limb(s) removed. Wound(s) closed 20% - 90%.			◆		◆			
9	*Tilia var.* (Linden)		23	6	8	Suckers at base. Previously topped at 5m above ground. Witches broom. Poor crown structure. Below utility lines. Large limb(s) removed. Wound(s) closed 20% - 90%.			◆		◆			

4.0 THE PROJECT AND POTENTIAL IMPACTS ON TREES

The proposed mix use project consists of a 6 story building with a two story underground parking structure. The underground parking structure is proposed to cover almost the entire site. A more urban design approach is proposed for the public realm, including wide sidewalks, street trees and a separate bike path along Mountain Highway. A wide sidewalk on the subject site in front of the CRU units is proposed.

Potential impact of the proposed project on existing trees described as follows:

- All trees, or a significant portion of their minimal root protection zone, fall within the building footprint or zone of heavy construction and excavation.

5.0 RECOMMENDATIONS FOR DEVELOPMENT

The observations and statements above are an objective assessment of the existing tree and site conditions. The following recommendations take into account the proposed site development.

- Tree #1, #2, #4, #5, #6 and #9, all fall within or immediately next to the proposed footprint of the underground parking structure and are proposed for removal.
- A significant portion of the root protection zone of tree #3 falls within the area of heavy construction and excavation. This tree is located within the road allowance of Mountain Highway. With the Districts public realm improvements in mind, this tree is proposed for removal.
- A significant portion of the root protection zone of trees #7 and #8 falls within the area of heavy construction and excavation. These trees are located within the road allowance of Charlotte Road. With the Districts public realm improvements and the poor crown structure of these trees in mind, these trees are proposed for removal.

6.0 SUMMARY OF TREE REMOVALS AND REPLACEMENT TREES

- Trees proposed for removal (on site): 5
- Trees proposed for removal (off site): 4

7.0 TREE PROTECTION MEASURES

The “dripline”, i.e. the furthest horizontal extent of the branches, is used as a general guide to the location of most important roots, however the root system actually extends far beyond that limit. Tree roots are very shallow, generally in the top 450 mm (1’-6”) of soil. The key to tree retention is minimizing root loss and possible sites for decay. Limits of disruption as shown on the EXISTING TREE RETENTION AND REMOVAL PLAN must be demarcated on site and fenced off from all impacts of construction.

As a general guide to establish the minimal Root Protection Zone, the method of multiplying Trunk Diameter at Breast Height (DBH) by 6 is used. Where practical, limits of disruption exceed the minimal requirements as described above and the Tree Protection Barrier is placed further away from the base of the tree and closer to the “dripline”.

Planning for tree protection, installation of protective barrier, root pruning and all other tree protection measures shall be done by or under supervision of a certified arborist. Excavation, soil stabilizing measures, shoring (if necessary) and related work shall be planned and executed such that no excavation or other construction activities occur within the Tree Protection Area defined by the protective barrier.

Protective Barrier shall be a 1.2 M (4’-0”) high chain link fence (standard chin link fence or temporary construction fencing), securely installed, plumb, and securely fixed in the approved positions. Alternatively, Protective Barrier may be 1.2 M (4’-0”) high orange plastic snow fence securely fastened to a sturdy, well anchored frame of 2 x 4 lumber with top and bottom rails and braced where necessary for rigidity. Tree Protection Area signs shall be signs at least 900mm x 450mm, on painted plywood or other acceptable weather resistant material, stating:

TREE PROTECTION AREA:

- No Dumping
- No Storage
- No Machinery
- No Burning
- No Cutting

Install Tree Protection Area signs as specified on the snow fence barrier, total of five signs. Signs shall be well secured and shall be maintained in place until Substantial Performance.

Take all measures necessary to prevent the following activities within tree protection areas except as authorized by the Consultant:

- Storage of materials or equipment
- Stockpiling of soil or excavated materials
- Burning
- Excavation or trenching
- Cutting of roots or branches

Before the start of machine excavation, hand excavate along the established limit of excavation and prune all roots along the line. Cuts shall be clean, to approved arboricultural practice.

Retained trees shall be watered thoroughly and deeply, as necessary to supplement rainfall to maintain plant turgidity without prolonged saturation of the root zone. The method, amount and frequency of watering shall be as recommended by the arborist. Retained trees may require fertilizing to stimulate regeneration of lost roots and foliage. The fertilizer program shall be as recommended by the arborist. Other measures may be necessary for tree protection and ongoing survival, depending on site conditions. These may be determined during the initial planning for retention and excavation, or may be recommended by the arborist during the course of construction.

8.0 LIMITATIONS OF THIS REPORT

The assessment of the trees 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) in the surrounding site, and the 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.

The conclusions and recommendations made in this report are based on conditions as recorded on the date(s) of the field review. Notwithstanding the recommendations and conclusions, it must be realised 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.

While reasonable efforts have been made to determine that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or parts of them, will remain standing and whole. It is impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or their component parts in all future

circumstances. Inevitably any standing tree will pose some risk. In accordance with standard practice, the assessment presented in this report is valid at the time it was undertaken. Durante Kreuk Ltd. accepts no responsibility for subsequent damage or deterioration.

Notwithstanding the recommendations made in this report, Durante Kreuk Ltd. accepts no responsibility for the implementation of all or part of the recommendations, unless we have been specifically retained to review the implementation measures as they are carried out. Implementation of the recommendations in no way implies any supervisory or inspection role on the part of Durante Kreuk Ltd.

This report shall be considered a whole; no sections or parts are severable. The report shall be considered incomplete if any pages are missing, including the attached plan.

Durante Kreuk Ltd.

Per: Florian Fisch

KANE CONSULTING

E3 ECO GROUP

8 December 2015

Project: 467 Mountain Highway, North Vancouver

Re: LEED® for Homes – Multifamily Mid-Rise

This letter has been created by Diana Klein, Project Manager at Kane Consulting, and Helen Lui, Green Rater at E3 Eco Group Inc. Kane Consulting has been retained as the Sustainability Consultant on the project, and E3 Eco Group Inc. is being retained as the LEED® for Homes Multi-family Mid-Rise Provider (Verifier on behalf of the US Green Building Council).

I, Diana Klein, Project Manager at Kane Consulting, submit this letter in support of the 467 Mountain Highway project. As the Sustainability Consultant, we have been involved with this project from the beginning.

Kane Consulting's role includes:

- Help the Developer and Design Team set the Sustainability Goals for the development
- Advise on design features as it relates to the LEED® Rating System
- Verify credit compliance with input from the respective design team members
- Verify through calculations and previous project experience that the design meets the intent of the LEED® credits.
- Incorporate sustainability requirements into the specifications and working drawings.
- And during construction, we will work with the General Contractor to ensure the construction related activities are consistent with the LEED® requirements.

E3 Eco Group Inc's role includes:

- Verifying the project design features and construction details as it relates to the LEED® Rating System
- Verifying that THE LEED® Rating System pre-requisites and credits have been met

Providing clarification to Kane Consulting and the construction team as needed in order to support the project in meeting pre-requisites and credit requirements

Regarding LEED® for Homes – Multifamily Mid-Rise:
This project will be in compliance with the LEED® for Homes – Multifamily Mid-Rise rating system. This new rating system has been developed to specifically measure the sustainability of 4-12 storey multi-family residential projects, including addressing the commercial space of mixed-use projects.

LEED® for Homes – Multifamily Mid-Rise measures the overall performance of a building in eight categories, each of which features a number of prerequisites and credits. These categories include:

- Innovation and Design Process
- Location and Linkages
- Sustainable Site
- Water Efficiency
- Materials and Resources
- Indoor Environment Quality
- Awareness and Education

Points are awarded when the criteria of each credit is satisfied.
The project team has targeted 72 points, where 67 are required to earn LEED® Gold Certification*. We have identified 4 additional points that potentially can be achieved or used as a substitute if one or more strategies are deemed unobtainable. It should be noted that the LEED® for Homes – Multifamily Mid-Rise simple checklist is a working document and is subject to change. As for any LEED project, the project team decides the path to which Gold Certification is achieved. We reserve the right to exchange any credit marked as a Yes: 'Y' for an alternate strategy.

The LEED® for Homes – Multifamily Mid-Rise rating system was specifically created to address multi-unit residential developments where at least 50% of the building is residential. The LEED pre-requisites and credits in this rating system address design features and construction details in wood-frame and concrete residential developments, and is an initiative designed to promote the transformation of mainstream homebuilding industry toward more sustainable practices.

The LEED® for Homes – Multifamily Mid-Rise was initially applied to homes and multi-unit residential buildings of up to 6 storey, but has since been broadened to be applicable to residential projects up to 12 stories. Compared to LEED® for New Construction certification, LEED® for Homes – Multifamily Mid-Rise is better suited to residential projects. In contrast, LEED® for New Construction is preferred for use on commercial and retail buildings. LEED for Homes Multifamily Mid-Rise has received great traction in North America, and will soon be mandated by the Green Building Council as the applicable rating system for LEED® for residential buildings up to 12 stories.
Where there are non-residential spaces in The LEED® for Homes – Multifamily Mid-Rise projects, they are subject to LEED® New Construction fit-out requirements. This ensures that these building spaces meet standards in green building design; LEED® for Homes – Multifamily Mid-Rise projects requires that project teams provide commercial and retail tenants with a "Tenant Guidelines" document which outlines the green building features already incorporated into the building. This document also provides guidance and support for the tenants

to assist them in making green building choices when fitting their retail and commercial units.

Please do not hesitate to contact me directly if you have any questions regarding our proposed strategies.

** From the USGBC: LEED® for Homes – Multifamily Mid-Rise utilizes a Home Size Adjuster. The Home Size Adjuster compensates for the overarching effect of home size on resource consumption by adjusting the award level point thresholds (for certified, silver, gold, and platinum) based on home size. The adjustments are based on material and energy impacts as described below under Rationale. The LEED for Homes Checklist automatically makes this adjustment when the home size and number of bedrooms are entered.*

Rationale - All things being otherwise equal, a larger home consumes more materials and energy than a small home over its lifecycle (including pre-construction, construction, use, and demolition or deconstruction). The Threshold Adjuster compensates for these impacts by making it easier or harder to reach each LEED for homes award level. There is no impact on award thresholds for average-sized homes, whereas thresholds for smaller-than-average homes are reduced and thresholds for larger-than-average homes are raised.

Thank you,

Diana Klein

Diana Klein
P. Eng, LEED AP BD+C & Homes, CSBA
Project Manager
Kane Consulting Partnership

Helen Lui
LEED AP Homes, Green Rater
Sustainability Project Manager
E3 Eco Group Inc.

for Homes

LEED for Homes Mid-rise Simplified Project Checklist

Builder Name:	Wanson Development
Project Team Leader (if different):	Barry Savage (Savage Development)
Home Address (Street/City/State):	467 Mountain Highway, North Vancouver

Project Description

Building type: ***Mid-rise multi-family*** # of stories: 6
# of units: **63** Avg. Home Size Adjustment: -10

Adjusted Certification Thresholds

Certified: 35 Gold: 65
Silver: 50 Platinum: 80

Project Point Total
Targeted: **73.5** Maybe: **4.5**

Certification Level
Targeted: **Gold** Points needed: **65**

date last updated: 6-Nov-15
last updated by: Diana Klein

					Max Pts	Project Points Preliminary Y/Pts	?	Status
Innovation and Design Process (ID)			(No Minimum Points Required)		Max	Y/Pts	?	Credit Status
1. Integrated Project Planning	1.1		Preliminary Rating		Prereq	Y		Targeted
	1.2		Energy Expertise for MID-RISE		Prereq	Y		Targeted
	1.3		Professional Credentialed with Respect to LEED for Homes		1	1	0	Targeted
	1.4		Design Charrette		1	1	0	Targeted
	1.5		Building Orientation for Solar Design		1	0	0	Not targeted
	1.6		Trades Training for MID-RISE		1	1	0	Targeted
2. Durability Management Process	2.1		Durability Planning		Prereq	Y		Targeted
	2.2		Durability Management		Prereq	Y		Targeted
	2.3		Third-Party Durability Management Verification		3	3	0	Targeted
3. Innovative or Regional Design	3.1	•	Innovation #1	ID ruling #2769 SSc7.1	1	1	0	Targeted
	3.2	•	Innovation #2	LEED ND SLL p1: smart location	1	1	0	Targeted
	3.3	•	Innovation #3	Enter innovation strategy	1	0	0	Not targeted
	3.4	•	Innovation #4	Enter innovation strategy	1	0	0	Not targeted
				Sub-Total for ID Category:	***11***	8	0	
Location and Linkages (LL)			(No Minimum Points Required)	OR	Max	Y/Pts	?	Credit Status
1. LEED ND	1		LEED for Neighborhood Development	**LL2-6**	10	0	0	Not targeted
2. Site Selection	2	•	Site Selection		2	2	0	Targeted
3. Preferred Locations	3.1		Edge Development		1	0	0	Not targeted
	3.2		Infill	**LL3.1**	2	2	0	Targeted
	3.3		Brownfield Redevelopment for MID-RISE		1	0	1	Maybe
4. Infrastructure	4		Existing Infrastructure		1	1	0	Targeted
5. Community Resources/Transit	5.1		Basic Community Resources for MID-RISE		1	0	0	Not targeted
	5.2		Extensive Community Resources for MID-RISE	**LL 5.1, 5.3**	2	0	0	Not targeted
	5.3		Outstanding Community Resources for MID-RISE	**LL 5.1, 5.2**	3	3	0	Targeted
6. Access to Open Space	6		Access to Open Space		1	1	0	Targeted
				Sub-Total for LL Category:	***10***	9	1	
Sustainable Sites (SS)			(Minimum of 5 SS Points Required)	OR	Max	Y/Pts	?	Credit Status
1. Site Stewardship	1.1		Erosion Controls During Construction		Prereq	Y		Targeted
	1.2		Minimize Disturbed Area of Site for MID-RISE		1	1	0	Targeted
2. Landscaping	2.1	•	No Invasive Plants		Prereq	Y		Targeted
	2.2	•	Basic Landscape Design	**SS 2.5**	1	1	0	Targeted
	2.3	•	Limit Conventional Turf for MID-RISE	**SS 2.5**	2	2	0	Targeted
	2.4	•	Drought Tolerant Plants for MID-RISE	**SS 2.5**	1	1	0	Targeted
	2.5	•	Reduce Overall Irrigation Demand by at Least 20% for MID-RISE		3	0	0	Not targeted
3. Local Heat Island Effects	3.1	•	Reduce Site Heat Island Effects for MID-RISE		1	1	0	Targeted
	3.2	•	Reduce Roof Heat Island Effects for MID-RISE		1	0	0	Not targeted
4. Surface Water Management	4.1	•	Permeable Lot for MID-RISE		2	0	0	Not targeted
	4.2		Permanent Erosion Controls		1	1	0	Targeted
	4.3	•	Stormwater Quality Control for MID-RISE		2	0	0	Not targeted
5. Nontoxic Pest Control	5		Pest Control Alternatives		2	1.5	0	Targeted
6. Compact Development	6.1		Moderate Density for MID-RISE		2	0	0	Not targeted
	6.2		High Density for MID-RISE	**SS 6.1, 6.3**	3	0	0	Not targeted
	6.3		Very High Density for MID-RISE	**SS 6.1, 6.2**	4	4	0	Targeted
7. Alternative Transportation	7.1		Public Transit for MID-RISE		2	2	0	Targeted
	7.2		Bicycle Storage for MID-RISE		1	1	0	Targeted
	7.3		Parking Capacity/Low-Emitting Vehicles for MID-RISE		1	1	0	Targeted
				Sub-Total for SS Category:	***22***	16.5	0	

	Water Efficiency (WE)			(Minimum of 3 WE Points Required)	OR	Max	Y/Pts	?	Credit Status
1.	Water Reuse	1.1	•	Water Reuse for MID-RISE		5	0	0	Not targeted
2.	Irrigation System	2.1	•	High Efficiency Irrigation System for MID-RISE	**WE 2.2**	2	2	0	Targeted
		2.2	•	Reduce Overall Irrigation Demand by at least 45% for MID-RISE		2	0	0	Not targeted
3.	Indoor Water Use	3.1		High-Efficiency Fixtures and Fittings		3	1	0	Targeted
		3.2		Very High Efficiency Fixtures and Fittings		6	4	0	Targeted
		3.3		Water Efficient Applicances for MID-RISE		2	2	0	Targeted
				Sub-Total for WE Category:		***15***	9	0	
	Energy and Atmosphere (EA)			(Minimum of 0 EA Points Required)	OR	Max	Y/Pts	?	Y/Pts
1.	Optimize Energy Performance	1.1		Minimum Energy Performance for MID-RISE		Prereq	Y		Targeted
		1.2		Testing and Verification for MID-RISE		Prereq	Y		Targeted
		1.3		Optimize Energy Performance for MID-RISE		34	9.5	1.5	Targeted
7.	Water Heating	7.1	•	Efficient Hot Water Distribution		2	0	0	Not targeted
		7.2		Pipe Insulation		1	0	0	Not targeted
11.	Residential Refrigerant Management	11.1		Refrigerant Charge Test		Prereq	Y		Targeted
		11.2		Appropriate HVAC Refrigerants		1	1	0	Targeted
				Sub-Total for EA Category:		***38***	10.5	1.5	
	Materials and Resources (MR)			(Minimum of 2 MR Points Required)	OR	Max	Y/Pts	?	Credit Status
1.	Material-Efficient Framing	1.1		Framing Order Waste Factor Limit		Prereq	Y		Targeted
		1.2		Detailed Framing Documents	**MR 1.5**	1	0	0	Not targeted
		1.3		Detailed Cut List and Lumber Order	**MR 1.5**	1	0	0	Not targeted
		1.4		Framing Efficiencies	**MR 1.5**	3	1	0	Targeted
		1.5		Off-site Fabrication		4	0	0	Not targeted
2.	Environmentally Preferable Products	2.1	•	FSC Certified Tropical Wood		Prereq	Y		Targeted
		2.2	•	Environmentally Preferable Products		8	5	0	Targeted
3.	Waste Management	3.1		Construction Waste Management Planning		Prereq	Y		Targeted
		3.2		Construction Waste Reduction		3	2.5	0	Targeted
				Sub-Total for MR Category:		***16***	8.5	0	
	Indoor Environmental Quality (EQ)			(Minimum of 6 EQ Points Required)	OR	Max	Y/Pts	?	Credit Status
2.	Combustion Venting	2		Basic Combustion Venting Measures		Prereq	Y		Targeted
3.	Moisture Control	3		Moisture Load Control		1	0	0	Not targeted
4.	Outdoor Air Ventilation	4.1	•	Basic Outdoor Air Ventilation for MID-RISE		Prereq	Y		Targeted
		4.2		Enhanced Outdoor Air Ventilation for MID-RISE		2	2	0	Targeted
		4.3		Third-Party Performance Testing for MID-RISE		1	1	0	Targeted
5.	Local Exhaust	5.1	•	Basic Local Exhaust		Prereq	Y		Targeted
		5.2		Enhanced Local Exhaust		1	1	0	Targeted
		5.3		Third-Party Performance Testing		1	1	0	Targeted
6.	Distribution of Space Heating and Cooling	6.1	•	Room-by-Room Load Calculations		Prereq	Y		Targeted
		6.2		Return Air Flow / Room by Room Controls		1	1	0	Targeted
		6.3		Third-Party Performance Test / Multiple Zones		2	2	0	Targeted
7.	Air Filtering	7.1		Good Filters		Prereq	Y		Targeted
		7.2		Better Filters	**EQ 7.3**	1	0	0	Not targeted
		7.3		Best Filters		2	0	0	Not targeted
8.	Contaminant Control	8.1	•	Indoor Contaminant Control during Construction		1	1	0	Targeted
		8.2		Indoor Contaminant Control for MID-RISE		2	1	0	Targeted
		8.3		Preoccupancy Flush		1	1	0	Targeted
9.	Radon Protection	9.1	•	Radon-Resistant Construction in High-Risk Areas		Prereq	Y		Targeted
		9.2	•	Radon-Resistant Construction in Moderate-Risk-Areas		1	0	0	Not targeted
10.	Garage Pollutant Protection	10.1		No HVAC in Garage for MID-RISE		Prereq	Y		Targeted
		10.2		Minimize Pollutants from Garage for MID-RISE	**EQ10.3**	2	0	0	Not targeted
		10.3		Detached Garage or No Garage for MID-RISE		3	0	0	Not targeted
11.	ETS Control	11		Environmental Tobacco Smoke Reduction for MID-RISE		1	0	0	Not targeted
12.	Compartmentalization of Units	12.1		Compartmentalization for Units		Prereq	Y		Targeted
		12.2		Enhanced Compartmentalization of Units		1	0	1	Maybe
				Sub-Total for EQ Category:		***21***	11	1	
	Awareness and Education (AE)			(Minimum of 0 AE Points Required)	OR	Max	Y/Pts	?	Credit Status
1.	Education of the Homeowner or Tenant	1.1	•	Basic Operations Training		Prereq	Y		Targeted
		1.2	•	Enhanced Training		1	0	0	Not targeted
		1.3		Public Awareness		1	0	1	Maybe
2.	Education of Building Manager	2	•	Education of Building Manager		1	1	0	Targeted
				Sub-Total for AE Category:		***3***	1	1	

Notes: • means accountability form needs to be signed

KANE CONSULTING

ty bob CONSULTING LTD.

Energy Model Report for DP and Rezoning Submission

Project: 467 Mountain Highway, North Vancouver

Issued: December 8, 2015

Building Description

The project consists of a six storey multi-unit residential building in North Vancouver, BC. Two below-grade levels are provided for parking, storage, elevator lobbies, stairwells and mechanical/electrical rooms. Six CRUs are on the main floor along with a lobby, additional storage and garbage rooms. All suites have exterior entryways with access via a central exposed courtyard. There is approximately 64,000 ft^2 of conditioned floor area, with a window-to-wall ratio (WWR) of about 22%.

Residential suites will be heated with hydronic perimeter baseboards and ventilated with HRV units. CRUs will be conditioned by split system DX units with hydronic heating coils. The lobby and elevator lobbies will be ventilated and be provided with heat from hydronic coils. Electric baseboards will keep stairwells and storage areas above the freezing level.

The project must be district energy ready, so natural gas condensing boilers will provide space and domestic water heating. Pumps will have variable speed drive controls.

Energy Modelling Requirements

As part of the District of North Vancouver's Green Building Strategy, this building project must meet the required energy performance targets and be modelled by an experienced modeller. Of the pathways available to demonstrate compliance with the District's requirements, the project team has decided to follow the LEED Canada pathway, which allows the application of LEED for Homes Midrise with energy modelling using the MNECB. Following this approach, simulation results must demonstrate a 34% energy cost savings, equivalent to 9.5 LEED for Homes Multifamily Mid-rise 2010 points. Energy modelling was done by Derek Whitehead, P.Eng., who has over a dozen years energy modelling experience and is on the CaGBC's Experienced Modellers List.

Model Inputs

- Construction thermal properties are as shown in the table below.

Construction	Proposed U-Values	Baseline U-Values
Roof	0.048	0.083
Exposed Floors	0.048	0.083
Walls		0.143
2"x6" stud wall	0.061	
Insulated balcony edges	0.110	
Spandrel	0.140	
Window		Fixed: U = 0.56
Punched, vinyl, L2-6	U = 0.35, SHGC = 0.34	Operable: U = 0.60
Window wall, L2-6	U = 0.396, SHGC = 0.30	Same SHGC as Proposed
Storefront, L1	U = 0.42, SHGC = 0.36	

- Space gains and schedules are as shown in the table below.

Space type	Occ ft^2/occ	Proposed Light W/ft^2	Baseline Light W/ft^2	Equip W/ft^2	Occ Sch	Light Sch	Equip Sch
Stair	n/a	0.386	0.60	n/a	n/a	100% 24/7	n/a
Corridor	n/a	0.634	0.80	n/a	n/a	100% 24/7	n/a
Lobby	150	0.72	1.00	n/a	Office*	100% 24/7	n/a
Elev lobby	n/a	0.576	0.80	n/a	n/a	100% 24/7	n/a
Storage, Garbage	n/a	0.353	0.70	n/a	n/a	EnergyStar*	n/a
Elec/mech	n/a	0.808	0.70	2.0	n/a	EnergyStar*	EnergyStar*
Parkade	n/a	0.106	0.30	n/a	n/a	100% 24/7	n/a
CRU 1,2,3 (unknown)	200	1.1	1.80	1.0	Office*	EnergyStar*	Office*
CRU 4,5,6 (restaurant)	100	1.3	1.30	1.0	Restaurant*	EnergyStar*	EnergyStar*
suite	**	1.1	1.1	0.5	Hotel/Motel*	EnergyStar*	EnergyStar*

*Schedules taken from 90.1 User's Manual or EnergyStar Modelling Guidelines

**Equal to number of bedrooms plus one

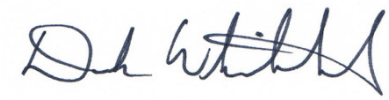
- Ventilation rates in suites were calculated to meet BC Building Code ventilation requirements
- HRV units from Kanaire Thermal Recovery were modelled, with supply and exhaust fan power intensity set to 0.36 W/cfm
- Ventilation rates in other spaces were based on ASHRAE 62.1-2010 requirements
- CRUs were modelled with DX cooling and hydronic heating, with fan power intensity set to 0.5 W/cfm
- Since the three CRUs south of the breezeway will be "restaurant ready", but the use of the other three CRUs is unknown, the south CRUs were modelled as restaurants and the other CRUs were modelled as offices.

- Elevator lobbies, lobby and breezeway were modelled with hydronic heated ventilation, with fan power intensity set to 0.5 W/cfm
- Stairwells and storage spaces were provided with electric baseboard heat and a thermostat setpoint of 40°F
- Water loop pump was set to have a head of 65 ft
- Space and DHW heaters were modelled as condensing with 95% rated efficiency

Simulation Results

The current preliminary model simulation results show a 36.8% energy cost savings following MNECB 1997. The District of North Vancouver requires an energy cost savings of 34%. A breakdown of energy cost is shown in the table below.

Energy Summary by End Use	Energy Type	Proposed		Baseline	
Energy Use		(MJ)	$	(MJ)	$
Interior Lighting	elec	431,468	$4,390	658,195	$11,490
Space Heating (gas)	nat gas	1,159,896	$17,439	3,352,715	$28,247
Space Heating (elec)	elec	7,873	$80	2,436	$43
Space Cooling	elec	36,766	$374	22,358	$390
Pumps	elec	21,428	$218	122,532	$2,139
Interior Fans	elec	227,487	$2,315	305,332	$5,330
Service Water Heating	nat gas	794,114	$11,939	1,151,478	$9,702
Plug Loads	elec	379,697	$3,864	379,698	$6,629
Elevator	elec	14,832	$151	14,832	$259
Exterior Lighting	elec	39,499	$402	51,956	$907
Total Energy Summary		Energy	Cost	Energy	Cost
		(MJ)	($)	(MJ)	($)
Elec (total)		1,159,048	$11,794	1,557,338	$27,187
Nat Gas		1,954,010	$29,378	4,504,192	$37,949
Total		3,113,059	$41,172	6,061,531	$65,136



Derek Whitehead, Director
Ty Bob Consulting Ltd.

KANE CONSULTING

Energy and Water Conservation and Greenhouse Gas Emission Reduction 24 May, 2016

Project: 467 Mountain Highway, North Vancouver

The sustainability of this project will comply with the District's DP Guidelines (in the OCP) with respect to Energy and Water Conservation and Greenhouse Gas Emission Reduction. The following table addresses how each of the guideline measures is implemented in the project's design:

Energy Conservation		
District Guideline	**LEED for Homes Midrise Project Strategy**	**Related LEED for Home Midrise Credit**
1. An integrated design process should be utilized to identify opportunities to reduce a building's energy consumption;	As per the LEED for Homes Midrise system an integrated approach is being undertaken in the design of this development. This included a design charette where the whole design team was present and the overall strategies relating to energy consumption were explored and implemented into the preliminary design.	Integrated Project Planning ID1.1 and ID1.4
2. The effectiveness of the building envelope, including glazing, to reduce heat loss should be maximized;	As identified in the energy modeling report – page 1 and 2 - the envelope (walls and glazing) were optimized to reduce heat loss (WWF=22%)	EA1 Optimize Energy performance (part of energy modeling)
3. Overall building energy performance and interior thermal comfort should be maximized through a combination of passive design strategies, including, but not limited to: - the sizing and placement of windows and the incorporation of operable windows to increase opportunities for natural ventilation, reducing the reliance on mechanical HVAC systems; - the orientation of buildings to take maximum advantage of site specific climatic conditions especially in terms of solar access and wind flow, when possible; - the use of thermally broken window frames and high performance glazing; - the incorporation of roof overhangs, fixed fins or other solar shading devices to ensure that south facing windows are	Single loaded suites wrap an internal courtyard allowing thru ventilation for all suites. Most of the windows have operable vents, located at both ends of the suite for thru ventilation and daylight, reducing the reliance on mechanical ventilation. The south portion of the building has been lowered, allowing more sunlight to enter the courtyard. Thermally broken window frames and high performance glazing will be used.	EA1 Optimize Energy Performance

shaded from peak summer sun but enable sunlight penetration during winter months; - design building massing and solar orientation to improve the passive performance of the structure		
4. Various measures should be utilized to reduce the heat island effect of a building's roof and heat transfer into the building, including: green roofs; Energy Star-rated or high albedo roofing material; or, other appropriate measures;	In order to reduce the impact of surface parking heat island effect 100% of the parking has been placed underground. In addition where possible green space has been provided in the courtyard and patios.	SS3.1 Reduced Site Heat Island Effect
5. Opportunities for the distribution of natural daylight into a building's interior spaces to reduce the energy consumption of electric lighting should be maximized. Avoid the use of heavily tinted or reflective glazing that reduces solar heat gain but also reduces the penetration of daylight and increases glare;	Window design has been optimized to reduce the impact of heat loss whilst maximizing daylight into the units to reduce the use of electric lighting. A central courtyard also provides opportunity for additional daylight into the units	EA1 Optimize Energy Performance
6. Solar thermal or solar electric technologies should be incorporated, but, where it is not possible to incorporate solar technologies during initial construction of a building, the building should be designed to be solar ready;	The team is exploring designing the building to be solar ready.	No related credit
7. On-site renewable energy systems should be pursued where feasible;	The project will be district energy ready for future opportunity for renewable energy if the district provides	No related credit
8. Mechanical systems should be designed to enable interconnection to future district energy systems in those areas identified by the *District* as having potential for such systems;	The project will be district energy ready	No related credit
9. On-site landscaping should be designed to promote opportunities for passive heating/cooling without negatively affecting the potential for solar thermal or solar electric systems on the site and on surrounding	Team has optimized the opportunity to provide on site landscaping with greening of the courtyard, trees and plantings to the East and South of the site.	SS2 Landscaping strategies

properties;		
10. The planting of appropriate trees within parking lots should be maximized to provide shade, store carbon and reduce heat build-up; and	Parking has all been placed underground. Street trees to the South and trees to the East on the site provide shading to the hardscaping	SS3.1 Reduced site heat island effect
11. Daylight-responsive controls should be incorporated in all regularly occupied spaces sited adjacent to windows/skylights.	Corridors and lobbies within the project will not be regularly occupied. The commercial portion will be left as a shell, to be improved later and suite lighting will be individually controlled. Daylight-responsive controls will not be incorporated.	EA1 Optimize Energy Performance
Water Conservation		
District Guideline	**LEED for Homes Midrise Project Strategy**	**Related LEED for Home Midrise Credit**
1. An integrated design process should be utilized to identify opportunities to reduce a building's water consumption and incorporate strategies for the capture and use of stormwater for landscaping purposes;	As per the LEED for Homes Midrise system an integrated approach is being undertaken in the design of this development. This included a design charrette where the whole design team was present and the overall strategies on indoor, outdoor and stormwater strategies were explored and implemented into the preliminary design.	Integrated Project Planning ID1.1 and ID1.4
2. The stormwater and building water discharge should be managed on site to the extent possible. Measures could include: - maximizing pervious surfaces to enhance stormwater infiltration opportunities - incorporating bioswales and rain gardens for infiltration - using drought-tolerant and native plants and other xeriscaping techniques to minimize the need for landscape irrigation; - - maximizing the use of topsoil or composted waste for finish grading to assist in infiltration and increase the water holding capacity of landscaped areas;	An erosion and sedimentation control plan will be implemented to minimize erosion and sedimentation during demolition, site preparation and throughout construction. Landscaping will utilize natural and adaptive plants and is designed to reduce the development`s heat island effect and minimize its impact on storm sewers while increasing local habitat. Rain gardens are provided on the East of the site Landscape strategies include specifying mulch (or other similar soil amendments) to reduce water holding capacity on the site. All landscaping is on slab.	Erosion Control During Construction SS1 Surface Water Management SS4.2 Landscape strategies SS2.1 to SS2.4

3. Where a site is adjacent to open space or a watercourse, infiltrated stormwater should be directed to that receiving environment if appropriate; and	N/A. There is not open space or a watercourse adjacent to the site	N/A
4. Automated control systems should be utilized where temporary or permanent mechanical irrigation systems are required.	Drought tolerant landscaping is proposed together with high efficiency landscape irrigation strategies (e.g. timer, controller, shut-off valve, meter, drip irrigation, pressure-regulating device, nozzles, etc.).	Drought Tolerant Plants SS2.4 and High Efficiency Irrigation System WE2.1
Greenhouse Gas Emission Reductions		
District Guideline	**LEED for Homes Midrise Project Strategy**	**Related LEED for Home Midrise Credit**
1. Building materials which are durable for the use intended should be selected;	The project team has identified risks and issues specific to durability in our region (includes water ingress/earthquakes. These are addressed in the design	ID 2.1-2.1 Durability Planning, Management and Verification
2. Locally or regionally sourced building materials should be used to reduce transportation energy costs;	Materials will be sourced, where possible, locally (defined as a radius of 800m, by any transport mode, for both extraction and manufacture).	Environmentally Preferable Products MR2.2
3. Existing building materials should be reused where practical;	N/A. no existing materials have been sourced	Environmentally Preferable Products MR2.2
4. Building materials which may be reused or recycled upon building demolition should be selected;	Materials will be sourced, where possible, with recycled content	Environmentally Preferable Products MR2.2
5. A construction waste management plan should be developed and areas for the collection of recyclable materials during construction should be provided on site; and	A construction waste management plan will be developed and implemented throughout construction with a goal of diverting over 75% of waste generated.	Construction Waste Management MR3.1 and 3.2
6. Building products which have low, or no-VOC o -gassing potential should be selected.	Low VOC products to be sourced are: - Low VOC paints sealants - Low emitting carpet and composite wood	Environmentally Preferable Products MR2.2

Thank you,

Diana Klein

Diana Klein *P. Eng, LEED AP BD+C & Homes, CSBA*
Project Manager
Kane Consulting Partnership

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Wanson Development Ltd
950-1200 West 73rd Avenue
Vancouver, B.C.
V6P 3G5

March 18, 2015
File: 12742

Attention: Rosie Cindrich

Re: Geotechnical Investigation Report: Proposed Residential Development
467 Mountain Highway, North Vancouver, B.C.

1.0 INTORDUCTION

We understand that Wanson Development Ltd. is considering development of the above referenced property. Preliminary information provided indicates that the site would be redeveloped with 6 levels of wood framed construction over a 2 or 3 level below grade parkade. We anticipate reinforced concrete construction for below grade.

This report presents the results of a preliminary geotechnical investigation and provides recommendations for design and construction of the proposed development.

The report was prepared exclusively for Wanson Development Ltd. for their use and the use of others on their design and construction team. We assume that the report would be relied upon by the District of North Vancouver during their permit review process.

2.0 SITE DESCRIPTION

The site is trapezoidal in shape and measured around 40.2 m north to south and average of 42.9 m west to east. The site is bounded by Mountain Highway to the east, Charlotte Road to the south and neighboring properties to the north and west. The site is currently developed with an industrial building and on grade parking.

The location of the site and existing conditions is shown on the attached plan, Drawing 12742-1, following the text of this report.

3.0 FIELD INVESTIGATION

GeoPacific completed two test holes at the site on March 9, 2015. The site was investigated using a track mounted sonic drill rig supplied and operated by Mud Bay Drilling Co. Ltd. of Surrey, B.C. The drilling was done in areas accessible to the drilling rig and judged to be clear of services. The test holes were terminated at depths ranging from 8.8 to 10.1 metres below existing site grades. One groundwater monitoring wells were installed in TH15-01 to 9 m below existing grades.

The test holes were logged by a geotechnical engineer from our office and backfilled immediately following the completion of testing and logging. The approximate locations of the test holes with respect to the site boundaries are shown on our Drawing No. 12742-01 following the text of this report.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Conditions

According the Geological Survey of Canada Map 1484A, the surficial soils consist of channel deposited Salish Sediments of medium to coarse gravel and sand up to 15 metres thick, or more.

The subsurface conditions were observed to consist of approximately 0.6 m thin fills underlain by asphalt. The fill is underlain by a layer of compact sand fill in TH15-01 up to a depth of 1.2m. The Fill is underlain by dense sand and gravel up to the depth of 3 m, then sand and gravel became more gravely and dense causing difficult drilling and poor sample recovery. The sand and gravel to sandy gravel was observed to be grey in colour, moist and with varying cobble content.

Please refer to the test hole logs located in Appendix A for specific subsurface soil descriptions.

4.2 Groundwater Conditions

The static groundwater level was measured to be at a depth of approximately 5.6 metres below grade at monitoring well on March 12, 2015. Based on the proximity of the site to Seylynn Creek to the west, we expect that the groundwater levels to vary seasonally with the water level in the creek as well as with precipitation rates. A monitoring program is in place to measure the fluctuations in water.

5.0 DISCUSSION

5.1 General

We expect that the building will contain 2 levels of below grade parking and therefore founded at a depth of 6 m below grade. We further expect the proposed building will be constructed to, or near to, the property lines on all sides. Therefore, we expect that shoring will be required on all sides of the excavation.

The soil conditions at the site consist of some fill over dense to very dense sand and gravel (till-like). Our review of the ground conditions indicates that buildings can be founded on normal spread footings on very dense sand and gravel.

Based on the expected position of the water table, the construction of more than 2 levels of below grade parking would require special construction methods including a perimeter cut off wall and cemented base slab to control groundwater inflows. An emergency pressure relief system which would allow water to flow into the parkade under unusual high groundwater level conditions would be required. This requirement is due to the very high permeability of the subsurface granular deposits. Detailed recommendations for this option may be provided at a later date once additional groundwater data is collected.

We confirm, from a geotechnical point of view, that the proposed development is feasible provided the recommendations outlined in Sections 6.0 are incorporated into the overall design.

6.0 DESIGN RECOMMENDATIONS

6.1 Site Preparation

Prior to construction of foundations or floor slabs, all concrete, organic material, debris, and loose or otherwise disturbed soils must be removed from the construction areas to expose a subgrade of sand and Gravel. We expect that the depth of stripping will be dictated by the proposed foundation elevations rather than the quality of the soils on-site.

It is very important that the stripped subgrade should be blinded and protected by lean mix concrete to preserve their bearing qualities and that it remain dry and free of ponded water prior to pouring concrete for footings. Any soften, disturbed subgrade should be removed under a review of GeoPacific, and replaced with lean mix concrete with a minimum of 5.0 MPa compression strength beneath the foundations. Crushed gravel as described in Section 6.3 or engineered fill can be placed beneath the slab-on-grade only.

"Engineered Fill" is generally defined as clean sand to sand and gravel containing silt and clay less than 5% by weight, compacted in 300 mm loose lifts to a minimum of 95% of the ASTM D1557 (Modified Proctor) maximum dry density at a moisture content that is within 2% of optimum for compaction.

Based on our experience in the area cobbles and boulders should be anticipated in the till. These may require splitting to facilitate removal.

Site stripping must be reviewed by the geotechnical engineer prior to the placement of foundation concrete.

6.2 Foundations and Bearing Capacity

We expect that footings will be founded on sand and gravel which can provide satisfactory support for the proposed development on conventional strip and pad foundations. Footings which are founded on undisturbed sand and gravel may be designed on the basis of a serviceability limit state (SLS) bearing pressure of 400 kPa. Factored Ultimate Limit State (ULS) bearing pressures may be taken at 1.5 times the SLS bearing pressures provided.

For foundations designed based on our recommendations we expect that settlements should be limited to less than 25 mm total and 1:300 differential.

Irrespective of specified bearing pressures, footings should not be less than 450 mm in width for strip footings and not less than 600 mm in width for square or rectangular footings.

Foundation soil should be inspected by a member of our technical team prior to pouring concrete. In the event poor quality or disturbed soils are encountered at the proposed footing locations and elevations, it may be required to excavate through the unsuitable layer to a more competent layer below and reinstate the grade. For the bearing pressures provided, any grade reinstatement beneath the foundations must be carried out using lean mix concrete.

The geotechnical engineer shall be contacted for the review of all foundation subgrades.

6.3 Slab-On-Grade Floors

In order to provide suitable support for slab-on-grade floors we recommend that a 150 mm thick layer of engineered fill be placed under the slab. The fill should be 19 mm clear crushed gravel, with not more than 5% passing the #200 sieve and compacted to a minimum of 95% Standard Proctor (ASTM D698) maximum dry density with moisture content within 2% of optimum for compaction. The sub-slab gravel should be hydraulically connected to the perimeter drain.

Slab-on-grade fill compaction must be reviewed by the geotechnical engineer.

6.4 Seismic Design of Foundations

The soils at the site are dense coarse grained soils which are not liquefiable under the 2012 BC Building Code (BCBC) design earthquake. Thus, as defined in Section 4.1.8.4 of the 2012 BCBC the site qualifies as a "Site Class C" in accordance with Table 4.1.8.4.A. The peak ground acceleration (PGA) for 2% probability of exceedance in 50 years for the site is 0.448g based on the 2010 National Building Code Seismic Hazard Calculator.

6.5 Temporary Excavation, Shoring and Dewatering

Based on the expected foundation depth, shoring will be required for excavations near the property lines. Vertical cuts may be supported with the use of conventional shotcrete with pre-tensioned soil anchors. Due to the cohesionless nature of the existing soils the use of hollow core "IBO" anchors will likely be required for the majority of the excavation. IBO anchors are grouted continuously during drilling to form a continuous column of grout around the anchor bar. Conventional solid bar is not expected to be feasible due to the likely collapse of the anchor holes during drilling.

Some face saving measures may also be required due to the slumping of shoring panels that can occur in these soil conditions. We envision that these may include plywood or spiles. As well, preliminary grouting of the soils in panels prior to excavation may also be required to limit slumping.

Some excavation induced ground movements are unavoidable, irrespective of the shoring method used. Given the depth of excavation contemplated for this project, we expect movements at the perimeter of the excavation to be on the order of 10 to 15 mm at the excavation face, decreasing to half that within 3 m away from the excavation face. This magnitude of excavation induced ground movement is normally tolerable for in ground services on City property in sound structural condition as well as adjacent buildings.

Excavation below the watertable will encounter heavy seepage. The magnitude of that seepage will be a function of the depth below the water table, soil conditions encountered, and the size of the area excavated. The use of large sump pumps or well points may be considered to control groundwater levels. Where the area of excavation is large these dewatering methods may not be feasible and a groundwater cut off with, for example, jet grout may be required. District of North Vancouver regulations may also limit discharge volumes to the storm and sanitary sewer systems.

The geotechnical engineer shall be contacted for the review of shoring installation and temporary excavations.

6.7 Lateral Pressures on Foundation Walls

Lateral pressures against foundation walls are dependent on factors such as, available lateral restraint along the wall, method of construction, type of backfill, compaction of the backfill and drainage along the foundation wall.

The foundation wall is expected to be partially yielding and fully restrained between the parking floors and backfilled with a free draining granular soil. During the installation of the shoring wall, the wall is expected to partially yield, thereby mobilizing the full shear strength of the retained soil. The partial yielding of the wall causes a dilation of the retained soil, which in turn decreases the lateral stress against the foundation wall. The full development of the active condition is expected within the retained soil and can be assumed under these conditions.

We understand that the new buildings will have up to two levels of below grade construction. The earth pressure on these walls depends upon a number of factors including the backfill material, surcharge loads, backfill slope, drainage, rigidity of the basement or retaining wall, presence of shoring, and method of construction including sequence and degree of compaction. For a partially restrained basement wall designed for static pressure a pressure distribution should be employed of 4.0H (kPa) triangular above the groundwater table and 12.0H (kPa) triangular below the groundwater table, where H is the depth of the wall, in metres, below grade. Uplift at the base of the slab or raft should be taken as a uniform pressure of 9.8D, where D is the depth of the slab below the design groundwater elevation. For preliminary design, the watertable may be assumed to be at elevation +4.5 m. The design water table elevation shall be further evaluated based on the results of the groundwater monitoring program.

Dynamic loading induced by an earthquake should be added to the static triangular pressure distribution and should be taken as 2.8H (kPa) *inverted* triangular, where H is the depth of the wall, in metres, below grade.

We have assumed that a free draining back fill will be used behind the foundation walls and that a perimeter drainage system will also be employed to collect and direct water away from foundation walls. Therefore, our wall loading scenarios presented above assume that no water pressure will be generated above the groundwater level.

All earth pressures are based upon unfactored soil parameters and are assumed to be unfactored loads. Any additional surcharge loads located near the foundation walls should be added to the earth pressures given.

The geotechnical engineer should be contacted for the review of all backfill materials and procedures.

6.8 DESIGN REVIEWS AND CONSTRUCTION INSPECTIONS

The preceding sections make recommendations for the design and construction of the proposed development. We have recommended the review of certain aspects of the design and construction in this report. It is the responsibility of the contractor(s) undertaking the work to contact GeoPacific at least 24 hours in advance of construction for the required field reviews. In summary, reviews are required for the following construction activities.

1. Excavation	Review of temporary cut slopes and shoring.
2. Shoring	Review of shoring installation.
3. Foundation	Review of foundation subgrade.

4. Slab on-grade	Review of subgrade and under-slab fill materials and compaction.
5. Backfill	Review of backfill materials and placement against foundation walls.

It is important that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also important that any contractors working on the site review this document prior to commencing their work.

7.0 CLOSURE

This report is prepared solely for the use of our clients design and construction team for this project, as described, to the general standards of similar work for similar projects in this area and no other warranty of any kind is expressed or implied. GeoPacific Consultants Ltd. accepts no responsibility for any other use of this report.

We are pleased to assist you in this project and we trust this information is helpful and sufficient for your purposes at this time. However, please do not hesitate to contact the undersigned if you should require any clarification or additional details.

For:
GeoPacific Consultants Ltd.

Reviewed by:

MAR 1 8 2015

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
M. J. KOKAN
21364

Farshid Bateni, Ph.D., EIT,
Geotechnical Engineer-in-Training

Matt Kokan, M.A.Sc., P.Eng.
Principal

LEGEND:

TH15-# – TEST HOLE (TH) LOCATION
MW15-# – MONITORING WELL (MW) LOCATION

HOLE LOCATIONS ARE APPROXIMATE

SITE PLAN
SCALE = 1:5000

REFERENCE:

#215 -1200 West 73 rd Ave.
Vancouver, B.C.
Canada V6P 6G5
Ph (604) 439-0922
Fax (604) 439-9189
GeoPacific Consultants Ltd.

DATE:	March 17, 2015	
DRAWN BY: FB	APPROVED BY:	REVIEWED BY: MJK
SCALE:		

RESIDENTIAL DEVELOPMENT
467 Mountain Highway, North Vancouver, BC
SITE PLAN

FILE NO.: 12742
DWG. NO.: 12742-1

REVISIONS:
A.
B.
C.

ORIGINAL PAPER SIZE 8.5"x11"

APPENDIX A

BOREHOLE LOGS

Test Hole Log: TH15-01

File: 12742
Project: Proposed Residential Development
Client: Wanson Development Ltd
Site Location: 467 Mountain Highway, North Vancouver, B.C.

GeoPacific Consultants Ltd.
#215-1200 West 73rd Avenue, Vancouver, BC V6P 6G5
Tel: 604-439-0922 / Fax: 604-439-9189

Depth (ft / m)	Symbol	SOIL DESCRIPTION	Elevation (ft)	Moisture Content(%)	Well Data	Remarks
0 / 0		Ground Surface				
0		***Asphalt (1.5")***	0.5			
1		***Sand and Gravel (Fill)*** Compact Sand and Gravel, brown, moist.	1.2			
3 / 1		***Sand (Fill)*** Compact Sand,fine grain, ligth greyish brown,moist.				
6 / 2		***Sand and Gravel*** Dense Sand and gravel, some fines, some cobble, grey, moist.				
10 / 3		Increase cobble and fine content at 3.0m				
15 / 4		Increase moisture content at 5.2m				
17				4.6		
20 / 6						Water Level Reading March 12, 2015
29 / 9			8.8			
30 / 9		End of Borehole				

Well Data: Bentonite; Soil Cutting; Bentonite; Filter Sand

Logged: FB
Method: Sonic Drill
Date: March 09, 2015

Datum: Ground Elevation
Figure Number: A.01
Page: 1 of 1

Test Hole Log: TH15-02

File: 12742
Project: Proposed Residential Development
Client: Wanson Development Ltd
Site Location: 467 Mountain Highway, North Vancouver, B.C.

GeoPacific Consultants Ltd.
#215-1200 West 73rd Avenue, Vancouver, BC V6P 6G5
Tel: 604-439-0922 / Fax: 604-439-9189

Depth (ft / m)	Symbol	SOIL DESCRIPTION	Elevation (ft)	Moisture Content(%)	Well Data	Remarks
0 / 0		Ground Surface				
0		***Asphalt (1.5")***				
1		***Sand and Gravel (Fill)***	0.6			
2		Compact Sand and Gravel, brown, moist.				
3 / 1		***Sand and Gravel***				
4		Dense Sand and gravel, some fines, trace of cobble, grey, dry.		1.3		
5						
6		Became moist at 1.8m				
7 / 2						
8		Increase cobble, very dense and coarse grained at 3.0m		2.6		
9						
10 / 3		Increase moisture content at 4.0m				
11						
12						
13 / 4						
14						
15						
16 / 5						
17						
18				4.8		
19						
20 / 6						
21						
22						
23 / 7						
24						
25						
26 / 8						
27						
28						
29 / 9						
30						
31						
32 / 10						
33			10.4			
34		End of Borehole				
35						
36						

Logged: FB
Method: Sonic Drill
Date: March 09, 2015

Datum: Ground Elevation
Figure Number: A.02

APPENDIX B

LABORATORY TESTING RESULTS

GeoPacific Consultants Ltd.

MOISTURE CONTENT REPORT (ASTM D2216)

GEOPACIFIC CONSULTANTS LTD.
215-1200 West 73rd Avenue
Vancouver, B.C V6P 6G5
604-439-0922 lab@geopacific.ca

CLIENT:	WANSON DEVELOPMENT LTD	PROJECT #	12742
PROJECT NAME:	RESIDENTIAL DEVELOPMENT		
PROJECT LOCATION:	467 MOUNTAIN HIGHWAY, NORTH VANCOUVER		
SAMPLED BY:	FB	DATE SAMPLED:	9-Mar-15
TESTED BY:	LK	DATE TESTED:	9-Mar-15

Hole #:	TH15-01	TH15-02	TH15-02	TH15-02
Depth:	17'	4'	8'	18'
Moisture:	4.6%	1.3%	2.6%	4.8%

Hole #:				
Depth:				
Moisture:				

Hole #:				
Depth:				
Moisture:				

Hole #:				
Depth:				
Moisture:				

Hole #:				
Depth:				
Moisture:				

Hole #:				
Depth:				
Moisture:				

Comments:

Per: Lindsay Klopp, B.A.
Lab Technician

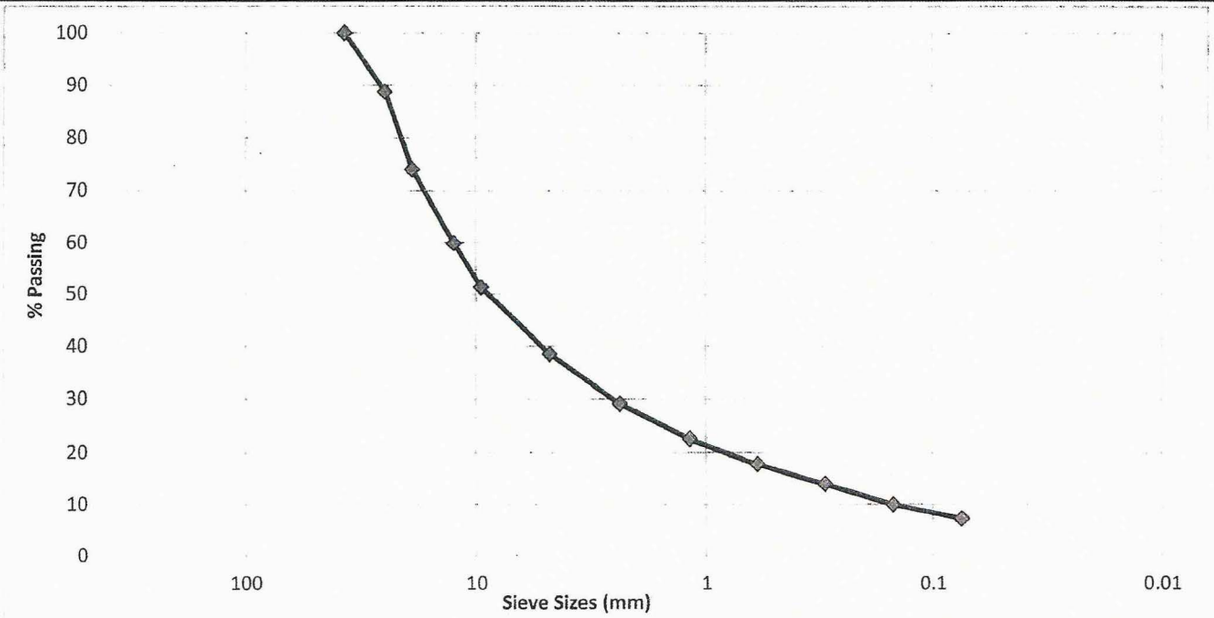
Reviewed by: Dion Lauriente, B.A.Sc., EIT
MAR 10 2015
Lab Manager

GeoPacific Consultants Ltd.

GEOPACIFIC CONSULTANTS LTD.
215-1200 West 73rd Avenue
Vancouver, B.C V6P 6G5
604-439-0922 lab@geopacific.ca

SIEVE ANALYSIS
(ASTM C136 and C117)

CLIENT:	WANSON DEVELOPMENT LTD	PROJECT #	12742
PROJECT NAME:	RESIDENTIAL DEVELOPMENT		
PROJECT LOCATION:	467 MOUNTAIN HIGHWAY, NORTH VANCOUVER		
SPECIFICATION:	N/A		
TYPE OF SAMPLE:	PIT RUN - GREY	METHOD:	COMBINED
SOURCE:	PROCESSED: na - SAND & GRAVEL	DATE SAMPLED:	9-Mar-15
TEST #:	TH15-02 18'	DATE TESTED:	9-Mar-15



COBBLE SIZES		% PASSING	GRADATION LIMITS	GRAVEL SIZES		% PASSING	GRADATION LIMITS	SAND SIZES		% PASSING	GRADATION LIMITS
(INCH)	(mm)			(INCH)	(mm)			(No.)	(mm)		
12	300			3	75			4	4.75	38.4	
10	250			2	50			8	2.36	29.0	
8	200			1.5	37.5	100.0		16	1.18	22.5	
6	150			1	25	88.8		30	0.6	17.7	
5	125			3/4	19	74.0		50	0.3	13.9	
4	100			1/2	12.5	59.8		100	0.15	9.9	
3.5	87.5			3/8	9.5	51.2		200	0.075	7.1	

Comments:

Per: Lindsay Klopp, B.A.
Lab Technician

MAR 10 2015

Reviewed by: Dion Lauriente, B.A.Sc., EIT
Lab Manager

CERTIFIED BY CCIL Canadian Council of Independent Laboratories
For specific tests as listed on www.ccil.com

Keystone Environmental
Knowledge-Driven Results

June 2, 2016

Wanson (Lynn Creek) Development Limited Partnership
950 – 1200 West 73rd Avenue
Vancouver, BC V6P 6G5
Attention: Rosie Cindrich

Via email: bsavage@savagedevelopmentmanagement.com

Dear Ms. Cindrich:

Re: Flood Construction Level Determination – Revision 1
467 Mountain Highway, North Vancouver, BC
Project No. 12689

We have prepared this letter for the determination of the Flood Construction Level (FCL) for the Wanson (Lynn Creek) Development Limited Partnership (Wanson) proposed development at 467 Mountain Highway, North Vancouver, BC (the Site).

The Site is located on the northwestern corner of Charlotte Road and Mountain Highway approximately 200 m to the east of Lynn Creek, and lies within the District of North Vancouver (DNV) *Creek Hazard Development Permit Area*, as shown on Map 2.2 of *Schedule B, Development Permit Areas*, part of Bylaw 7934, a bylaw to amend the District of North Vancouver Official Community Plan Bylaw 7900, 2011.

The following guidelines were used in the preparation of this report:

- BC Ministry of Environment (MoE): Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use – Guidelines for Management of Coastal Flood Hazard Land Use, January 27, 2011
- BC Ministry of Environment (MoE): Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use – Draft Policy Discussion Paper, January 27, 2011
- BC Ministry of Environment (MoE): Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use – Sea Dike Guidelines, January 27, 2011
- BC Ministry of Water, Land and Air Protection: Flood Hazard Area Land Use Management Guidelines, May 2004

Suite 320
4400 Dominion Street
Burnaby, British Columbia
Canada V5G 4G3

Telephone: 604 430 0671
Facsimile: 604 430 0672
info@KeystoneEnviro.com
KeystoneEnviro.com

Environmental Consulting
Engineering Solutions
Assessment & Protection

- Association of Professional Engineers and Geoscientists of BC (APEGBC): Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC, June 2012

Based on the comments provided by the DNV, the FCL is based on 0.6m above the site gutter line. The proposed gutter line (or bottom of curb elevation as referenced on the attached Landscape Plan by Durante Kreuk Ltd., dated December 9, 2015) along Mountain Highway and Charlotte Road ranges from 9.77 m and 10.77 m, with an average of 10.27 m for the entire site. Based on this information, the FCL is estimated to be 10.87 m.

CONCLUSION

The FCL for this site is estimated at 10.87 m geodetic. In accordance with the Creek Hazard Guidelines (Section 2) within Schedule B – Development Permit Areas, the proposed development should meet the following guidelines, with respect to the FCL:

> Section 2.C.2.f):
>
> *Development should not include habitable space below the flood construction level specified by the qualified professional except in accordance with recommendations made by a qualified professional and in compliance with these guidelines.*
>
> Section 2.C.2.h):
>
> *Development should not include the installation of any mechanical equipment or electrical wiring below the flood construction level except in accordance with recommendations made by a qualified professional and in compliance with these guidelines.*

Additional design considerations may also be required depending on the proposed development.

A completed *Appendix J: Flood Hazard and Risk Assurance Statement* from the APEGBC *Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC* (2012), is attached to this letter.

STUDY LIMITATIONS

Findings presented in this report were based on the referenced guidelines, the KWL report and information provided by the District of North Vancouver. This report has been prepared for Wanson (Lynn Creek) Development Limited Partnership and the District of North Vancouver pursuant to the agreement between Keystone Environmental Ltd. and Wanson (Lynn Creek) Development Limited Partnership. By using this letter report, Wanson (Lynn Creek) Development Limited Partnership and the District of North Vancouver agree that they will review the letter report in its entirety. A copy of the general terms and conditions associated with this

agreement is attached at the end of this report. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

We trust this is the information you require at this time. Please contact us should you have any questions.

Sincerely,

Keystone Environmental Ltd.

Original signed by

Thuy Wong, P.Eng.
Project Manager

Original signed by

Francisco A. Perelló, Ph.D., P.Eng.
Partner

I:\12600-12699\12689\12689 160602 Updated FCL Report.docx

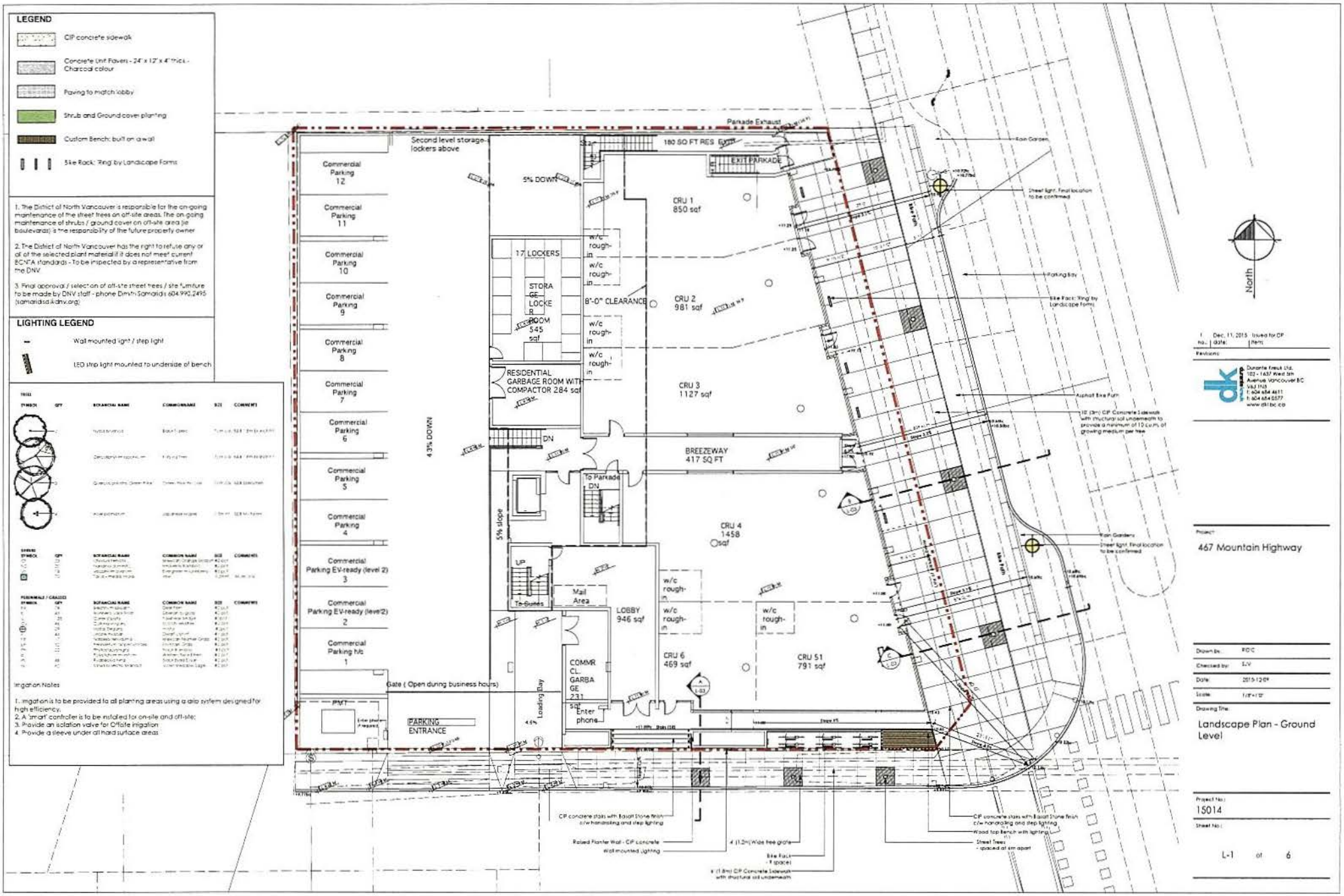
ATTACHMENTS:

- Attachment A - Landscape Plan – Ground Level, Sheet No. L-1 of 6, by Duarante Kreuk Ltd., dated December 9, 2015
- Attachment B – APEGBC Appendix J: Flood Hazard and Risk Assurance Statement
- Keystone Environmental Ltd. General Terms and Conditions for Services

ATTACHMENT A

LANDSCAPE PLAN

Keystone Environmental
Knowledge-Driven Results


LEGEND
CIP concrete sidewalk
Concrete Unit Pavers - 24" x 12" x 4" thick - Charcoal colour
Paving to match lobby
Shrub and Ground cover planting
Custom Bench: built on a wall
Bike Rack: 'Ring' by Landscape Forms
1. The District of North Vancouver is responsible for the on-going maintenance of the street trees on off-site areas. The on-going maintenance of shrubs / ground cover on off-site area (ie boulevards) is the responsibility of the future property owner
2. The District of North Vancouver has the right to refuse any or all of the selected plant material if it does not meet current BCNTA standards - To be inspected by a representative from the DNV
3. Final approval / selection of off-site street trees / site furniture to be made by DNV staff - phone Dimitri Samaridis 604.990.2495 (samaridisd@dnv.org)
LIGHTING LEGEND
Wall mounted light / step light
LED strip light mounted to underside of bench
Irrigation Notes
1. Irrigation is to be provided to all planting areas using a drip system designed for high efficiency.
2. A 'smart' controller is to be installed for on-site and off-site;
3. Provide an isolation valve for Offsite irrigation
4. Provide a sleeve under all hard surface areas
Second level storage-lockers above
Commercial Parking 12
Commercial Parking 11
Commercial Parking 10
Commercial Parking 9
Commercial Parking 8
Commercial Parking 7
Commercial Parking 6
Commercial Parking 5
Commercial Parking 4
Commercial Parking EV-ready (level 2) 3
Commercial Parking EV-ready (level 2) 2
Commercial Parking h/c 1
5% DOWN
17 LOCKERS
STORAGE LOCKER ROOM 545 saf
RESIDENTIAL GARBAGE ROOM WITH COMPACTOR 284 saf
4.3% DOWN
5% slope
180 SQ FT RES
EXIT PARKADE
CRU 1 850 saf
8'-0" CLEARANCE
CRU 2 981 saf
CRU 3 1127 saf
BREEZEWAY 417 SQ FT
To Parkade DN
CRU 4 1458 saf
UP
To Suites
Mail Area
LOBBY 946 saf
COMMERCIAL GARBAGE 231 saf
CRU 6 469 saf
CRU 51 791 saf
Enter phone
Gate (Open during business hours)
Loading Bay
PMT
PARKING ENTRANCE
Parkade Exhaust
Rain Garden
Street light. Final location to be confirmed
Parking Bay
Bike Rack: 'Ring' by Landscape Forms
Asphalt Bike Path
10' (3m) CIP Concrete Sidewalk with structural soil underneath to provide a minimum of 12 cu.m. of growing medium per tree
Rain Gardens
Street light. Final location to be confirmed
CIP concrete stairs with Basalt Stone finish c/w handrailing and step lighting
Raised Planter Wall - CIP concrete
Wall mounted Lighting
4' (1.2m) Wide free grate
Bike Rack - 9 spaces
6' (1.8m) CIP Concrete Sidewalk with structural soil underneath
CIP concrete stairs with Basalt Stone finish c/w handrailing and step lighting
Wood top bench with lighting
Street Trees - spaced at 6m apart
North
1 Dec. 11, 2015 Issued for DP
no. | date: | item
Revisions:
Durante Kreuk Ltd.
102 - 1637 West 5th Avenue Vancouver BC V6J 1N5
t: 604 684 4611
f: 604 684 0577
www.dkl.bc.ca
Project:
467 Mountain Highway
Drawn By: RDC
Checked by: SJV
Date: 2015-12-09
Scale: 1/8"=1'0"
Drawing Title:
Landscape Plan - Ground Level
Project No.:
15014
Sheet No.:
L-1 of 6

ATTACHMENT B

APEGBC APPENDIX J: FLOOD HAZARD AND RISK ASSURANCE STATEMENT

Keystone Environmental
Knowledge-Driven Results

APPENDIX J: *FLOOD HAZARD* AND *RISK* ASSURANCE STATEMENT

Note: This Statement is to be read and completed in conjunction with the "*APEGBC Professional Practice Guidelines - Legislated Flood Assessments in a Changing Climate*, March 2012 ("*APEGBC* Guidelines") and is to be provided for *flood assessments* for the purposes of the *Land Title Act*, Community Charter or the *Local Government Act*. Italicized words are defined in the *APEGBC* Guidelines.

To: The *Approving Authority* Date: MAY 30, 2016

DISTRICT OF NORTH VANCOUVER

Jurisdiction and address

With reference to (check one):

- ☐ Land Title Act (Section 86) – Subdivision Approval
- ☐ Local Government Act (Sections 919.1 and 920) – Development Permit
- ☐ Community Charter (Section 56) – Building Permit
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Variance
- ☐ Local Government Act (Section 910) – Flood Plain Bylaw Exemption

For the Property: 467 MOUNTAIN HIGHWAY, NORTH VANCOUVER, BC

Legal description and civic address of the Property

The undersigned hereby gives assurance that he/she is a *Qualified Professional* and is a *Professional Engineer* or *Professional Geoscientist*.

I have signed, sealed and dated, and thereby certified, the attached flood assessment report on the Property in accordance with the APEGBC Guidelines. That report must be read in conjunction with this Statement. In preparing that report I have:

Check to the left of applicable items

- ✓ 1. Collected and reviewed appropriate background information
- ✓ 2. Reviewed the proposed *residential development* on the Property
- ✓ 3. Conducted field work on and, if required, beyond the Property
- ✓ 4. Reported on the results of the field work on and, if required, beyond the Property
- ✓ 5. Considered any changed conditions on and, if required, beyond the Property
- 6. For a *flood hazard* analysis or *flood risk* analysis I have:
  - ___ 6.1 reviewed and characterized, if appropriate, floods that may affect the Property
  - ___ 6.2 estimated the *flood hazard* or *flood risk* on the property
  - ___ 6.3 included (if appropriate) the effects of climate change and land use change
  - ___ 6.4 identified existing and anticipated future *elements at risk* on and, if required, beyond the Property
  - ___ 6.5 estimated the potential *consequences* to those *elements at risk*
- 7. Where the *Approving Authority* has adopted a specific level of *flood hazard* or *flood risk* tolerance or return period that is different from the standard 200-year return period design criteria[1], I have
  - ___ 7.1 compared the level of *flood hazard* or *flood risk* tolerance adopted by the *Approving Authority* with the findings of my investigation
  - ___ 7.2 made a finding on the level of *flood hazard* or *flood risk* tolerance on the Property based on the comparison
  - ___ 7.3 made recommendations to reduce the *flood hazard* or *flood risk* on the Property

[1] *Flood Hazard Area Land Use Management Guidelines* published by the BC Ministry of Forests, Lands , and Natural Resource Operations and the 2009 publication *Subdivision Preliminary Layout Review – Natural Hazard Risk* published by the Ministry of Transportation and Public Infrastructure. It should be noted that the 200-year return period is a standard used typically for rivers and purely fluvial processes. For small creeks subject to debris floods and debris flows return periods are commonly applied that exceed 200 years. For life-threatening events including debris flows, the Ministry of Transportation and Public Infrastructure stipulates in their 2009 publication *Subdivision Preliminary Layout Review – Natural Hazard Risk* that a 10,000-year return period needs to be considered.

8. Where the *Approving Authority* has **not** adopted a level of *flood risk* or *flood hazard* tolerance I have:

___8.1 described the method of *flood hazard* analysis or *flood risk analysis* used

___8.2 referred to an appropriate and identified provincial or national guideline for level of *flood hazard* or *flood risk*

___8.3 compared this guideline with the findings of my investigation

___8.4 made a finding on the level of *flood hazard* of *flood risk* tolerance on the Property based on the comparison

___8.5 made recommendations to reduce *flood risks*

___9. Reported on the requirements for future inspections of the Property and recommended who should conduct those inspections.

Based on my comparison between

Check one

☑ the findings from the investigation and the adopted level of *flood hazard* or *flood risk* tolerance (item 7.2 above)

☐ the appropriate and identified provincial or national guideline for level of *flood hazard* or *flood risk* tolerance (item 8.4 above)

I hereby give my assurance that, based on the conditions contained in the attached flood assessment report,

Check one

☐ for subdivision approval, as required by the *Land Title Act* (Section 86), "that the land may be used safely for the use intended".

Check one

☐ with one or more recommended registered *covenants*.

☐ without any registered *covenant*.

☑ for a development permit, as required by the *Local Government Act* (Sections 919.1 and 920), my report will "assist the local government in determining what conditions or requirements under [Section 920] subsection (7.1) it will impose in the permit".

☐ for a building permit, as required by the Community Charter (Section 56), "the land may be used safely for the use intended".

Check one

☐ with one or more recommended registered *covenants*.

☐ without any registered *covenant*.

☐ for flood plain bylaw variance, as required by the *Flood Hazard Area Land Use Management Guidelines* associated with the *Local Government Act* (Section 910), "the development may occur safely".

☐ for flood plain bylaw exemption, as required by the *Local Government Act* (Section 910), "the land may be used safely for the use intended".

Name (print) Francisco Perello

Signature

Date MAY 30 2016

Suite 320 - 4400 Dominion St

Address

Burnaby V5G 4G3

604 430 0671

Telephone

(Affix Professional seal here)

If the *Qualified Professional* is a member of a firm, complete the following.

I am a member of the firm Keystone Environmental Ltd.
and I sign this letter on behalf of the firm. (Print name of firm)

KEYSTONE ENVIRONMENTAL LTD.
GENERAL TERMS AND CONDITIONS FOR SERVICES

Keystone Environmental
Knowledge-Driven Results

KEYSTONE ENVIRONMENTAL LTD.
GENERAL TERMS AND CONDITIONS FOR SERVICES

The terms and conditions set forth below govern all work or services requested by CLIENT as described and set forth in the Proposal and/or Work Plan of Keystone Environmental Ltd. ("Keystone Environmental "), any Purchase Order issued by CLIENT or Agreement between Keystone Environmental and CLIENT. The provisions of said Proposal or Agreement govern the scope of services to be performed, including the time schedule, compensation, and any other special terms. The terms and conditions contained herein shall otherwise apply expressly stated to the contract including any terms in addition to or inconsistent with said Proposal or Agreement.

1. **COMPENSATION**

The fees for services provided by Keystone Environmental consists of: (1) an hourly billing rate for any staff member actively working on a project, except for lump-sum or percent of construction fee basis projects; (2) reimbursement of direct expenses; (3) reimbursement of subcontractor's and other special costs; and (4) use and rental charges for equipment. Invoices covering these charges and expenses will be submitted for payment on a monthly basis, unless other arrangements have been agreed upon in writing.

All time, including traveling hours, spent on the project by Keystone Environmental personnel will be invoiced. Overtime incurred by and paid to personnel may be invoiced at a rate of 1.2 times the hours worked, if so stipulated in the proposal and/or work plan. Unless a lump-sum bid is submitted or percent of construction fee basis used, any cost estimate presented in the proposal and/or work plan is for budgetary purposes only and is not a fixed lump-sum bid. If it becomes apparent that the budgetary estimate is not sufficient to complete the project in a satisfactory manner, the client will be advised before the budgetary estimate is exceeded.

REIMBURSABLE EXPENSES

(a) The following expenses will be invoiced at cost plus 15% to cover overhead:
   (i) Travel expenses including airfare, rental vehicles, personal vehicles at $0.55/km for less than 5,000 kms and $0.49/km for 5,000 kms and over, subsistence and lodging.
   (ii) Shipping/storage charges and costs for expendable sampling and field supplies.
   (iii) Communications costs, including telephone and mailing costs including courier services.
   (iv) All project-related purchases including subcontractor costs, laboratory charges, material fees, duties, deposits, equipment purchases, third party equipment rentals and other outside costs incurred specifically for the project.

(b) The following expenses will be invoiced at the rates which follow:
   (i) Field and reproduction equipment in accordance with our Equipment Rate Schedule.
   (ii) Photocopying at $ 0.15 per copy.
   (iii) Engineering and specialty software services will be invoiced at $20.00/connect hour as stipulated in the proposal and/or work plan

GST/HST paid on expenses and disbursements by Keystone Environmental is not included in invoiced costs. GST/HST will be added to all invoices other than invoices sent to GST/HST exempt Clients

Payment shall be provided by money transfer, cheque, or, if with prior approval by Keystone Environmental, Master Card or Visa. A surcharge of 3% may be added to payments by MasterCard or Visa if the payment amount exceeds $3,000.00. Fees shall be paid in advance if stipulated in the proposal and/or work plan. Where payment in advance is not stipulated in the proposal and/or work plan, progress invoices will be issued monthly and are to be paid within 30 days of the invoice date. Subcontractor billings are payable upon presentation. A finance charge of 1.5% per month (19.6% per annum) may be charged on past due accounts. Payment of Keystone Environmental invoices shall be in Canadian currency.

CLIENT agrees to compensate Keystone Environmental in accordance with the total fee as stipulated in Keystone Environmental's proposal and/or work plan.

Keystone Environmental may, at its sole discretion, withhold work products at any time that accounts are past due and until accounts are paid in full. Keystone Environmental may also, at its sole discretion, stop work at any time accounts are past due.

In the event that Keystone Environmental shall take collection or legal action for the recovery of the payment of outstanding accounts, Keystone Environmental shall be entitled to recover all collection and legal fees and expenses incurred by it with respect to such action.

2. **INDEPENDENT CONTRACTOR**
Keystone Environmental shall be an independent contractor and shall be fully independent in performing the services of work and shall not act or hold themselves out as an agent, servant or employee of CLIENT.

3. **KEYSTONE ENVIRONMENTAL'S LIMITED WARRANTY**
The sole and exclusive warranty which Keystone Environmental makes with respect to the services to be provided in the performance of the work is that they shall be performed in accordance with generally accepted professional practices.

In the event Keystone Environmental's performance of work, or any portion thereof, fails to conform to the above stated limited warranty, Keystone Environmental shall, at its discretion and its expense, proceed expeditiously to repertory the nonconforming, or upon the mutual agreement of the parties, refund the amount of compensation paid to Keystone Environmental for such nonconforming work. In no event shall Keystone Environmental be required to bear the cost of gaining access in order to perform its warranty obligations.

4. **CLIENT WARRANTY**
CLIENT warrants that: it will provide to Keystone Environmental all available information regarding the site, including underground structures and utilities, facilities, buildings, and land involved with the work and that such information shall be true and correct and that it has title to or will provide right of entry or access to all property necessary to perform the work. The Client shall provide all licenses and permits required for the work, unless otherwise stated in the proposal and/or work plan,

5. **INDEMNITY**
a. Subject to the limitations of Section 7 below, Keystone Environmental agrees to indemnify, defend and hold harmless CLIENT (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including reasonable legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, to the extent caused by or arising out of: (i) Keystone Environmental's errors or omissions or (ii) negligence on the part of Keystone Environmental in performing services hereunder.

b. CLIENT agrees to indemnify and hold harmless Keystone Environmental (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, and the costs and expenses incident thereto (including legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, caused by, or arising out of in whole or in part: (i) any negligence or willful misconduct of CLIENT, (ii) any breach of CLIENT of any warranties or other provisions hereunder, (iii) any condition including, but not limited to, contamination existing at the site, or (iv) contamination of other property arising or alleged to arise from or be related to the site provided, however, that such indemnification shall not apply to the extent any losses, damages, liabilities or expenses result from or arise out of: (i) any negligence or willful misconduct of Keystone Environmental; or(ii) any breach of Keystone Environmental of any warranties hereunder.

6. **LIMITATION OF LIABILITY**
Keystone Environmental's total liability, whether arising from or based upon breach of warranty, breach of contract, tort, including Keystone Environmental's negligence, strict liability, indemnity or any other cause of basis whatsoever, is expressly limited to the limits of Keystone Environmental's insurance coverage. This provision limiting Keystone Environmental's liability shall survive the termination, cancellation or expiration of any contract resulting from this Proposal and the completion of services thereunder. After three (3) years of completion of Keystone Environmental's services, any legal costs arising to defend third party claims made against Keystone Environmental in connection with the project defined in the Proposal or Agreement will be paid in full by the CLIENT.

7. **INSURANCE**
Keystone Environmental, during performance of this Agreement, will at its own expense carry Worker's Compensation Insurance within limits required by law; Comprehensive General Liability Insurance for bodily injury and for property damage; Professional Liability Insurance for errors omissions and negligence; and Comprehensive Automobile Liability Insurance for bodily injury and property damage. At CLIENT'S request, Keystone Environmental shall provide a Certificate of Insurance demonstrating Keystone Environmental's compliance with this section. Such Certificate of Insurance shall provide that said insurance shall not be cancelled or materially altered until at least ten (10) days after written notice to CLIENT.

8. **CONFIDENTIALITY**

Each party shall retain as confidential all information and data furnished to it by the other party which relate to the other party's technologies, formulae, procedures, processes, methods, trade secrets, ideas, improvements, inventions and/or computer programs, which are designated in writing by such other party as confidential at the time of transmission and are obtained or acquired by the receiving party in connection with work or services performed subject to this Proposal or Agreement, and shall not disclose such information to any third party.

However, nothing herein is meant to prevent nor shall it be interpreted as preventing either Keystone Environmental or CLIENT from disclosing and/or using said information or data; (i) when the information or data is actually known to the receiving party before being obtained or derived from the transmitting party; or (ii) when the information or data is generally available to the public without the receiving party's fault; or (iii) where the information or data is obtained or acquired in good faith at any time by the receiving party from a third party who has the right to disclose such information or data; or (iv) where a written release is obtained by the receiving party from the transmitting party; or (v) as required by law.

9. **PROTECTION OF INFORMATION**

Keystone Environmental specifically disclaims any warranties expressed or implied and does not make any representations regarding whether any information associated with conducting the work, including the report, can be protected from disclosure in responses to a request by a federal, provincial or local government agency, or in response to discovery or other legal process during the course of any litigation involving Keystone Environmental or CLIENT. Should Keystone Environmental receive such request from a third party, it will immediately advise CLIENT.

10. **FORCE MAJEURE**

Neither party shall be responsible or liable to the other for default or delay in the performance of any of its obligations hereunder (other than the payment of money for services already rendered) caused in whole or in part by strikes or other labour difficulties or disputes; governmental orders or regulations; war, riot, fire, explosion; acts of God; acts of omissions of the other party; any other like causes; or any other unlike causes which are beyond the reasonable control of the respective party.

In the event of delay in performance due to any such cause, the time for completion will be extended by a period of time reasonably necessary to overcome the effect of the delay. The party so prevented from complying shall within a reasonable time of its knowledge of the disability advise the other party of the effective cause, the performance suspended or affected and the anticipated length of time during which performance will be prevented or delayed and shall make all reasonable efforts to remove such disability as soon as possible, except for labour disputes, which shall be solely within said party's discretion. The party prevented from complying shall advise the other party when the cause of the delay or default has ended, the number of days which will be reasonably required to compensate for the period of suspension and the date when performance will be resumed. Any additional costs or expense accruing or arising from the delaying event shall be solely for the account of the CLIENT.

11. **NOTICE**

Any notice, communication, or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or sent by facsimile, wire, or certified mail, return receipt requested, postage prepaid, to the address of the party set forth below, or to such address for either party as the party may be written notice designate.

12. **ASSIGNMENT/SUBCONTRACT**

Neither party hereto shall assign this Agreement or any part thereof nor any interest therein without the prior written approval of the other party hereto except as herein otherwise provided. Keystone Environmental shall not subcontract the performance of any work hereunder without the written approval of CLIENT. Subject to the foregoing limitation, the Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the parties hereto.

13. **ESTIMATES**

To the extent the work requires Keystone Environmental to prepare opinions of probable cost, for example, opinions of probable cost for the cost of construction, such opinions shall be prepared in accordance with generally accepted engineering practice and procedure. However, Keystone Environmental has no control over construction costs, competitive bidding and market conditions, costs of financing, acquisition of land or rights-of-way and Keystone Environmental does not guarantee the accuracy of such opinion of probable cost as compared to actual costs or contractor's bid.

14. **DELAYED AGREEMENTS AND OBLIGATIONS**

The performance by Keystone Environmental of its obligations under this Agreement depends upon the CLIENT performing its obligations in a timely manner and cooperating with Keystone Environmental to the extent reasonably required for completion of the Work. Delays by CLIENT in providing information or approvals or performing its obligations set forth in this Agreement may result in an appropriate adjustment of contract price and schedule.

15. **CONSTRUCTION PHASE**

To the extent the work is related to or shall be followed by construction work not performed by Keystone Environmental, Keystone Environmental shall not be responsible during the construction phase for the construction means, methods, techniques, sequences or procedures of construction contractors, or the safety precautions and programs incident thereto, and shall not be responsible for the construction contractor's failure to perform the work in accordance with the contract documents. Keystone Environmental will not direct, supervise or control the work of the CLIENT'S contractors or the CLIENT'S subcontractors.

16. **DOCUMENTATION, RECORDS, AUDIT**

Keystone Environmental when requested by CLIENT, shall provide CLIENT with copies of all documents relating to the service(s) of work performed. Keystone Environmental shall retain true and correct records in connection with each service and/or work performed and all transactions related thereto and shall retain all such records for twelve (12) months after the end of the calendar year in which the last service pursuant to this Agreement was performed. CLIENT, at its expense and upon reasonable notice, may from time to time during the term of this Agreement, and at any time after the date the service(s) were performed up to twelve (12) months after the end of the calendar year in which the last service(s) were performed, audit all records of Keystone Environmental in connection with all costs and expenses which it was invoiced.

17. **REPORTS, DOCUMENTS AND INFORMATION**

All field data, field notes, laboratory test data, calculations, estimates and other documents prepared by Keystone Environmental in performance of the work shall remain the property of Keystone Environmental. If required as part of the work, Keystone Environmental shall prepare a written report addressing the items in the work plan including the test results. Such report shall be the property of CLIENT, Keystone Environmental shall be entitled to retain one hard copy and electronic copy of such report for its internal use and reference.

Reports will be delivered to the client in electronic (PDF) format.

All drawings and documents produced under the terms of this Agreement are the property of Keystone Environmental, and cannot be used for any reason other than to bid and construct the project as described in the Proposal or Agreement.

18. **LIMITED USE OF REPORT**

Any report prepared as part of the work will be prepared solely for the internal use of CLIENT. Unless otherwise agreed by Keystone Environmental and CLIENT, parties agree that third parties are not to rely upon the report.

19. **SAMPLE MANAGEMENT**

Ownership of all samples obtained by Keystone Environmental from the project site is maintained by the CLIENT. Keystone Environmental or its laboratory sub-contractor will store such samples in a professional manner in a secure area for the period of time necessary to complete the project. Upon completion of the project, Keystone Environmental disposes of the samples in a lawful manner.

20. **ACKNOWLEDGMENT AND RECOGNITION OF RISK**

CLIENT recognizes and accepts the work to be undertaken by Keystone Environmental may involve unknown undersurface conditions and hazards. CLIENT further recognizes that environmental, geologic, hydrological, and geotechnical conditions can and may vary from those encountered by Keystone Environmental at the times and locations where it obtained data and information and that limitations on available data may result in some uncertainty with respect to the interpretation of these conditions. CLIENT recognizes that the performance of services hereunder or the implementation of recommendations made by Keystone Environmental in completing the work required may alter the existing site conditions and affect the environment in the site area.

Unknown undersurface conditions, including underground utility services, tanks, pipes, cables and other works (Underground Works) may be present at the site. Keystone Environmental will conduct utility locates to obtain available information regarding the location of Underground Works in accordance with industry practice. Utility locates are not a guarantee of the location of, or existence of, Underground Works and as a result damage to Underground Works may occur. Keystone Environmental relies on utility locates and Client provided "as-built" and record drawings to determine the location and existence of Underground

Works. CLIENT recognizes that the use of utility locates is not a guarantee or warranty that Underground Works may not be damaged and acknowledges that Keystone Environmental is not responsible for any damage caused to Underground Works or the repair of such damage or any resulting or related damage and any costs related to such damage.

21. DISPOSAL OF CONTAMINATED MATERIAL

It is understood and agreed that Keystone Environmental is not, and has no responsibility as, a generator, operator or storer of pre-existing hazardous substances or wastes found or identified at work sites. Keystone Environmental shall not directly or indirectly assume title to such hazardous or toxic substances and shall not be liable to third parties.

CLIENT will indemnify and hold harmless Keystone Environmental from and against all incurred losses, damages, costs and expenses, including but not limited to attorneys' fees, arising or resulting from actions brought by third parties alleging or identifying Keystone Environmental as a generator, operator, storer or owner of pre-existing hazardous substances or wastes found or identified at work sites.

22. SUSPENSION OR TERMINATION

In the event the work is terminated or suspended by CLIENT prior to the completion of the services contemplated hereunder, Keystone Environmental shall be paid for: (i) the services rendered to the date of termination or suspension, (ii) the demobilization costs, and (iii) the costs incurred with respect to non-cancelable commitments.

23. GOVERNING LAW

This Agreement shall be governed by and interpreted pursuant to the laws of the Province of British Columbia.

24. HEADINGS AND SEVERABILITY

Any heading proceeding the text of sections hereof is inserted solely for convenience or reference and shall not constitute a part of the Agreement and shall not affect the meanings, context, effect or construction of the Agreement. Every part, term or provision of this Agreement is severable from others. Notwithstanding any possible future finding by duly constituted authority that a particular part, term or provision is invalid, void or unenforceable, this Agreement has been made with the clear intention that the validity and enforceability of the remaining parts, terms and provision shall not be affected thereby.

25. ENTIRE AGREEMENT

The terms and conditions set forth herein constitute the entire Agreement and understanding or the parties relating to the provision of work or services by Keystone Environmental to CLIENT, and merges and supersedes all prior agreements, commitments, representation, writings, and discussions between them and shall be incorporated in all work orders, purchase orders and authorization unless otherwise so stated therein. The terms and conditions may be amended only by written instrument signed by both parties.

SCHEDULE 1
Site Profile

Version 4.0

Introduction

Under section 40 of the *Environmental Management Act*, a person who knows or reasonably should know that a site has been used or is used for industrial or commercial purposes or activities must in certain circumstances provide a site profile.

Schedule 2 of the Contaminated Sites Regulation sets out the types of industrial or commercial purposes or activities to which site profile requirements apply.

If section 40 of the Environmental Management Act applies to you and you know or reasonably should know that the site has been used or is used for one of the purposes or activities found in Schedule 2 of the Contaminated Sites Regulation, you may be required to complete the attached site profile.

Notes/Instructions:

Persons preparing a site profile *must* complete Section I, II and III, answer all questions in sections IV through IX, and sign section XI. If the site profile is not satisfactorily completed, it will not be processed under the *Environmental Management Act* and the Contaminated Sites Regulation. Failure to complete the site profile satisfactorily may result in delays in approval of relevant applications and in the postponement of decisions respecting the property.

The person completing this site profile is responsible for the accuracy of the answers. Questions must be answered *to the best of your knowledge.*

Section 27 (1) of the *Freedom of Information and Protection of Privacy Act* requires that provision of personal information concerning an individual must be authorized by that individual. Persons completing the site profile on behalf of the site owner must be authorized by the site owner.

One (1) site profile may be completed for a site comprised of more than one titled or untitled parcel, but individual parcels must be identified.

The latitude and longitude (accurate to 0.5 of a second using North American Datum established in 1983) of the centre of the site must be provided. Also, please attach an accurate map, containing latitude, longitude and datum references, which shows the boundaries of the site in question. Please use the largest scale map available.

If the property is legally surveyed, titled and registered, then all PID numbers (**P**arcel **ID**entifiers – Land Title Registry system) must be provided for *each* parcel as well as the appropriate legal description.

If the property is untitled Crown land (no PID number), then the appropriate PIN numbers (**P**arcel **I**dentification **N**umbers – Crown Land registry system) for each parcel with the appropriate land description should be supplied.

If available, the Crown Land File Number for the site should also be supplied.

Anything submitted in relation to this site profile will become part of the public record and may be made available to the public through the Site Registry as established under the *Environmental Management Act.*

Under section 43 of the *Environmental Management Act,* corporate and personal information contained in the site profile may be made available to the public through the Site Registry. If you have questions concerning the collection of this information, contact the Site Registrar, at site@gov.bc.ca. For questions on site profiles, please send a message to siteprofiles@gov.bc.ca.

I CONTACT IDENTIFICATION

A. Name of Site Owner:

Last_____ First_____ Middle Initial(s) _____ (and/or, if applicable)

Company Carnarvon N.S. Properties Ltd.

Owner's Civic Address 3527 West 35th Avenue.

City Vancouver Province/State BC

Country Canada. Postal Code/ZIP V6N - 2N4

B. Person Completing Site Profile (Leave blank if same as above):

Last Savage First Barry Middle Initial(s) D. (and/or, if applicable)

Company Savage Development Management Ltd.

C. Person to Contact Regarding the Site Profile:

Last Savage First Barry Middle Initial(s) D. (and/or, if applicable)

Company Savage Development Management Ltd.

Mailing Address 2919 Altamont Crescent

City West Vancouver Province/State BC

Country Canada Postal Code/ZIP V7V - 3B9.

Telephone (604) 505 - 8818 Fax (_____) _____ - _____

II SITE IDENTIFICATION

Please attach a site location map

All Property

Coordinates (using the North American Datum 1983 convention) for the centre of the site:

Latitude: Degrees 49 Minutes 18 Seconds 36

Longitude: Degrees 123 Minutes 01 Seconds 58.3.

Please attach a map of appropriate scale showing the boundaries of the site.

For Legally Titled, Registered Property

Site Street Address (if applicable) 467 Mountain Highway

City North Vancouver, Postal Code V7J - 2L3.

PID numbers and associated legal descriptions. ***Attach an additional sheet if necessary.***

PID	Legal Description
008-067-856	Lot 2 (Explanatory Plan 15163), Block J, DL 613, Plan 10064

Total number of titled parcels represented by this site profile is: 1

For Untitled Crown Land

PIN numbers and associated Land Description. ***Attach an additional sheet if necessary.***

PIN	Land Description

Total number of untitled crown land parcels represented by this site profile is: 0

(and, if available)

Crown land file numbers. ***Attach an additional sheet if necessary.***

III COMMERCIAL AND INDUSTRIAL PURPOSES OR ACTIVITIES

Please indicate below, in the format of the example provided, which of the industrial and commercial purposes and activities from Schedule 2 have occurred or are occurring on this site.

EXAMPLE

Schedule 2 Reference	Description
E1	appliance, equipment or engine repair, reconditioning, cleaning or salvage
F10	solvent manufacturing or wholesale bulk storage

Please print legibly. Attach an additional sheet if necessary

Schedule 2 Reference	Description
	None.

IV	AREAS OF POTENTIAL CONCERN		
	Is there currently or to the best of your knowledge has there previously been on the site any (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	Petroleum, solvent or other polluting substance spills to the environment greater than 100 litres?		✓
B.	Residue left after removal of piled materials such as chemicals, coal, ore, smelter slag, air quality control system baghouse dust?		✓
C.	Discarded barrels, drums or tanks?		✓
D.	Contamination resulting from migration of substances from other properties?		✓
V	**FILL MATERIALS**		
	Is there currently or to the best of your knowledge has there previously been on the site any deposit of (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	Fill dirt, soil, gravel, sand or like materials from a contaminated site or from a source used for any of the activities listed under Schedule 2?		✓
B.	Discarded or waste granular materials such as sand blasting grit, asphalt paving or roofing material, spent foundry casting sands, mine ore, waste rock or float?		✓
C.	Dredged sediments, or sediments and debris materials originating from locations adjacent to foreshore industrial activities, or municipal sanitary or stormwater discharges?		✓
VI	**WASTE DISPOSAL**		
	Is there currently or to the best of your knowledge has there previously been on the site any landfilling, deposit, spillage or dumping of the following materials (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	Materials such as household garbage, mixed municipal refuse, or demolition debris?		✓
B.	Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment?		✓
C.	Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing?		✓
D.	Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds?		✓
E.	Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (e.g. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (e.g. solvents); or from the cleaning or repair of parts of boats, ships, barges, automobiles or trucks, including sandblasting grit or paint scrapings?		✓

VII	TANKS OR CONTAINERS USED OR STORED, OTHER THAN TANKS USED FOR RESIDENTIAL HEATING FUEL		
	Are there currently or to the best of your knowledge have there been previously on the site any (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	Underground fuel or chemical storage tanks other than storage tanks for compressed gases?		✓
B.	Above ground fuel or chemical storage tanks other than storage tanks for compressed gases?		✓

VIII	HAZARDOUS WASTES OR HAZARDOUS SUBSTANCES		
	Are there currently or to the best of your knowledge have there been previously on the site any (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?		✓
B.	Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried?		✓
C.	Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 205 litres?		✓

IX	LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS		
	To the best of your knowledge are there currently any of the following pertaining to the site (please mark the appropriate column opposite the question):	**YES**	**NO**
A.	Government orders or other notifications pertaining to environmental conditions or quality of soil, water, groundwater or other environmental media?		✓
B.	Liens to recover costs, restrictive covenants on land use, or other charges or encumbrances, stemming from contaminants or wastes remaining onsite or from other environmental conditions?		✓
C.	Government notifications relating to past or recurring environmental violations at the site or any facility located on the site?		✓

X ADDITIONAL COMMENTS AND EXPLANATIONS

(Note 1: Please list any past or present government orders, permits, approvals, certificates and notifications pertaining to the environmental condition, use or quality of soil, surface water, groundwater or biota at the site.

Note 2: If completed by a consultant, receiver or trustee, please indicate the type and degree of access to information used to complete this site profile. Attach extra pages, if necessary):

This Site Profile is based on the results of a Stage 1 Preliminary Site Investigation Report prepared by Nexth Environmental Inc. dated December 23, 2014.

XI SIGNATURES

The person completing the site profile states that the above information is true based on the person's current knowledge as of the date completed.

R Sopa

Signature of person completing site profile

15-02-20

Date completed: (YY-MM-DD)

XII OFFICIAL USE

Local Government Authority

Reason for submission *(Please check one or more of the following)*

Soil removal ❑

Subdivision application ❑ **Zoning application** ❑ **Development permit** ❑ **Variance permit** ❑ **Demolition permit** ❑

Date received:	Local Government contact : Name_____ Agency_____ Address_____ _____ Telephone _____ Fax_____	Date submitted to Site Registrar:	Date forwarded to Director of Waste Management:

Director of Waste Management

Reason for submission *(Please check one or more of the following)*

Under Order ❑ **Site decommissioning** ❑ **Foreclosure** ❑

Date received:	Assessed by: Name_____ Region_____ Telephone _____ Fax_____ If site profile entered, SITE ID #_____	Investigation Required? **YES NO**	Decision date:

Site Registrar

Date received:	Entered onto Site Registry by:	SITE ID #:	Entry date:

AGENDA INFORMATION	
☐ Regular Meeting	Date:
☐ Workshop (open to public)	Date:
☑ Information Package	Date: Feb 24, 2016

Dept. Manager | GM/ Director | CAO

The District of North Vancouver
REPORT TO COUNCIL

February 24, 2016
File: 08.3060.20/046.15

AUTHOR: Casey Peters, Community Planning

SUBJECT: **PUBLIC INFORMATION MEETING**
467 Mountain Hwy – Mixed use development

RECOMMENDATION:

It is recommended that this report be received for information.

SUMMARY:

Wanson Development is holding a facilitated Public Information Meeting for a Rezoning and Development Permit application for a mixed use project located at 467 Mountain Hwy.

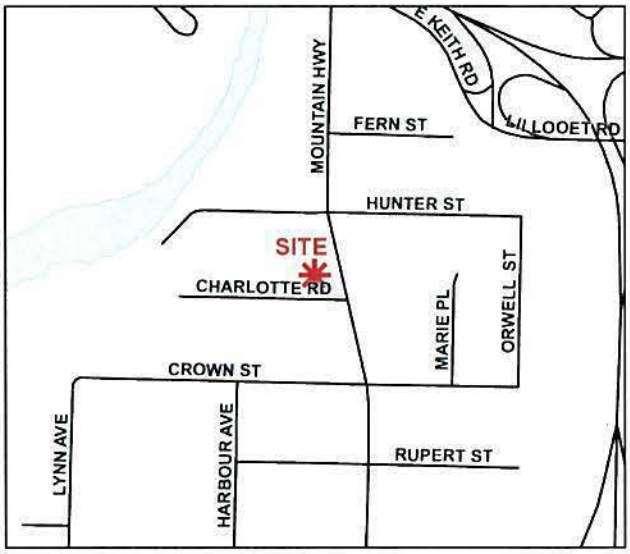
PUBLIC INFORMATION MEETING DETAILS:

Date:	March 9, 2016
Time:	6:30-8:00 p.m.
Location:	Holiday Inn 700 Old Lillooet Rd

SITE AND SURROUNDING AREA:

The development site consists of one lot on the northwest corner of Mountain Hwy and Charlotte Road as illustrated on the aerial photograph.

The District's Official Community Plan (OCP) designates this site as Commercial Mixed Use Level 3 (CRMU3). This designation permits densities up to 3.5 FSR. The Lower Lynn Implementation Plan proposes heights of 6



storeys on this site. Surrounding development consists of industrial/ commercial uses to the north, west and south and both commercial and single family to the east across Mountain Hwy.

PROJECT DESCRIPTION:

The project includes 63 apartment units and 6 ground level commercial units in a six storey building. The units are arranged to create a courtyard in the centre of the project with access to individual units from an exterior walkway as shown below.

Access to units from exterior walkway

Vehicle access to the building is from Charlotte Rd. The proposal includes two levels of underground parking and 88 parking spaces.

Charlotte Rd

View from Mountain Hwy and Charlotte Rd

Public Input:

An independent facilitator will oversee the scheduled Public Information Meeting. Public input and a summary of the facilitated public information meeting will be forwarded to Council in the staff report at the introduction of the detailed application. A copy of the notification package is attached.

Casey Peters
Community Planner

REVIEWED WITH:	REVIEWED WITH:	REVIEWED WITH:	REVIEWED WITH:
❑ Sustainable Community Development	❑ Clerk's Office	External Agencies:	Advisory Committees:
❑ Development Services	❑ Corporate Services	❑ Library Board	❑ _____
❑ Utilities	❑ Communications	❑ NS Health	❑ _____
❑ Engineering Operations	❑ Finance	❑ RCMP	❑ _____
❑ Parks & Environment	❑ Fire Services	❑ Recreation Commission	
❑ Economic Development	❑ Human resources	❑ Other: _____	
	❑ ITS		
	❑ Solicitor		
	❑ GIS		

Notice of a Public Information Meeting in Your Neighbourhood

Wanson Development is hosting a Public Information Meeting to present the development proposal for a mixed-use building located at 467 Mountain Highway.

This information package is being distributed to the owners and occupants within 150 meters of the proposed development site in accordance with District of North Vancouver policy

Meeting Time and Location:

Wednesday March 9, 2016

6:30 – 8:00pm

Holiday Inn North Vancouver – Seymour Room
700 Old Lillooet Road

The Proposal:

Wanson Development proposes to construct a mixed-use development at 467 Mountain Highway. The development is a 6 storey residential building with ground level retail.

The proposal is for 63 residential condominium units, which will include 15 one bedroom units, 42 two bedroom units and 6 three bedroom units.

The site will be accessed from Charlotte Road. Parking will be located in the underground garage. 70 parking spaces are provided for the residents along with 6 visitor parking spaces and 12 parking spaces for the 5,663 SF of retail use.

The proposal also includes infrastructure upgrades to Mountain Highway and Charlotte Road, creating a pedestrian-friendly transition into the future context of shops and housing.

Meeting Agenda:

Doors Open: 6:30pm

Open House Discussion: 6:30 – 8:00pm

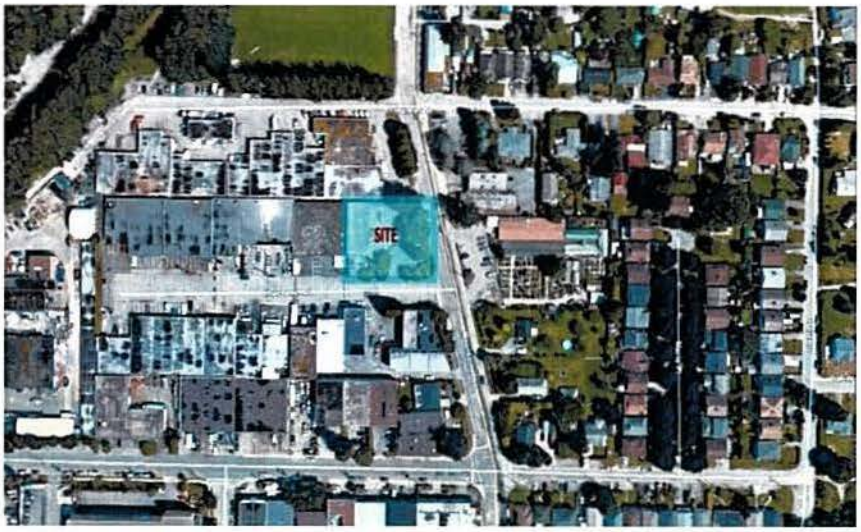
Presentation: 7:00 – 7:15pm

For further information please contact:

Barry Savage Savage Development Management
604-505-8818

Casey Peters District of North Vancouver
604-990-2388 Planning Department

Site Map



Project Rendering

The Corporation of the District of North Vancouver

355 West Queens Road
North Van., BC V7N 4N5

COMMUNITY PLANNING

FACT SHEET

APPLICANT: Wanson Development

SITE: 467 Mountain Hwy

PROPOSAL: A rezoning and development permit application has been submitted by Wanson Development for 467 Mountain Hwy to construct a mixed use residential and commercial development. The proposal is for 63 residential units and 6 commercial units on the ground floor. The residential units are a mix of one, two and three bedroom units. The parking is accessed from Charlotte Road and a total of 88 parking stalls are proposed as a mix of residential (70), commercial (12), and visitor (6) stalls.

The property is designated in the District's Official Community Plan as *"Commercial Residential Mixed Use Level 3"* which is intended to provide high density uses with a Floor Space Ratio (FSR) of up to approximately 3.5 FSR and the proposed FSR for this project is approximately 3.5. The current zoning of the site is Light Industrial (I3). The proposal is to rezone the site to a new Comprehensive Development Zone.

MUNICIPAL REVIEW: As part of the development review process, various municipal departments are reviewing the application to ensure compliance with municipal regulations. The project has also been reviewed by the DNV's Advisory Design Panel.

PROCESS: The application process is designed to ensure that local residents who may be affected by a development are informed early in the process so that their comments, and the comments of the local Community Association, may be considered and incorporated into the proposal. Following the Public Information Meeting, the project may be revised to reflect comments and concerns identified prior to the application being forwarded to Council for consideration. There will be an additional opportunity for public comment at a Public Hearing when Council considers the project. Watch for the feature "District Dialogue" in the Sunday edition of the North Shore News for information on when this project will be considered by Council, or phone the Community Planning Department at 604-990-2387.

If you have comments, please inform DNV Planning staff by completing the attached "Comments Sheet" at the Public Information Meeting or by forwarding it directly to the Community Planning Department by mail, by fax at 604-984-9683 or by email. If you would like more information on this proposal, you are invited to call Casey Peters of the District of North Vancouver Planning staff at 604-990-2388 or email at cpeters@dnv.org.

COMMENT SHEET
The District of North Vancouver

PROPOSAL: **Wanson Development**
467 Mountain Hwy
Proposed 63 unit residential development

To help us determine neighbourhood opinions, please provide us with any input you have on this project (feel free to attach additional sheets):

Your Name _____ Street Address _____

The personal information collected on this form is done so pursuant to the *Community Charter* and/or the Local Government Act and in accordance with the *Freedom of Information and Protection of Privacy Act*. The personal information collected herein will be used only for the purpose of this public consultation process unless its release is authorized by its owner or is compelled by a Court or an agent duly authorized under another Act. Further information may be obtained by speaking with The District of North Vancouver's Manager of Administrative Services at 604-990-2207.

Please return, by mail, fax, or email by April 1, 2016 to:

Casey Peters
Tel: 604 990-2388
District of North Vancouver - Community Planning Department
355 West Queens Road, North Vancouver, BC V7N 4N5
FAX: 604-984-9683 or Email: cpeters@dnv.org

Wanson Development
Public Information Meeting
Holiday Inn
March 9, 2016

Summary Report

Presenters:

Barry Savage, Savage Development
Walter Francl, Francl Architecture
Stephen Vincent, DKL Landscape

Q & A Responders:
All presenters plus:
Daniel Fung, Bunt & Associates, Traffic Consultant
Casey Peters, District of North Vancouver Community Planner

Also attending: Rosie Cindrich- Wanson Developnent

Facilitator: Brenda Chaddock, Odyssey Leadership Centre

The evening opened at 6:30 p.m. with refreshments, an informal viewing of the boards and personal conversation with the project consultants. There were displays around the room

At 7:00 Brenda opened the formal portion of the evening, introducing the Presentation Panel and going over the agenda.

She reminded the group that there are a variety of ways in which they can have questions answered and communicate their thoughts, concern and opinions.

These include:

- Ability to have questions answered verbally with the panelists / consultants within the evening
- The meeting is being recorded by several note takers
- There are Comment Sheets available for people who choose to put their words in writing

- Casey Peters, the Community Planner at the District of North Vancouver on this project welcomes calls to provide more information
- The public is welcome to attend the Public Hearings and the presentation to Council

There were approximately 12 people in attendance.

After the presentations by Barry, Walter and Stephen, the floor was opened to questions.

Q & A

Q: After the development is complete, what is the plan for maintenance over time given the impact of weather?

A: Walter: This should not be difficult. The materials used are relatively free of care. All external materials are considered carefully for durability and ease of maintenance. The maintenance of the exterior and the walkways will be done by a maintenance company.

Q: What is the access to the courtyard?

A: Walter – The access is designed to be 'semi-private – open'. This means that there is no access to the public, only to the residence.

Q: What is the arrangement for managing noise between residences and commercial / industrial businesses?

A: Casey – A Restrictive Covenant ("nuisance covenant") will be required as a condition of approval of the development that informs potential impact from adjacent businesses.

Walter – due to the awareness of the project developers around traffic noise from Mountain Hwy. there has been attention to insulation particularly in sleeping rooms.

Q: Why did DNV rezone this area mixed industrial now?

A: Casey – The DNV completed extensive planning work in advance of adopting the 2011 Official Community Plan and further planning work to complete the Lower Lynn Implementation Plan. That work resulted in the creation of a "heart" for this town centre and the proposal is located within that "heart". There is a small amount of industrial land available for redevelopment under the OCP but the majority of the industrial land is proposed to remain.

Q: Has there been any consultation with Port. There is a concern about businesses closing as residential building increases. There may be as many as 250 businesses lost.

A: Casey. We cannot speak for what may occur on land that is under Port jurisdiction.

Q: What is the price range of these condos?

A: Barry- can't say at this time

Q / Comment: Green spaces are insufficient for the increasing density

A: Casey – there are nice, safe play spaces both in the condo development and at a nearby park. There are also plans for 'town centres' designed for 'live, work, play'

Q: What about rental of condo units?

A: Casey – It is a requirement for all new developments to have housing agreements that prevent future stratas from restricting owners from renting their units. Staff has heard that 10 – 20% are typically made available for rental

Q: What about pets?

A: Casey – There are no restrictions by the DNV
Barry – the Strata can make a decision on this

Q: What studies have been done on the angle of sunlight for the courtyard?

A: Walter – this has been considered in the design. The structure has been dropped one story on the south side to increase sunlight.

Q: What is the length of the courtyard?

A: Barry – 69 ft.

Q: What is the consideration for parking? It doesn't seem enough.

A: Barry – There are 2 levels of parking. There cannot be a third level due to the technical issue of the water table.
Daniel. – We are also working on encouraging car share and leveraging transit pass subsidies. Parking is planned per DNV requirements.

Comments: This last issue had several participants commenting that Seylynn parking is insufficient and gave other examples.

Q: what the plans for growth strategy?

A: Metro Vancouver governs the growth strategy for the Lower Mainland and each municipality is given their portion of that commitment. The District of North Vancouver adopted an Official Community Plan in 2011 that proposes to where to direct growth

The evening adjourned and some participants remained to have more personal conversation with the consultants and DNV

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