Lampson & Esquimalt Road

Parking Study

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Our File:	**2357.B01**
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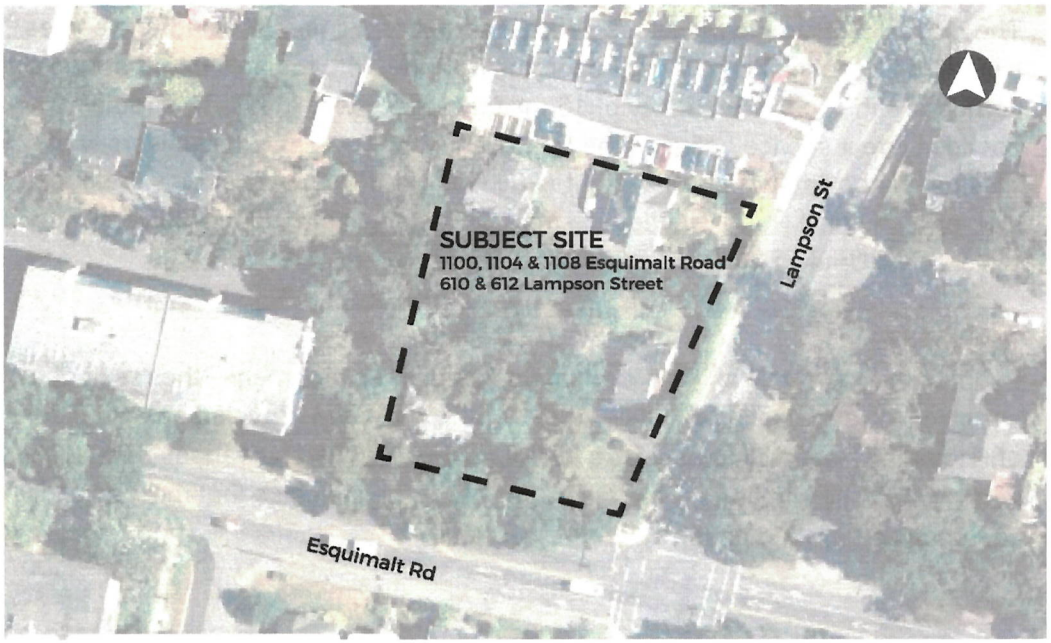
1.0 INTRODUCTION

Watt Consulting Group was retained by GT Mann Contracting to conduct a parking study for the proposed development at Lampson Street and Esquimalt Road ("Lampson Corners") in the Township of Esquimalt. The purpose of this study is to determine the parking demand for the site.

1.1 SUBJECT SITE

The proposed redevelopment site is 1108-1104-1100 Esquimalt Road / 610 & 612 Lampson Street in the Township of Esquimalt. See **Figure 1**. The site is currently zoned as RM-1(Multi-Family Residential) and CD-22 (Comprehensive Development). The proposal is to rezone the site to a New Comprehensive Zone.

FIGURE 1. **SUBJECT SITE**



1.2 SITE CHARACTERISTICS

The following provides information regarding services and transportation options in proximity to the subject site.

SERVICES

The site is located less than 100m from Esquimalt Village, which is Esquimalt's main commercial area, containing the Esquimalt Plaza shopping centre, civic centre, Municipal Hall, Library and the Recreation Centre. Residential uses in this neighbourhood are mainly multi-family buildings located on Esquimalt Road or on adjacent side streets. The site is also located 500m from the intersection of Esquimalt Road and Head Street that has various retail stores, small scale restaurants, and medical services.

TRANSIT

The closest bus stop to the site is directly in front on Esquimalt Road and serves Route 15 | Esquimalt/Uvic, which operates as one of the region's frequent transit corridors with service frequency of 15 minutes during weekdays. This route provides direct service between the DND Esquimalt base and the University of Victoria, via downtown Victoria. Route 26 | Dockyard/UVic also serves the bus stop on Esquimalt Road with service from DND Esquimalt and the University of Victoria, via Uptown Mall.

WALKING

Esquimalt Road provides for a pleasant pedestrian environment—the result of a streetscape revitalization initiative in 2010. Sidewalks are provided on both sides of Esquimalt Road with crosswalks at major intersections and various mid-block crosswalks. The site has a Walk Score[1] of 78, which indicates that most errands can be accomplished on foot.

CYCLING

Bike lanes are provided on Esquimalt Road with direct connection to downtown Victoria and the Galloping Goose Regional Trail. The site is less than 1km from the Esquimalt + Nanaimo (E+N) Rail Trail, which provides a direct off-road cycling route to View Royal and the West Shore.

[1] The Walk Score for the site differs depending on which address is entered into the website with a low of 29 to a high of 78. This discrepancy may be due to the Walk Score algorithm and how it is calculated. It does not, however, change the overall walkability of the location, which Walk Score classifies as "Very Walkable". More information about the site's Walk Score is available online at: https://www.walkscore.com/score/1108-esquimalt-rd-victoria-bc-canada

CARSHARING

The Modo Car Cooperative ("Modo") is the most popular carsharing service in Greater Victoria. The subject site is a 6-minute walk to a Modo vehicle, which is located at Esquimalt Road and Carlton Terrace. Another vehicle is available at 826 Esquimalt Road, which is about a 10-minute walk from the subject site.

2.0 PROPOSED DEVELOPMENT

The proposal is for 89 multi-family residential units comprising 84 condominium units and 5 townhouses. The site will be condominium subject to strata ownership and will consist of a combination of junior one-bedroom, one-bedroom, two-bedroom, and three-bedroom units. See **Table 1**.

TABLE 1. **SUMMARY OF PROPOSED DEVELOPMENT**

Unit Type		Quantity	Approx. Floor Area
Condominium	Junior One-Bedroom	4	30-35m^2
	One-Bedroom	49	35-60m^2
	Two-Bedroom	23	60-75m^2
	Three-Bedroom	2	100m^2
	Penthouse	6	75-135 m^2
Townhouses	Two-Bedroom	3	105m^2
	Three-Bedroom	2	110-120m^2
	TOTAL	**89**	

According to Schedule B of the Official Community Plan (OCP)[2], the proposed land use designation for the site is Medium-Residential, which would allow a Floor Area Ratio of up to 2.0, and up to six storeys in height.

2.1 PROPOSED VEHICLE PARKING SUPPLY

The proposed parking supply is 94 spaces—a parking supply rate of 1.05 spaces per unit.

2.2 PROPOSED BICYCLE PARKING SUPPLY

The proposal also includes the provision of 134 long-term bike parking spaces (1.50 bike parking spaces per unit) and a six-space bike rack at the building entrance.

[2] Township of Esquimalt. (2018). Township of Esquimalt Official Community Plan. Available online at: https://www.esquimalt.ca/sites/default/files/docs/business-development/OCP/2018/toe_adopted_official_community_plan_2018_0.pdf

3.0 PARKING REQUIREMENT

The Township of Esquimalt Parking Bylaw No. 2011[3] identifies the parking requirements a minimum parking supply rate of 1.3 spaces per unit for Medium and High Density Apartment uses and 2 spaces per townhouse unit. Applied to the subject site, this results in a requirement of 110 parking spaces for the condominium units, and 10 townhouse units (see **Table 2**). The Bylaw also requires that 1 of every 4 required spaces are reserved for visitors, which results in 30 parking spaces. Therefore, the total required parking for the site is 120 parking spaces, which is 26 spaces greater than what is proposed.

TABLE 2. PARKING REQUIREMENT

Land Use	Quantity	Requirement		Applied to Subject Site
Condo	84 units	Medium and High density apartment	1.3 / unit	110
Townhouses	5 units	Low, medium and high density townhouse and low density apartment	2.0 / unit	10
Residential Visitor		1 of every 4 required spaces		
			Total	**120 (90 resident, 30 visitor)**

4.0 EXPECTED PARKING DEMAND

Expected parking demand is estimated in the following sections based on observations of representative sites, vehicle ownership data from past studies, and parking supply rates approved by Council in recently constructed condominium buildings in Esquimalt.

4.1 RESIDENT PARKING, CONDOMINIUM

4.1.1 OBSERVATIONS

Observations of parked vehicles were completed for seven representative sites within Esquimalt to determine an appropriate parking demand rate for the subject site. The sites combine for a total of 194 units. Study sites are generally located in central Esquimalt with similar walkability, access to public transit, and cycling routes as the proposed site. All study sites are condominium buildings.

[3] The Township's Zoning Bylaw is available online at: www.esquimalt.ca/sites/default/files/docs/municipal-hall/bylaws/parking_bylaw_2011_july.pdf

Observations were conducted on Tuesday February 26, 2019 and Wednesday February 27 2019 between 9:00pm and 10:00pm. All representative sites have surface parking, which allowed for access to complete counts of parked vehicles.

Results indicate an average peak parking demand of 0.90 vehicles per unit (rounded) with rates ranging from 0.74 to 0.95 vehicles per unit. See **Table 3**.

4.1.2 ADJUSTMENT FACTORS

Observations are a useful method of assessing parking demand rates; however, there are limitations. One such limitation is the fact that an observation may not "catch" all residents while they are home with their parked car on-site. On a typical weeknight, it can be expected that some residents return home very late at night or in the next morning or have driven out of town for business or vacation.

A large scale apartment parking study commissioned by Metro Vancouver reported that observations of parking occupancy (percent of stalls occupied by a car or truck) increased later in the night.[4] One study specifically reported that peak resident parking demand typically reaches 100% between 12am and 5am.[5]

Based on the available research, a conservative 10% adjustment factor is considered appropriate for the observations. This increases the demand rate from 0.90 vehicles per unit to 0.95 per unit. See **Table 3**.

TABLE 3. **ADJUSTED PARKING DEMAND AT REPRESENTATIVE SITES**

Address	Number of Units	Parking Demand Rate (vehicles per unit)	Adjusted Parking Demand Rate (vehicles per unit)
885 Ellery Street	20	0.90	0.99
848 Esquimalt Road	50	0.74	0.81
830 Esquimalt Road	21	0.95	1.05
614 Fernhill Place	21	0.90	1.0
1124 Esquimalt Road	29	0.86	0.95
726 Lampson Street	33	0.79	0.87
1121 Esquimalt Road	20	0.85	0.94
	Average	**0.90**	**0.95**

[4] Metro Vancouver. (2012). The Metro Vancouver Apartment Parking Study, Technical Report. Available online at: http://www.metrovancouver.org/services/regional-planning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[5] Cervero, R., Adkins, A & Sullivan, C. (2010). *Are Suburban TODs Over-Parked?* Journal of Public Transportation, 13(2), 47-70.

4.1.3 PRECEDENT SITES

826 Esquimalt Road

An adjusted parking demand rate of 0.90 vehicles per unit is in line with a recently (2018) constructed condominium building in the Township located at 826 Esquimalt Road. The building was approved by the Township to provide 24 parking spaces, or 0.80 spaces per unit (30 unit building).[6] 826 Esquimalt Road shares a number of similar land use characteristics as the subject site including its walkability and location on a Frequent Transit Corridor.

833/835 Dunsmuir Road

A 2017 parking study was completed for a proposed multi-family residential building at 833/835 Dunsmuir Road.[7] The proposed development includes 34 units comprising a mix of one- and two-bedroom units. The study used ICBC vehicle ownership data for several existing condo sites in Esquimalt. It reported that the expected parking demand for the site would be 0.98 vehicles per unit.

Esquimalt Town Center

A 2016 parking study was completed for the Esquimalt Town Centre, which is a large-scale mixed use urban centre currently under construction. The parking study included vehicle ownership data for several condominium sites in proximity to the subject site. The study reported and ultimately recommended a parking demand rate of 0.96 vehicles per unit for the proposed condominium units.[8]

The parking / vehicle ownership data from the sites above indicate that a rate 0.95 resident vehicles per unit is generally appropriate for condominium buildings located in this part of Esquimalt.

[6] Staff report can be found online at: https://esquimalt.ca.legistar.com/LegislationDetail.aspx?ID=3663&GUID=B883D3FE-6D24-4C02-9550-0339E2D847A4. Staff Report-DEV-16-002.

[7] WATT Consulting Group. (2017). 833 + 835 Dunsmuir Road Parking Study.

[8] Boulevard Transportation Group. (2016). Esquimalt Town Centre Parking Study. Available online at: https://www.esquimalt.ca/sites/default/files/docs/municipal-hall/EVP/schedule_m_parking_study.pdf

4.1.4 PARKING DEMAND BY UNIT TYPE

There is a significant amount of research concluding that parking demand varies based on unit size, that is, the greater the number of bedrooms, the higher the parking demand.[9] For each representative site, the total parking demand can be further assessed by unit size (i.e., number of bedrooms). Parking demand by unit size was calculated using:

1. Adjusted peak parking demand at each site;
2. The floor area of each unit, organized by unit type (e.g., one-bedroom, two-bedroom, etc.)[10,11]; and
3. The assumed "ratio differences" in parking demand between each unit type was based on the 2018 Metro Vancouver Parking Study, which recommends for strata condominium units that one-bedroom units have a 19% higher parking demand than studio units; two-bedroom units have a 30% higher parking demand than one-bedroom units; and three plus-bedroom units have a 23% higher parking demand than two-bedroom units.

Only one of the representative sites (1124 Esquimalt Road) had units of comparable size to the three-bedroom units proposed (i.e., greater than 100m^2). However, with only one representative site having three-bedroom units, the three-bedroom and penthouse demand rate could not be reliably derived from the data.

To estimate the demand rate for the three-bedroom and penthouse units, the assumed ratio from the Metro Vancouver study was applied. The study indicates that three-bedroom units have 23% higher parking demand than two-bedrooms. Therefore, a 23% adjustment factor results in a rate of 1.25 per unit, or 10 vehicles for the three-bedroom and penthouse units.

Results indicate average parking demand among these sites, by unit type, as follows:

- Junior One-Bedroom (4) = 0.70 spaces per unit, 3 spaces
- One-Bedroom Units (49) = 0.80 spaces per unit, 40 spaces
- Two-Bedroom Units (23) = 1.00 space per unit, 23 spaces
- Three-Bedroom Units / Penthouse (8) = 1.25 spaces per unit, 10 spaces

[9] Metro Vancouver. (2018). 2018 Regional Parking Study Technical Report, pg. 18. Available online at: http://www.metrovancouver.org/boards/RegionalPlanning/RPL_2019-Mar-8_AGE.pdf

[10] The unit size for the seven representative sites was obtained from BC Assessment's e-value*BC* tool, which presents current floor area, property value and recent sales for over 2 million provinces in the province. More information is available online: https://evaluebc.bcassessment.ca/Default.aspx

[11] Note: The proposed development includes a variety of unit types such as junior one-bedroom, one-bedrooms, one-bedroom plus den, etc. For the purposes of the parking demand analysis by unit type, each unit type was classified into four distinct categories based on their floor areas, as follows: [a] bachelor; [b] one-bedroom; [c] two-bedroom; and [d] three-bedroom. This allowed the project team to organize the representative units into unit size thresholds, which allows a more accurate demand rate to be inferred. Further, once the data were organized by unit size thresholds, the assumed ratio differences from the Metro Vancouver study could be directly applied.

The results of this analysis conclude that resident parking demand for the condominium units will be 76 parking spaces. See **Table 4**.

TABLE 4. **PARKING DEMAND AT REPRESENTATIVE SITES, BY UNIT SIZE**

Site	Vehicle Ownership Rate (vehicles / unit)			
	Parking Demand (vehicles / unit)	Junior One-Bedroom	One-Bedroom	Two-Bedroom
885 Ellery Street	0.90	0.69	--	1.07
848 Esquimalt Road	0.74	0.65	0.78	1.01
830 Esquimalt Road	0.95	0.73	0.87	1.14
614 Fernhill Place	0.90	--	--	1.00
1124 Esquimalt Road	0.86	--	--	0.81
726 Lampson Street	0.79	0.62	--	0.96
1121 Esquimalt Road	0.85	--	0.76	0.99
Average	**0.95**	**0.70**	**0.80**	**1.00**

4.2 RESIDENT PARKING, TOWNHOUSES

There are 5 townhouse units proposed for the site. Based on the latest ITE Parking Generation Manual (5th Edition), condo units and townhouses are considered to have similar parking demand rates. Therefore, by taking into consideration the floor areas of the proposed townhouse units, it is expected that both the two-bedroom and three-bedroom townhouse units will have comparable parking demand to the three-bedroom condo units at 1.25 spaces per unit. This results in 7 parking spaces (1.25 X 5 units).

4.3 VISITOR PARKING

Observations were conducted as part of a study by Metro Vancouver[12] that concluded typical visitor parking demand is less than 0.1 vehicles per unit. Additional findings from similar studies conducted by WATT in the Township of Esquimalt, the City of Victoria, and City of Langford also support these findings, and suggest that visitor parking is not strongly linked to location.[13]

As such, it is estimated that visitor parking demand will be no more than 0.1 vehicles per unit, or 9 spaces.

[12] Metro Vancouver Apartment Parking Study, Technical Report, 2012. Available online at: http://www.metrovancouver.org/services/regional-planning/PlanningPublications/Apartment_Parking_Study_TechnicalReport.pdf

[13] Other recent developments within Esquimalt has also reflected visitor parking demand trends that tend to be lower than that outlined in the Township's existing bylaw, including a recently constructed development in Esquimalt (826 Esquimalt Road) that supplied a 30 unit condo building with four visitor parking spaces, a rate of 0.13 spaces per unit. More information about 826 Esquimalt Road is available online at: https://victoria.citified.ca/condos/verde-living/

4.4 SUMMARY OF EXPECTED PARKING DEMAND

Expected parking demand is 92 spaces, which is two less than what is proposed. See **Table 5**.

TABLE 5. **SUMMARY OF EXPECTED PARKING DEMAND**

Land Use		Units	Expected Parking Demand	
			Rate	Total
Resident, Condos	Junior One-Bedroom	4	0.70	3
	One-Bedroom	49	0.80	40
	Two-Bedroom	23	1.00	23
	Three-Bedroom / Penthouse	8	1.25	10
Resident, Townhouses	Two-Bedroom / Three-Bedroom	5	1.25	7
Visitor		89	0.1	9
		Total Expected Parking Demand		**92**

5.0 ON-STREET PARKING

On-street parking conditions were observed surrounding the site on Esquimalt Road (from Fraser Street to Head Street) and Lampson Street (from Fernhill Road to Lyall Street). Parking restrictions on these road segments are either unrestricted, no parking 7am-9am or there is no parking available. See **Appendix A** for a summary of the on-street parking results.

Observations were completed during weekday evenings to reflect the anticipated "peak" periods. Observations were conducted during the following time periods:

- Tuesday February 26, 2019 at 9:00pm
- Wednesday February 27, 2019 at 9:00pm

Peak occupancy was observed on Tuesday when available parking was 47% occupied, with 31 parking spaces still available. This demonstrates there is sufficient availability of parking in case, for example, visitors to the subject site decide to park on-street and not in the designated visitor parking spaces.

6.0 TRANSPORTATION DEMAND MANAGEMENT

Transportation demand management (TDM) is the application of strategies and policies to influence individual travel choice, most commonly to reduce single-occupant vehicle travel. TDM measures can be pursued to encourage sustainable travel, enhance travel options, and decrease parking demand.

Even though the site's proposed parking supply is anticipated to accommodate demand, there are TDM strategies that the applicant can pursue to discourage vehicle ownership at the site and align with policy in the Township's OCP. Based on the location and density of the site, a carsharing program is recommended and detailed below.

6.1 CARSHARING

6.1.1 OVERVIEW

Carsharing programs are an effective way for people to save on the cost of owning a vehicle while having access to a convenient means of transportation. The Modo Car Cooperative (Modo) is a popular carsharing service in Greater Victoria. According to the 2017 CRD Regional Household Travel Survey, Esquimalt has one of the highest shares of households in the region with one vehicle (54%), which can make carsharing an even more viable option for families who may require a vehicle for only select trips.[14]

In addition, according to Section 3.8 of Esquimalt's OCP, carsharing is specifically identified as a transportation best practice than can help the Township achieve GHG emissions reductions.[15] Moreover, Section 13.3.6 specifically includes a policy to "encourage the inclusion of carshare in new multi-family residential developments".[16]

Part of the reason why carsharing is expanding locally and being supported by municipalities is because of its ability to reduce household vehicle ownership and parking demand. A recent 2018 study from Metro Vancouver analyzed 3,405 survey respondents from carsharing users in the region and found that users of Car2go and Modo reported reduced vehicle ownership after joining a carsharing service. The impact was larger for Modo users; households joining Modo reduced their ownership from an average of 0.68 to 0.36 vehicles. Further, Modo members were close to five times more likely to reduce car ownership compared to Car2go users.

[14] Capital Regional District. (2017). CRD Origin-Destination 2017 Household Travel Survey, pg. 105. Available online at: https://www.crd.bc.ca/docs/default-source/regional-planning-pdf/transportation/crd-2017-od-survey-report-20180622-sm.pdf?sfvrsn=4fcbe7ca_2

[15] Township of Esquimalt. (2018). Township of Esquimalt Official Community Plan. Available online at: https://www.esquimalt.ca/sites/default/files/docs/business-development/OCP/2018/toe_adopted_official_community_plan_2018_0.pdf

[16] Ibid.

Additional research has found the following:

- A 2016 study in San Francisco reported that the potential for carsharing to reduce vehicle ownership is strongly tied to the built environment, housing density, transit accessibility, and the availability of parking.[17]
- A 2013 study[18] from the City of Toronto looked at the relationship between the presence of carsharing in a residential building and its impact on vehicle ownership. The study surveyed residents of buildings with and without dedicated carshare vehicles. The study found that the presence of dedicated carshare vehicles had a statistically significant impact on reduced vehicle ownership and parking demand. Specifically, 29% of carshare users gave up a vehicle after becoming a member and 55% of carshare users forgone purchasing a car as a result of carsharing participation.

While a study has not yet been completed in Greater Victoria to understand the impacts of carsharing on vehicle ownership, the results would likely be similar especially for households living in more urban areas such as Esquimalt and Victoria where there is greater access to multiple transportation options.

6.1.2 RECOMMENDATION

It is recommended that the applicant consider providing a carshare program at the site, which would need to meet the following conditions:

- The applicant would provide, at no cost to Modo, one designated parking space at the proposed development, compliant with Modo Construction Standards For Shared Vehicle Parking Space and accessible to all Modo members on a 24 hour basis every day of the year;
- The applicant would provide to Modo a one-time financial contribution of approximately $30,500 including taxes and fees to be used for the purchase of one new shared vehicle to be located in the parking space designated for carsharing;
- Modo would provide the applicant with a Partnership Membership in Modo with a public value of $30,500, valid for the lifetime of the development and allowing a maximum of 61 units[19] (69% of the total number of units) of the development to benefit at any given time from Modo membership privileges and lowest usage rates without the need to themselves pay a $500 membership fee; and
- Modo would provide a promotional incentive worth $100 of driving credits to each resident of the development joining Modo for the first time.

[17] Clewlow, R.R. (2016). Carsharing and sustainable travel behaviour: Results from the San Francisco Bay Area. Transport Policy, 51, 158-164.
[18] Engel-Yan, D., & D. Passmore. (2013). Carsharing and Car Ownership at the Building Scale. Journal of the American Planning Association, 79(1), 82-91.
[19] $30,500 divided by $500, rounded down to the closest whole number.

Based on the conditions above, it is recommended that the applicant provide a carshare vehicle on-site and locate it in a surface parking space so it is visible to residents of the site and those in the surrounding community.

A resident parking demand reduction of 10% is supported for the proposed development if the applicant purchases a vehicle and locates it on-site. If this recommendation is adopted, a 10% reduction would lower the resident parking demand by 9 spaces (8.3, rounded), which would result in a revised site parking demand of 83 spaces (74 resident, 9 visitor).

7.0 CONCLUSION

The proposed development is for 89 units and 94 off-street parking spaces—a parking supply rate of 1.05 spaces per unit. The Township's Parking Bylaw identifies a required minimum parking supply of 120 parking spaces, which is 26 spaces more than what is proposed.

Parking demand was estimated for the site based on observations of representative sites, vehicle ownership data from past studies, and parking supply rates approved by Council in recently constructed condominium buildings in Esquimalt. Results indicate an expected parking demand of 83 resident vehicles and 9 visitor vehicles—a total site parking demand of 92 vehicles. Site parking demand is expected to be accommodated within the proposed off-street parking supply and without impacting the surrounding neighbourhood.

A carsharing program is recommended as a TDM strategy that the applicant could pursue to discourage vehicle ownership at the site and thereby lower the need for parking as well as to align with policy in the Township's OCP. Committing to the carsharing program would lower the resident parking demand by approximately 9 spaces.

7.1 RECOMMENDATIONS

Based on the results in this study, it is recommended that:

1. The Township grant the requested variance to the minimum parking supply to allow for the provision of 94 parking spaces (1.05 spaces per unit).
2. The applicant consider implementing a carsharing program to lower the need to own a vehicle at the site and to encourage use of sustainable transportation options for future residents.

APPENDIX A. ON-STREET PARKING ASSESSMENT

Esquimalt Rd/Lampson St Parking Study
On-Street Parking Observations

Road Segment		Side	Parking Supply	Parking Restriction	Tuesday February 26, 2019 9:00pm		Wednesday February 27, 2019 9:00pm	
					Observed Vehicles	Occupancy	Observed Vehicles	Occupancy
Esquimalt Rd	Fernhill Rd - Lampson St	N			No Parking			
	Fraser St - Joffre St	S	4	Unrestricted	3	75%	2	50%
	Joffre St - Lampson St	S			No Parking			
	Lampson St - Head St	N	6	No Parking, 7am-9am	2	33%	0	0%
	Lampson St - Macaulay St	S	19	Unrestricted	17	89%	15	79%
	Macaulay St - Head St	S			No Parking			
Lampson St	Lampson Pl - Wordsley St	E			No Parking			
	Wordsley St - Esquimalt Rd	E			No Parking			
	Fernhill Rd - Norma Ct	W			No Parking			
	Norma Ct - Esquimalt Rd	W	8	Unrestricted	2	25%	1	13%
	Esquimalt Road - Lyall St	E			No Parking			
	Esquimalt Road - Lyall St	W	21	Unrestricted	3	14%	8	38%
			58		**27**	**47%**	**26**	**45%**