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NextEng Consulting Group Inc.

February 28, 2025

ACK Architects Studio Inc.
290 Glendale Avenue
St. Catherines, ON L2T 2L3

Attention: Jessica Cooley

Re: Engineering Service – Parking Justification Study
5584 Fraser Street
City of Niagara Falls
Our Project No. NT-24-112

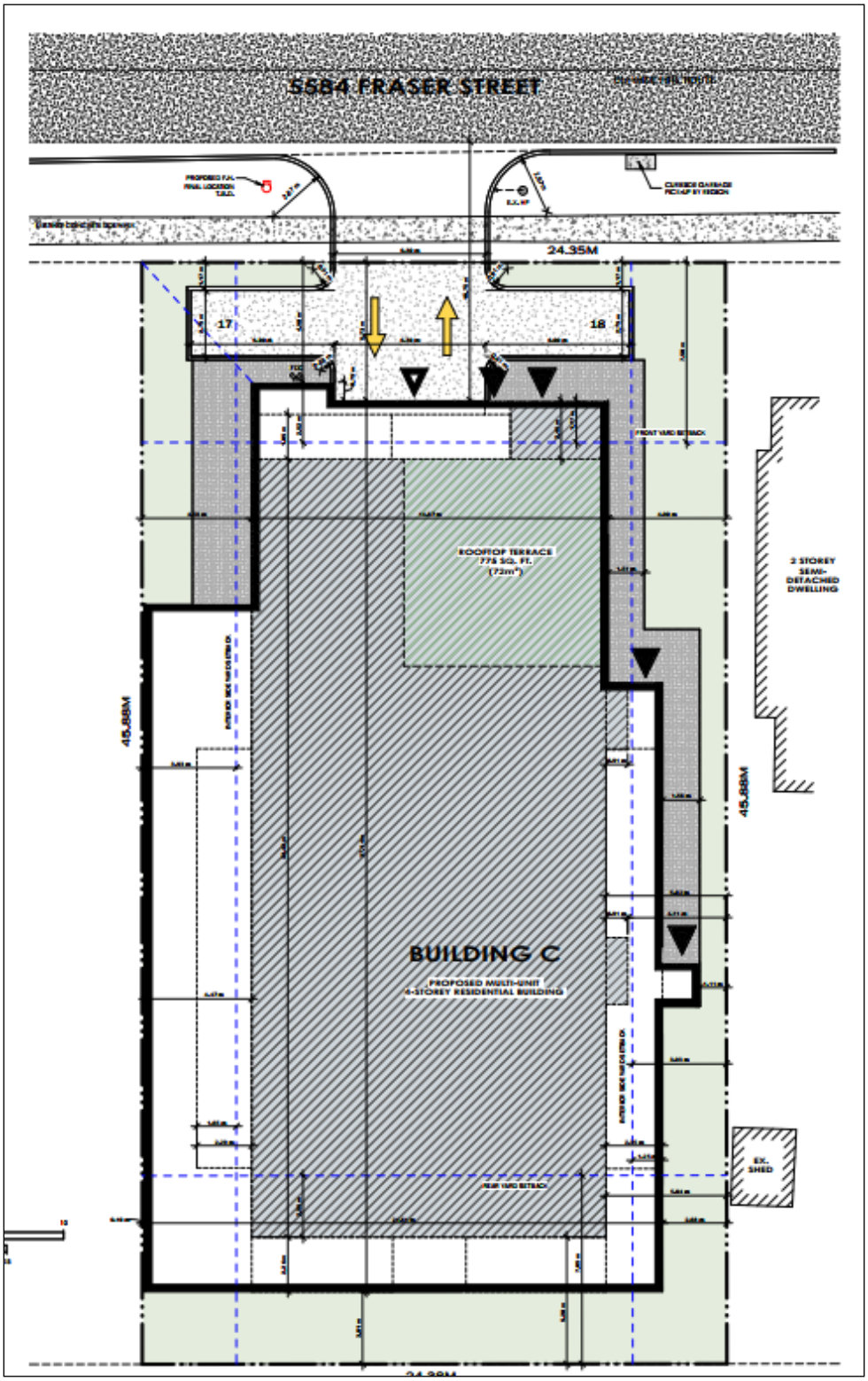
1.0 INTRODUCTION

NexTrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained by ACK Architects Studio Inc. (the 'Client') to prepare a parking justification study in support of a Minor Variance application. The subject site is located along the south side of Fraser Street, west of Stanley Avenue, municipally known as 5584 Fraser Street, in the City of Niagara Falls (the 'City'). The location of the subject site is illustrated in **Figure 1-1** below.

Figure 1-1: Subject Site Location

The subject site is currently vacant. Based on the concept site plan and discussions with the Client, the proposed development is to develop a four (4) storey residential building with 18 residential dwelling units. A full movement entrance is provided to the subject site from Fraser Street. There are 18 proposed parking spaces for the proposed development. The purpose of this parking study is to justify the reduction of parking spaces from 25 spaces to 18 spaces. The existing site plan is depicted in **Figure 1-2** and provided in full detail in **Appendix A**.

Figure 1-2 – Existing Site Plan



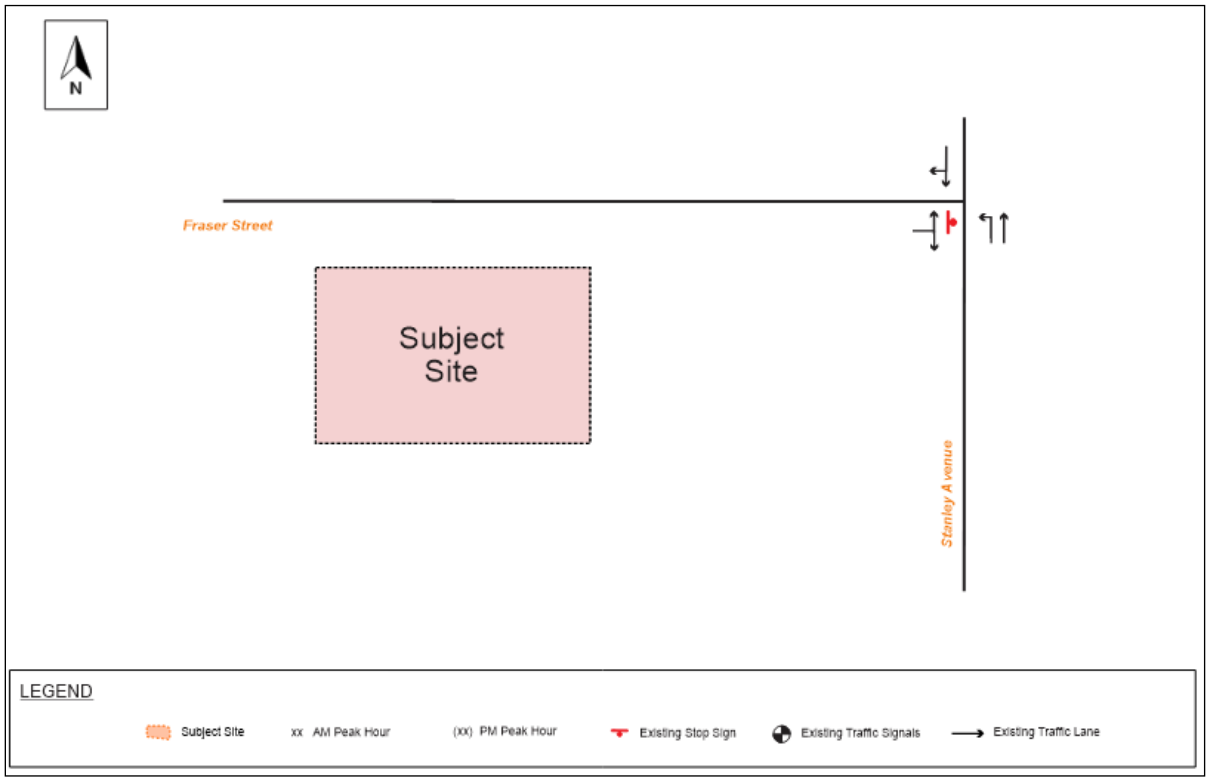
2.0 EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

The subject lands are located along the south side of Fraser Street, west of Stanley Avenue, municipally addressed as 5584 Fraser Street, in the City of Niagara Falls. The existing road network, lane configuration and existing traffic control for the study area is illustrated in **Figure 2-1** and described as follows:

- **Fraser Street** is an east-west local road under the jurisdiction of the City of Niagara Falls. Fraser Street has an existing two (2) lane cross-section (one (1) travel lane per direction). Fraser Street has an assumed and unposted speed limit of 50 km/h near the subject site.
- **Stanley Avenue** is a north-south regional road under the jurisdiction of the Region of Niagara. Stanley Avenue has an existing two (2) lane cross-section (one (1) travel lane per direction). Stanley Avenue has a posted speed limit of 50 km/h near the subject site.

Figure 2-1 – Existing Lane Configuration



2.2 Existing Transit Network

Based on the study prepared by the Ministry of Transportation of Ontario (MTO) entitled: 'Transit Supportive Guidelines', dated January 2012, transit users are generally willing to walk 400 m to a local stop or 800 m to a transit station. The subject site is located within an area with limited transit availability. There is one (1) bus route providing service near the subject site and is described below:

- **Niagara Region Transit 108 Morrison / Dorchester Hub** travels generally in an east-west direction. The 108 bus route operates with headways of approximately 30-minutes during weekday AM and PM peak hour. The closest bus stop is located at the intersection of Fraser Street and Stanley Avenue and is a three (3) minute walk (approximately 180 m) from the subject site.

2.3 Existing Active Transportation Infrastructure

Sidewalks

Under existing conditions, sidewalks are available as follows:

- Both sides of Fraser Street; and,
- Both sides of Stanley Avenue.

Cycling

Currently, there are bike lanes along Stanley Avenue.

3.0 PARKING ASSESSMENT

3.1 Vehicle Parking Requirements

The subject site is currently subject to the parking requirements stipulated within the City of Niagara Falls' Zoning By-law No. 79-200. The proposed development is to develop a four (4) storey residential building with 18 residential dwelling units.

The technical parking requirement for the proposed development is detailed in **Table 3.1**.

Table 3.1 – Vehicle Parking Requirements (Zoning By-law No. 79-200)

Land Use	No. of Units	Min. Parking Rate	Parking Requirement	Parking Provided	Surplus / Deficit
Dwelling containing 4 or more units	18	1.4 spaces per unit	25 spaces	**18 spaces**	**-7**

In accordance with the City of Niagara Falls' parking provisions outlined in By-law No. 79-200, the proposed development requires 25 vehicular parking spaces. In comparing this parking requirement with the proposed parking supply of 18 parking spaces, there is a technical deficit of seven (7) parking spaces.

4.0 PARKING JUSTIFICATION

The following justifications are provided to support the proposed parking reduction in comparison to the Zoning By-law requirements:

1. Proxy Site Parking Utilization Surveys Rates
2. City of Niagara Falls Official Plan; and,
3. Transportation Demand Management.

4.1 Proxy Site Parking Utilization Rates

A review of our in-house database was conducted to provide empirical data to support the proposed parking reduction on-site.

Information and characteristics of the proxy sites are detailed in **Table 4.1**.

Table 4.1 – Details of Proxy Sites Surveyed

Location	Site Description
7 Albert Street	Residential building with 63 dwelling units, in the Town of Whitchurch-Stouffville. There are 81 parking spaces on-site.
33 Richmond Street	Residential building with 70 dwelling units, in the City of Oshawa. There are 55 parking spaces on-site.
2278 Weston Road	Residential building with 33 dwelling units, in the City of Toronto. There are 23 parking spaces on-site.
82 & 86 Munroe Street	Two (2) residential buildings with 63 dwelling units, in the Town of Cobourg. There are 73 parking spaces on-site.
1619-1625 Dufferin Street	Residential building with 32 dwelling units, in the Town of Whitby. There are 49 parking spaces on-site.
345 Gibb Street	Residential building with 39 dwelling units, in the City of Oshawa. There are 32 parking spaces on-site.
340 Marland Avenue	Residential building with 64 dwelling units, in the City of Oshawa. There are 85 parking spaces on-site.
16 Tremont Drive	Residential building with 122 occupied dwelling units, in the City of St. Catherines. There are 123 parking spaces on-site.
20 Tremont Drive	Residential building with 112 occupied dwelling units, in the City of St. Catherines. There are 112 parking spaces on-site.

The peak rates observed at the proxy sites are summarized in **Table 4.2**.

Table 4.2 – Peak Proxy Parking Utilization Survey Results

Location	Resident	Visitor
7 Albert Street	0.90 spaces / unit	0.03 spaces / unit
33 Richmond Street	0.57 spaces / unit	-
2278 Weston Road	0.48 spaces / unit	-
82 & 86 Munroe Street	0.68 spaces / unit	-
1619-1625 Dufferin Street	0.66 spaces / unit	0.03 spaces / unit
345 Gibb Street	0.51 spaces / unit	-
340 Marland Avenue	0.62 spaces / unit	0.03 spaces / unit
16 Tremont Drive	0.79 spaces / unit	-
20 Tremont Drive	0.79 spaces / unit	-

Based on our review of parking survey data previously collected, it is noted that the peak resident rate observed at any of the sites was 0.90 spaces per unit, whereas the peak visitor rate observed was 0.03 spaces per unit. The subject site is currently subject to the City of Niagara Falls' Zoning By-law No. 79-200, which requires a highly conservative rate of 1.4 spaces per unit. Based on the collected parking survey data, it is Nextrans' opinion that a more reasonable parking rate captured in the proxy surveys is sufficient to accommodate peak parking demands for the proposed development. On this basis, the parking requirement is detailed in **Table 4.3** for the proposed development.

Table 4.3 – Vehicle Parking Requirements (Based on Proxy Data)

Land Use	No. of Units	Proxy Rate	Parking Requirement	Parking Provided	Surplus / Deficit
Dwelling containing 4 or more units	18	0.90 resident spaces / unit	16	**18**	**+1**
		0.03 visitor spaces / unit	1		
Total			**17**		

In calculating the vehicular parking requirement for the subject site based on the peak observed resident rates at the proxy sites, a total of 17 parking spaces (16 resident spaces and one (1) visitor space) is required. In comparing the proposed parking supply of 18 spaces with the proxy parking survey rate, the subject site will have a surplus of one (1) parking space. **As such, it is our opinion that the proposed supply of 18 parking spaces is sufficient to accommodate the expected parking demands of the proposed development. We recommend a parking rate of 0.93 spaces per unit (0.90 resident spaces and 0.03 visitor spaces per unit) will be sufficient to accommodate all proposed uses on-site.**

4.2 City of Niagara Falls Official Plan

Nextrans has conducted a review of the City of Niagara Falls' Official Plan to justify how the proposed parking reduction is acceptable and aligns with the planning and development goals of the City. Section 2 of the Official Plan states the City's following growth objectives:

- *To encourage alternative forms of transportation such as walking, cycling and public transit; and,*
- *To develop a transit and pedestrian friendly, sustainable and livable City through the use of urban design criteria and guidelines.*

In conjunction with prolonged investment in alternative modes of transportation, parking reduction is a highly effective solution for reducing single occupant vehicle trips and associated parking demand and is consistent with the City's future growth objectives.

4.3 Transportation Demand Management

The main objective of Transportation Demand Management (TDM) is to encourage residents to take alternative modes of transportation, such as public transit, walking, cycling, and carpooling. Based on Nextrans' experience in conducting justification studies in various jurisdictions in the Greater Toronto and Hamilton Area (GTHA), parking management is the best TDM measure that helps ensure the reduction of single-occupant vehicle (SOV) trips to and from proposed developments, which is consistent with the City's Official Plan policies. Nextrans provides additional recommendations for TDM measures in Section 5 of this study to support the proposed parking reduction for this development.

5.0 TRANSPORTATION DEMAND MANAGEMNT

The primary objectives of this TDM plan are as follows:

- Provision of facilities / operations to promote behavioural change for reduced automobile uses and encourage the use of alternative sustainable transportation modes aside from single-occupancy vehicle (SOV).
- Maximize average auto occupancies, with the intent of a net minimization of site-related auto trips.
- Create and support opportunities for an inclusive transportation system to accommodate and facilitate all potential road users in a safe and efficient manner.

TDM refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicle trips, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. In short, TDM works to change how, when, where, and why people travel.

TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality.
- Decreased traffic congestion to reduce travel time.
- Increased travel options.
- Reduced personal transportation costs and energy consumption.
- Support Provincial smart growth objectives.

Based on our review, the following TDM measures are recommended for the proposed development:

Transit:

Public transit includes various services using shared vehicles to provide mobility to the public, these generally include:

- Heavy rail – relatively large, higher-speed trains, operating entirely on separate rights-of-way, with infrequent stops, providing service between communities;
- Light Rail Transit – moderate size, medium-speed trains, operating mainly on separate rights-of-way, with variable distances between stations, providing service between urban neighborhoods and commercial centers;

- Streetcars – relatively small, lower-speed trains, operating primarily on urban streets, with frequent stops which provide service along major urban corridors;
- Conventional bus transit - full-size buses on fixed routes and schedules;
- Bus Rapid Transit – premium quality bus service with features that typically include grade separation, frequent service, attractive stations, quick loading, and attractive vehicles; and,
- Express commuter bus – direct bus service from residential to employment areas.

The subject site is currently located in an area serviced by Niagara Region Transit.

To encourage transit usage, it is recommended that a welcome package be provided for residents which includes transit service information (i.e., transit system maps and service / schedule times) to assist residents in planning their trips (i.e., to / from work / school). In addition, one-time local monthly passes should also be considered, with the value of one month's fare ($85.50), provided to residents on a demand basis upon occupancy.

Walkability:

Walkability reflects overall walking conditions in an area. It considers the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security and comfort for walking.

Generally, walkability can be evaluated at various scales:

- Site scale – affected by the quality of pathways, building accessways and related facilities;
- Street or neighborhood level – affected by the existence of sidewalks and crosswalks, and roadway conditions (road widths, traffic volumes and speeds); and,
- Community level – affected by land use accessibility, such as the relative location of common destinations and the quality of connections between them.

Existing pedestrian pathway is incorporated into the site design providing a safe and convenient connections to the adjacent public sidewalk system.

Cycling:

There are many specific ways to improve bicycle transportation, including the following:

- Improving paths and bike lanes;
- Correcting specific roadway hazards (potholes, cracks, narrow lanes, etc.);
- Improving road, road shoulder and path management and maintenance;
- Improving bicycling parking facilities;
- Develop a more connected street network and clustered development;
- Establish public bike systems that provide convenient rental bicycles for short utilitarian trips;
- Safety education, law enforcement and encouragement programs; and,
- Integration with transit.

We have also reviewed the Bicycle Parking Guidelines, 2nd Edition, published by the Association of Pedestrian & Bicycle Professionals (APBP) and the following should be considered:

Short-term and Long-term Bicycle Parking:

- "Short-term parking usually consists of bicycle racks located on the sidewalk or street in front of a building or destination. The site planning focus is on convenience, utility, and the attempt to improve security for the rack and the parked bicycle; and,
- Long-term parking uses a wider variety of fixture types and site plan layouts. It includes racks in cages and bicycle rooms, as well as lockers located in a variety of different settings, indoors and outdoors. Because long-term parking areas are frequently located in low pedestrian traffic areas or out-of-the-way locations, site design focus is on ensuring the safety of users while maintaining exclusive access to these areas."

Bicycle Rack:

- "Supports the bicycle in at least two places, preventing it from falling over;
- Allows locking of the frame and one or both wheels with a U-lock;
- Is securely anchored to ground; and,
- Resists cutting, rusting and bending or deformation."

6.0 CONCLUSION

The subject site is currently vacant. Based on the concept site plan and discussions with the Client, the proposed development is to develop a four (4) storey residential building with 18 residential dwelling units. A full movement entrance is provided to the subject site from Fraser Street. There are 18 proposed parking spaces for the proposed development.

In accordance with the City of Niagara Falls' parking provisions outlined in By-law No. 79-200, the proposed development requires 25 vehicular parking spaces. In comparing this parking requirement with the proposed parking supply of 18 parking spaces, there is a technical deficit of seven (7) parking spaces.

In calculating the vehicular parking requirement for the subject site based on the peak observed resident rates at the proxy sites, a total of 17 parking spaces (16 resident spaces and one (1) visitor space) is required. In comparing the proposed parking supply of 18 spaces with the proxy parking survey rate, the subject site will have a surplus of one (1) parking space. **As such, it is our opinion that the proposed supply of 18 parking spaces is sufficient to accommodate the expected parking demands of the proposed development. We recommend a parking rate of 0.93 spaces per unit (0.90 resident spaces and 0.03 visitor spaces per unit) will be sufficient to accommodate all proposed uses on-site.**

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS
A Division of NextEng Consulting Group Inc.

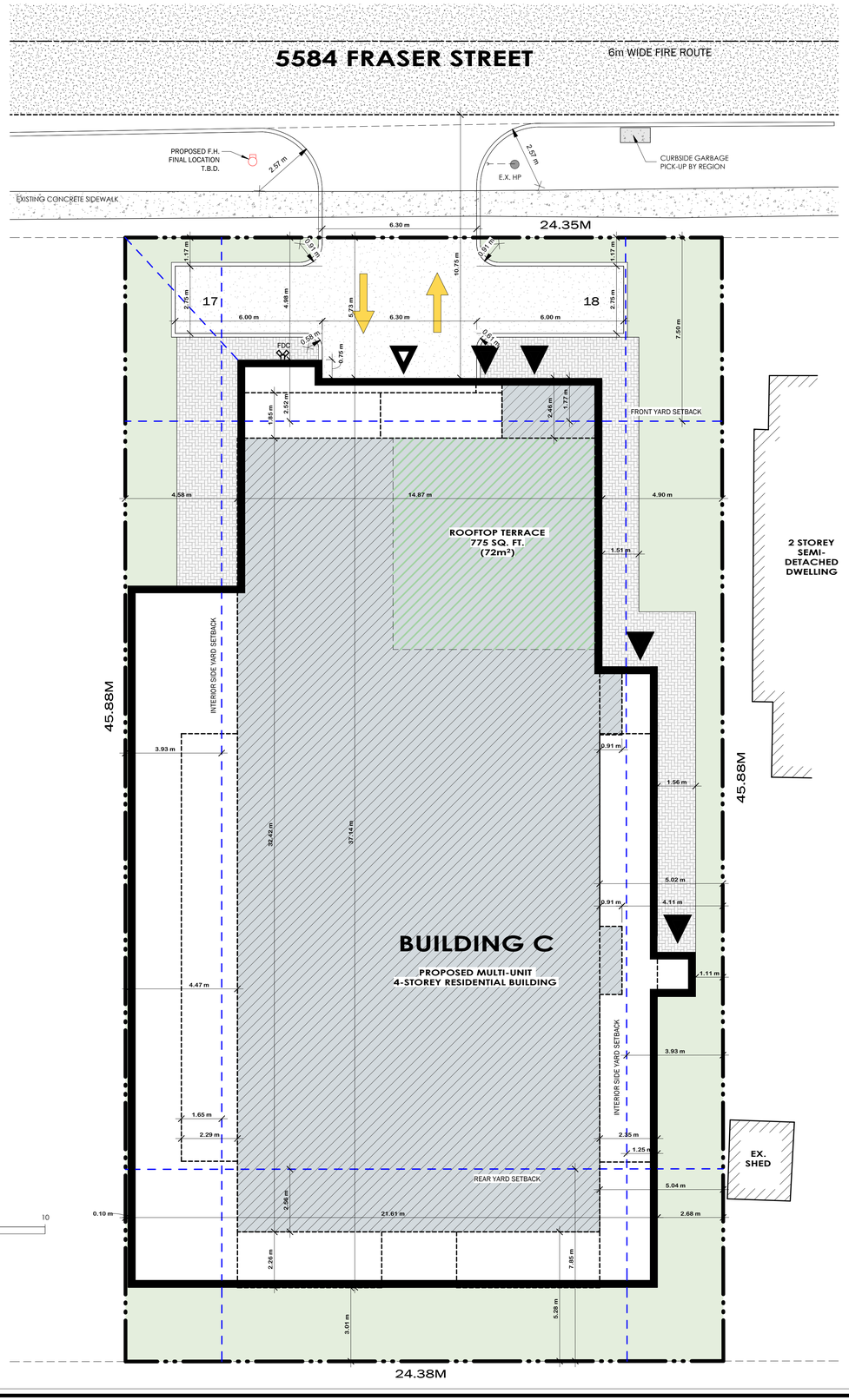
Prepared by:

Marc Dimayuga
Transportation Analyst

Approved by:

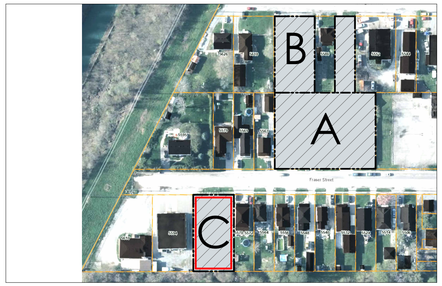
Richard Pernicky, MITE
Principal

Appendix A - Proposed Site Plan



SITE PLAN - BUILDING C

1 : 100



5584 FRASER STREET, NIAGARA FALLS, ON

ZONED PRESTIGE INDUSTRIAL IN ACCORDANCE WITH ZONING BY-LAW NO.79-200

ZONING CHART

	PROVISION	REQUIREMENT	PROPOSAL	COMPLY
	MIN. LOT AREA	57 m² FOR EACH DWELLING UNIT 57 m² X 18 UNITS = 1,026 m²	62.14 m² X 18 UNITS 1,118.6 m²	YES
MV 1	MIN. LOT FRONTAGE	45 m	24.35 m	NO
MV 2	MIN. FRONT YARD DEPTH	7.5 m	4.98 m	NO
MV 3	MIN. REAR YARD DEPTH	ONE-HALF THE HEIGHT OF THE BUILDING, OR 10 m, WHICHEVER IS GREATER PROPOSED BLD. HEIGHT: 15.7 m / 2 = 7.85 m	5.28 m	NO
	MIN. INTERIOR SIDE YARD WIDTH	ONE-QUARTER THE HEIGHT OF THE BUILDING PROPOSED BLD. HEIGHT: 15.7 m / 4 = 3.93 m	4.47 m 5 m	YES
	MIN. EXTERIOR SIDE YARD WIDTH	7.5 m	N/A	N/A
MV 4	MAX. LOT COVERAGE	30%	71.2%	NO
	MAX. HEIGHT OF BUILDING OR STRUCTURES	28 m, SUBJECT TO SECTION 4.7	15.7 m	YES
	NUMBER OF APARTMENT DWELLINGS ON ONE LOT	1 ONLY	1	YES
MV 5	PARKING AND ACCESS REQUIREMENTS	IN ACCORDANCE WITH SECTION 4.19.1 1.4 PARKING SPACES PER DWELLING UNIT 1.4 X 18 UNITS = 25.2 SPACES	18 PARKING SPACES 1 BARRIER FREE PARKING PROVIDED (1 REQUIRED)	NO
	MIN. PARKING STALL WIDTH	2.75 m	2.75 m	YES
	MIN. PARKING STALL LENGTH	6 m	6 m	YES
	MANEUVERING AISLE WIDTH	6.3m	6.3 m	YES
	ACCESSORY BUILDINGS AND ACCESSORY STRUCTRES	IN ACCORDANCE WITH SECTIONS 4.13 AND 4.14		
MV 6	MIN. LANDSCAPED OPEN SPACE	55% OF THE LOT AREA	21.1%	NO
MV 7	MIN. AMENITY SPACE FOR AN APRATMENT DWELLING OR STACKED TOWNHOUSE DWELLING	20 m² FOR EACH DWELLING UNIT	5.9 m² FOR EACH DWELLING UNIT	NO
	MAX. PROJECTION FOR A BALCONY INTO A REQUIRED FRONT YARD	1.8 m	1.77 m	YES
MV 8	MAX. PROJECTION FOR A BALCONY INTO A REQUIRED SIDE YARD	0.45 m	1.65 m 1.25 m	NO
	PARKING IN YARDS WITHIN THE R4, R5A, R5B, R5C, R5D, R5E AND R5F ZONES NO PERSON SHALL USE ANY PORTION OF THE FRONT YARD OF ANY LOT FOR THE PARKING OR STORING OF ANY MOTOR VEHICLE UNLESS EITHER A LANDSCAPED OPEN SPACE STRIP OR A DECORATIVE WALL OR DECORATIVE FENCE AND A LANDSCAPED OPEN SPACE STRIP IS PROVIDED AND MAINTAINED ALONG THE PART OF EVERY FRONT LOT LINE AND SIDE LOT LINE WHICH ABUTS A STREET, EXCEPT THAT PART THEREOF CROSSED BY AN ACCESS DRIVEWAY OR SIDEWALK, AN IN ACCORDANCE WITH THE FOLLOWING REGULATIONS; IF ONLY A LANDSCAPED OPEN SPACE IS PROVIDED SUCH LANDSCAPED OPEN SPACE STRIP SHALL HAVE A MINIMUM WIDTH OF 3 METRES, UNLESS A DECORATIVE WALL OR DECORATIVE FENCE IN ACCORDANCE WITH SUBSECTION (II) IS PROVIDED; IN WHICH CASE THE LANDSCAPED OPEN SPACE STRIP SHALL HAVE A MINIMUM WIDTH OF 1.5 METRES. THE HEIGHT OF A DECORATIVE WALL OR FENCE SHALL BE A MINIMUM OF 1 METRE ABOVE THE AVERAGE LEVEL OF THE PARKING AREA IN THE FRONT YARD. ANY SUCH DECORATIVE WALL OR FENCE SHALL BE LOCATED A MINIMUM OF 1 METRE INSIDE THE ABUTTING STREET LINE; WHERE A DAYLIGHTING TRIANGLE IS REQUIRED, NO SUCH DECORATIVE WALL OR DECORATIVE FENCE SHALL BE LOCATED WITHIN SUCH DAYLIGHTING TRIANGLE.		TWO PARKING SPACE IS LOCATED WITHIN THE FRONT YARD 1m WIDE LANDSCAPING STRIP	YES

ISSUED FOR

C

KEY PLAN:

- PROPERTY LINE
- 6m FIRE ACCESS ROUTE
- GARBAGE TRUCK ROUTE
- LANDSCAPED AREA
- ROOF TERRACE
- LANDSCAPE PAVERS
- SIDEWALK
- BUILDING ENTRANCE

UNIT INFO.

BUILDING C

UNIT STATISTICS (FINAL UNIT COUNTS AND SQUARE FOOTAGES TO BE DETERMINED AT DESIGN DEVELOPMENT STAGE

1ST FLOOR	PARKING
2ND FLOOR	6 UNITS
3RD FLOOR	6 UNITS
4TH FLOOR	6 UNITS

TOTAL UNITS: 18 UNITS

6 - 2 BEDROOM UNITS
12 - 1 BEDROOM UNITS

No.	DATE:	DESCRIPTION:	BY:
1	FEB 08 2024	PRE-CON R0	ACK

2016-146

COMMISSION:

VISCA RESIDENTIAL DEVELOPMENT

5584 FRASER STREET, NIAGARA FALLS, ON

PROJECT

TRUE N

A·C·K
architects
STUDIO INC.

Architectural Office:
290 Glendale Ave. St.Catharines, ON, L2T 2L3
905 984 5545

SHEET TITLE:

SITE PLAN BUILING C

DRAWN BY:	JMR/CH	DRAWING No.:
CHECKED BY:	MDA	SP c
DATE ISSUED:	FEB 08 2024	
PROJECT No.:	2016-146	