



PO Box 1749  
Halifax, Nova Scotia  
B3J 3A5 Canada

## MEMORANDUM

TO: Chair and Members of the Design Advisory Committee

FROM: Sean Audas, Principal Planner & Development Officer, Current Planning

DATE: June 9<sup>th</sup>, 2021

SUBJECT: **Case # 23056: Level III Site Plan Approval Application for 169 Wyse Rd, Dartmouth, N.S.**

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**Background:**

The applicant has submitted a Level III Site Plan Approval under the [Regional Centre Land Use Bylaw](#) (LUB) for 169 Wyse Rd, Dartmouth, N.S. (PID #00045351). A pre-application has been completed and the proposal has been deemed compliant with the requirements of the LUB.

The applicant is seeking a recommendation from the Design Advisory Committee on the design requirements, as required by the LUB. Public consultation has not yet been completed for this project.

**Existing Use:** There was formerly a commercial building located at 169 Wyse Rd, but the property has been vacant since 2017.

**Zoning:** CEN-2 (Centre 2) under the Regional Centre Land Use Bylaw.

**Proposal:**

The proposal before the Committee is for an 8-storey, 113-unit residential building with one level of commercial space and two levels of underground parking. The proposed building is classified as a tall mid-rise building under the LUB (20-26 metres in height).

**Input Requested from Design Advisory Committee:**

In accordance with the requirements of the LUB and the Terms of Reference for the Design Advisory Committee, the Committee is being asked to provide a recommendation to the Development Officer regarding the design requirements of Part VI. No variations have been requested. The following chapters of Part VI are relevant to this proposal:

Chapter 1: General Site Plan Approval Design Requirements	Chapter 1 sets out the requirement for site plan approval. There are no criteria to be satisfied.
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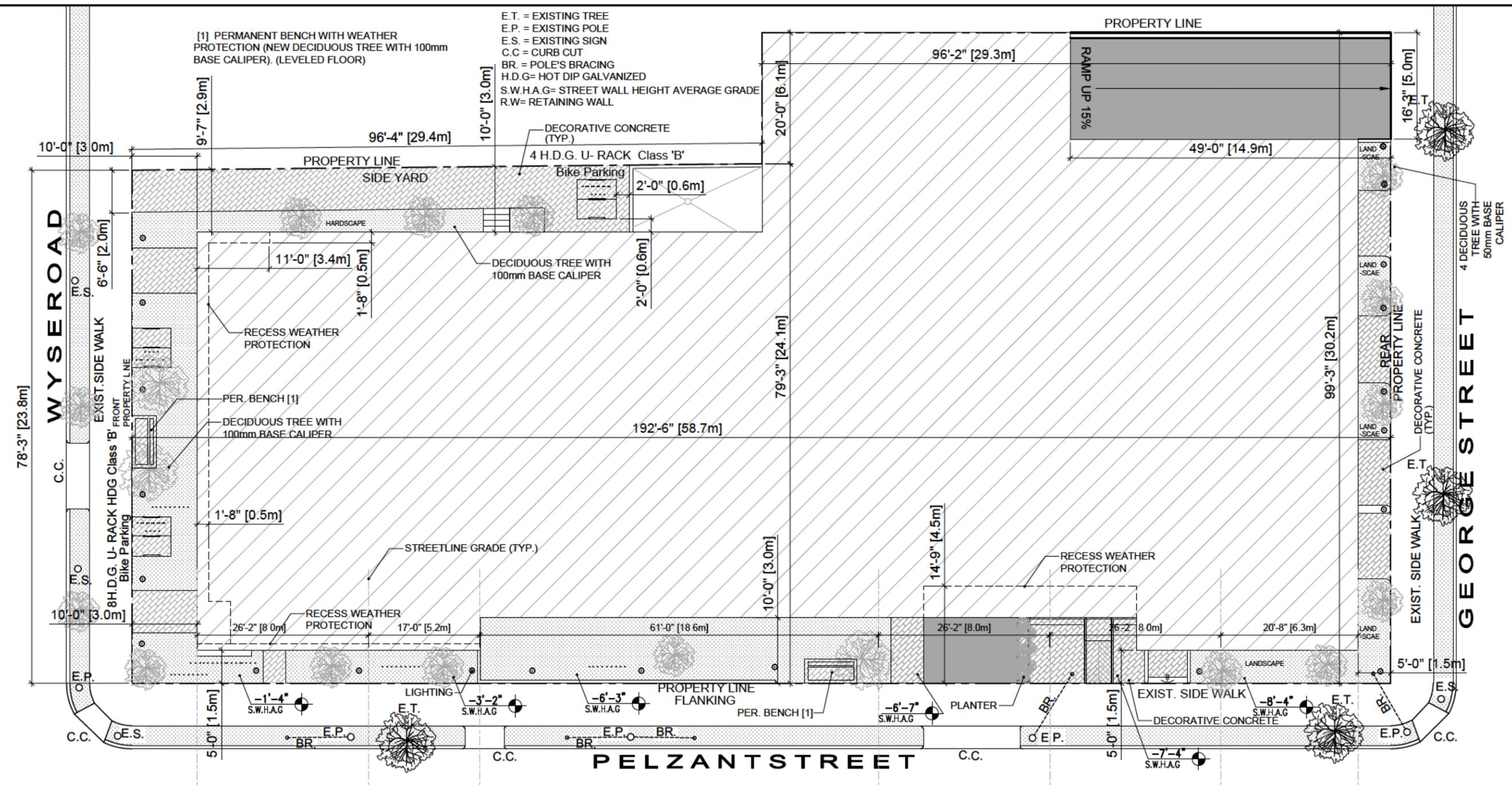
<p>Chapter 2: At-Grade Private Open Space Design Requirements</p>	<p>The Landscape Plan and the Site Plan illustrate the design requirements of this chapter.</p> <ul style="list-style-type: none"> <li>- The site will contain at-grade private open space at the front of the building, along Wyse Rd, and on flanking side of the building, along Pelzant Street. These spaces will abut an existing public sidewalk.</li> <li>- The required 2 metre-wide connection for pedestrian access has been provided along the abutting sidewalk.</li> <li>- The at-grade private open space incorporates barrier-free access and permanent seating. The proposed groundcover is vegetation and pavers leading to entrances.</li> <li>- The proposed weather protection is a cantilever or a recess over the entrances and deciduous trees with a minimum base caliper of 100mm.</li> </ul>
<p>Chapter 3: Building Design Requirements</p>	<p>The Elevation Drawings and Building Renderings illustrate the design requirements of this Chapter.</p> <ul style="list-style-type: none"> <li>- Streetwall articulation has been provided using change in colours, materials, projections, and recesses.</li> <li>- Pedestrian entrances are distinguished using changes in colours, materials, projections, and recesses.</li> <li>- The ground floor commercial unit has clear glass glazing along the street wall between the required 50%-80%.</li> <li>- Weather protection has been provided for the building entrance through cantilevered entrances to the commercial space and recessed entrances to the residential space.</li> <li>- Exposed foundation/underground parking has cladding consistent with the exterior façade.</li> <li>- Building top distinction is accomplished with a change in materials and colour, as well as a 0.15m projecting parapet.</li> <li>- Rooftop mechanical features are visually integrated into the design of the building and concealed from the public view at the streetline.</li> </ul>
<p>Chapter 4: Parking, Access, and Utilities Design Requirements</p>	<ul style="list-style-type: none"> <li>- A pedestrian connection connects the public sidewalk to the at-grade private open space on the site.</li> <li>- The motor vehicle parking is internal to the building and screened from the public view.</li> <li>- A ramp is provided at the main residential entrance on Pelzant Street, 1.3m x 2.0m.</li> <li>- Utility features are enclosed within a projection or recess or hidden with opaque screening.</li> </ul>
<p>Chapter 5: Heritage Conservation Design Requirements</p>	<ul style="list-style-type: none"> <li>- Not applicable – the subject property is not a heritage property and is not within a heritage conservation district.</li> </ul>
<p>Chapter 6: Other Design Requirements</p>	<ul style="list-style-type: none"> <li>- Building entrances, walkways and at-grade private open spaces will be illuminated.</li> <li>- The subject site is not a View Terminus Site.</li> </ul>

Chapter 7: Variation Criteria	- No variations have been proposed.
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Any recommendations made by the Committee will be considered by the Development Officer prior to approval or refusal of the Site Plan Approval application. Any changes to the building informed by the recommendation of the Committee must meet the requirements of the Land Use Bylaw.

**Attachments:**

Please refer to the digital building plans package for all renderings, floor plans, landscaping, and design rationale.



CEN-2 ZONE TALL MID-RISE BUILDING

NET LOT AREA: 17,123 Sqf  
 BUILDING FOOT PRINT : 13,423 Sqf  
 PROPOSED LOT COVERAGE ABOVE GROUND FLOOR: 80%  
 FAR: 5  
 ALLOWABLE GROSS FLOOR AREA: 85,615 Sqf  
 TOTAL GROSS FLOOR AREA: 85,610 Sqf

FOR GROUND LEVEL LANDSCAPE SUMMERY SEE A102

**PROJECT DATA: 169 WYSE ROAD**

MIXED-USE PROJECT CONSISTING OF:

PARKADE 44 TYPICAL PARKING SPACES  
 GROUND LEVEL COMMERCIAL 2460 Sqf  
 AMENITY AREA:  
 53.9 Sqf (5 m<sup>2</sup>) / RES. UNIT 113 x 53.9= 6091 Sqf (565m<sup>2</sup>) REQUIRED  
 50% INTERIOR AMENITY 3046 Sqf (283m<sup>2</sup>)REQUIRED / 3067 Sqf (285m<sup>2</sup>)PROVIDED  
 50% EXTERIOR AMENITY 3046 Sqf (283m<sup>2</sup>)REQUIRED / 9070 Sqf (842m<sup>2</sup>)PROVIDED  
 INCL. BALCONIES AREA: 5546 Sqf (515m<sup>2</sup>)+  
 TOTAL GROUND OPEN SPACE AREA: 3524 Sqf (327m<sup>2</sup>)

**SITE PLAN**

SCALE: 1/16"=1'-0"

RESIDENTIAL:  
 BACH. 1 BR. 2 BR. TOWNHOUSE TOTAL  
 65 44 4 113  
 LOADING AREA 99 Sqf (30 m<sup>2</sup>)REQUIRED / PROVIDED  
 BICYCLE PARKING REQUIREMENTS:  
 0.5 SP / RES. UNIT 113x0.5=56 REQUIRED / 57 PROVIDED  
 80% CLASS 'A' 45 CLASS 'A' REQUIRED / 45 PROVIDED  
 20% CLASS 'B' 11 CLASS 'B' REQUIRED / 12 PROVIDED

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

101-72 Gary Martin Dr.  
 Bedford NS Canada B4B 0P7

CONSULTANT:



Suite 5 - 1350 Bedford Hwy Bedford NS B3A 1E1  
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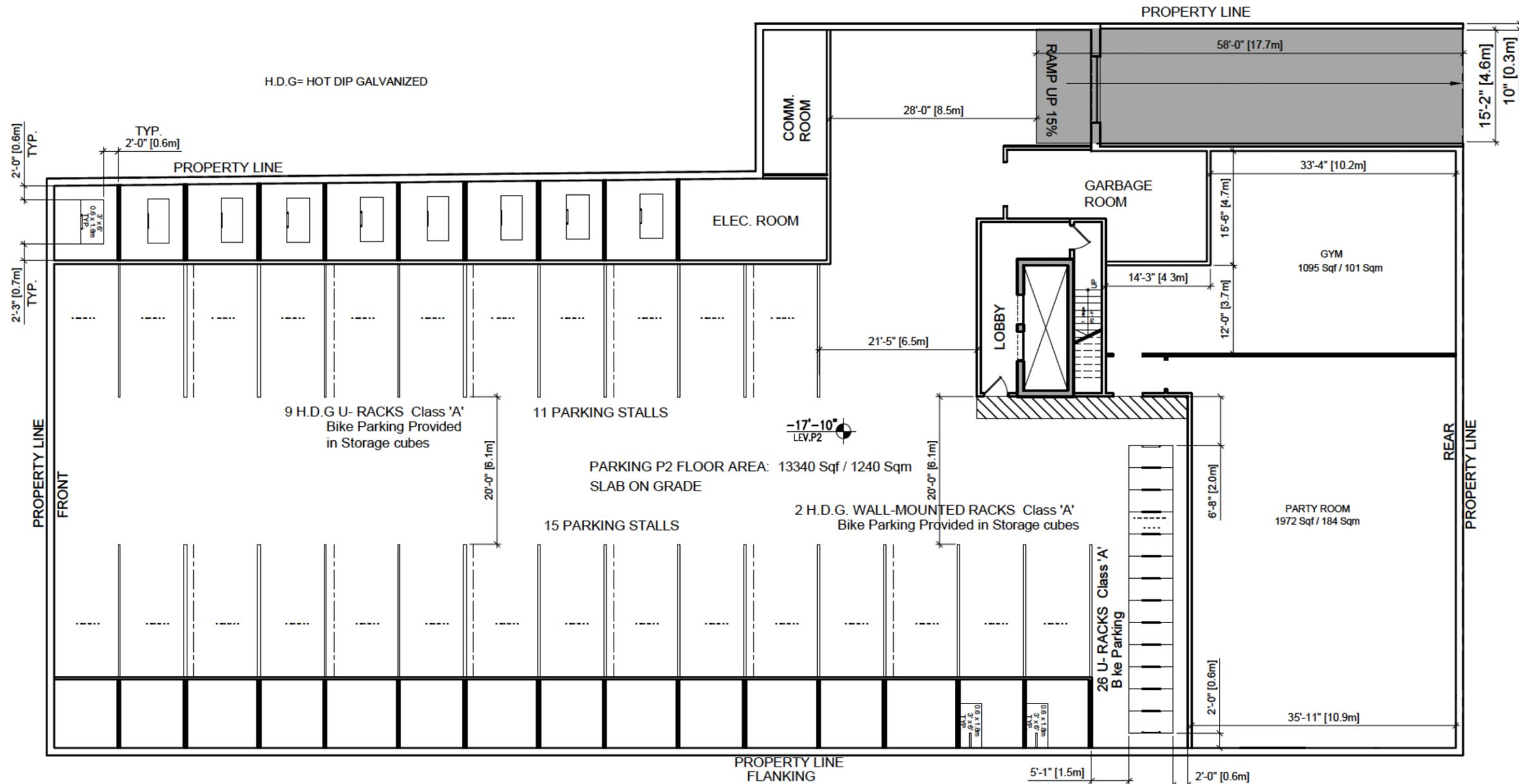
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C11	ISSUED FOR PERMIT ONLY	04/30/21
C10	ISSUED FOR PERMIT ONLY	03/31/21
C9	ISSUED FOR PERMIT ONLY	02/28/21
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C7	ISSUED FOR PERMIT ONLY	11/04/20
C6	ISSUED FOR PERMIT ONLY	10/28/20
C5	ISSUED FOR PERMIT ONLY	08/28/20
C4	ISSUED FOR PERMIT ONLY	08/23/20
C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR REVIEW ONLY	04/07/20
C1	ISSUED FOR REVIEW ONLY	04/06/20

REVISIONS

PROJECT  
 169 WYSE ROAD  
 DARTMOUTH, NS

TITLE:  
 SITE PLAN

drawn by: S.S.	checked: M.R.
date: MAR. 2020	approved: M.R.
scale: 1/16" = 1'	dwg #: A101
project #: 200106	



# PARKING P2

SCALE: 1/16" = 1'-0"

GROUND LEVEL LANDSCAPE SUMMERY										
DESCRIPTION	TOTAL GROUND OPEN SPACE AREA		SEC. 158 (2) REQUIREMENTS		TOTAL LANDSCAPED AREA		SOFT LANDSCAPE AREA		HARD LANDSCAPE AREA	
	sqf	sqm	sqf	sqm	sqf	sqm	sqf	sqm	sqf	sqm
GROUND LEVEL	3524	327	1466	136	2058	191	1428	132.6	630	58.4
PERCENT					100%		69.4%		30.6%	

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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C1	ISSUED FOR REVIEW ONLY	04/06/20

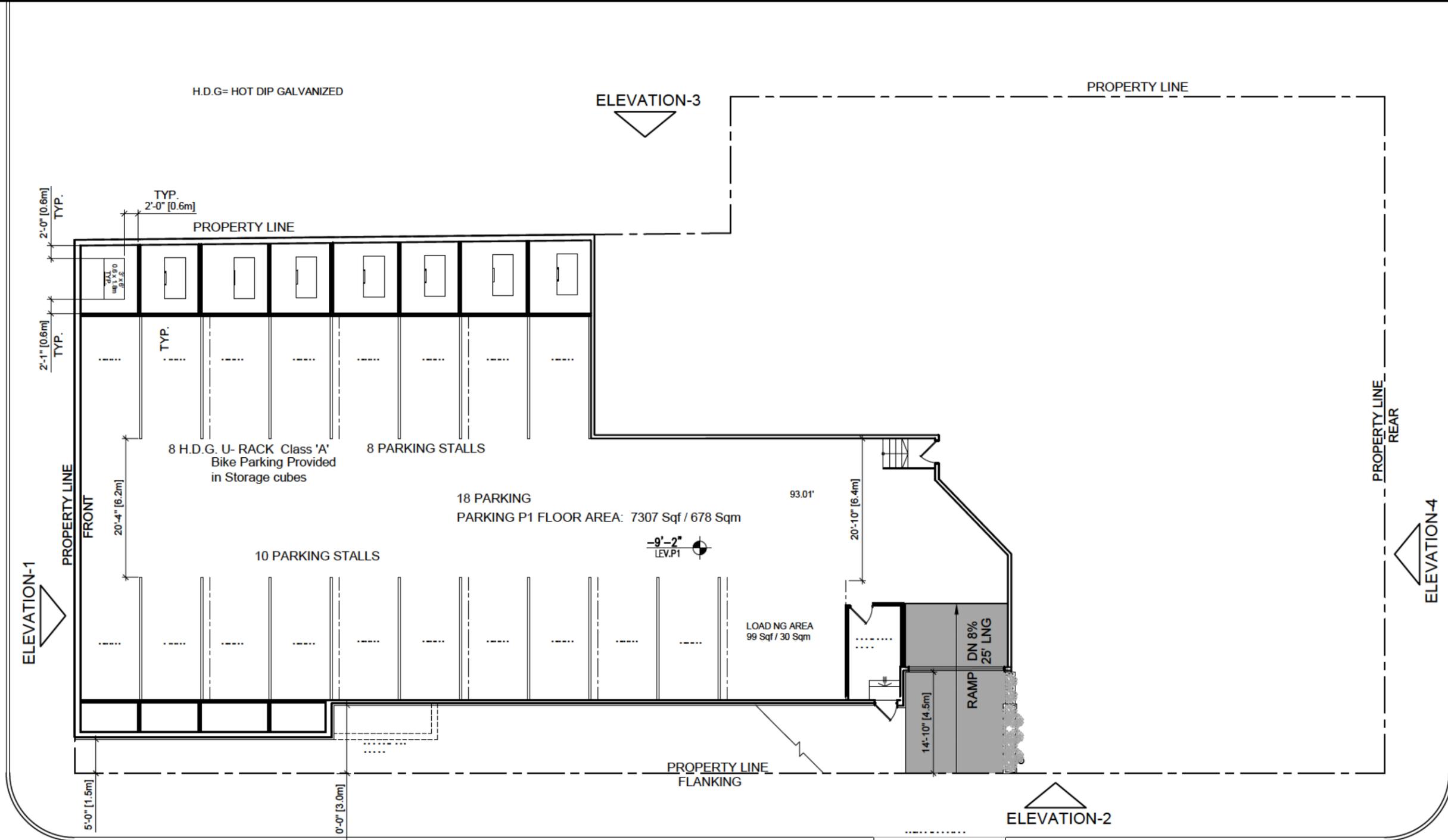
REVISIONS

PROJECT  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**PARKING P2 FLOOR PLAN**

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A102
project #: 200106	

WYSER ROAD



**PARKING P1**  
SCALE: 1/16" = 1'-0"

GEORGE STREET

ELEVATION-3

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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C2	ISSUED FOR REVIEW ONLY	04/07/20
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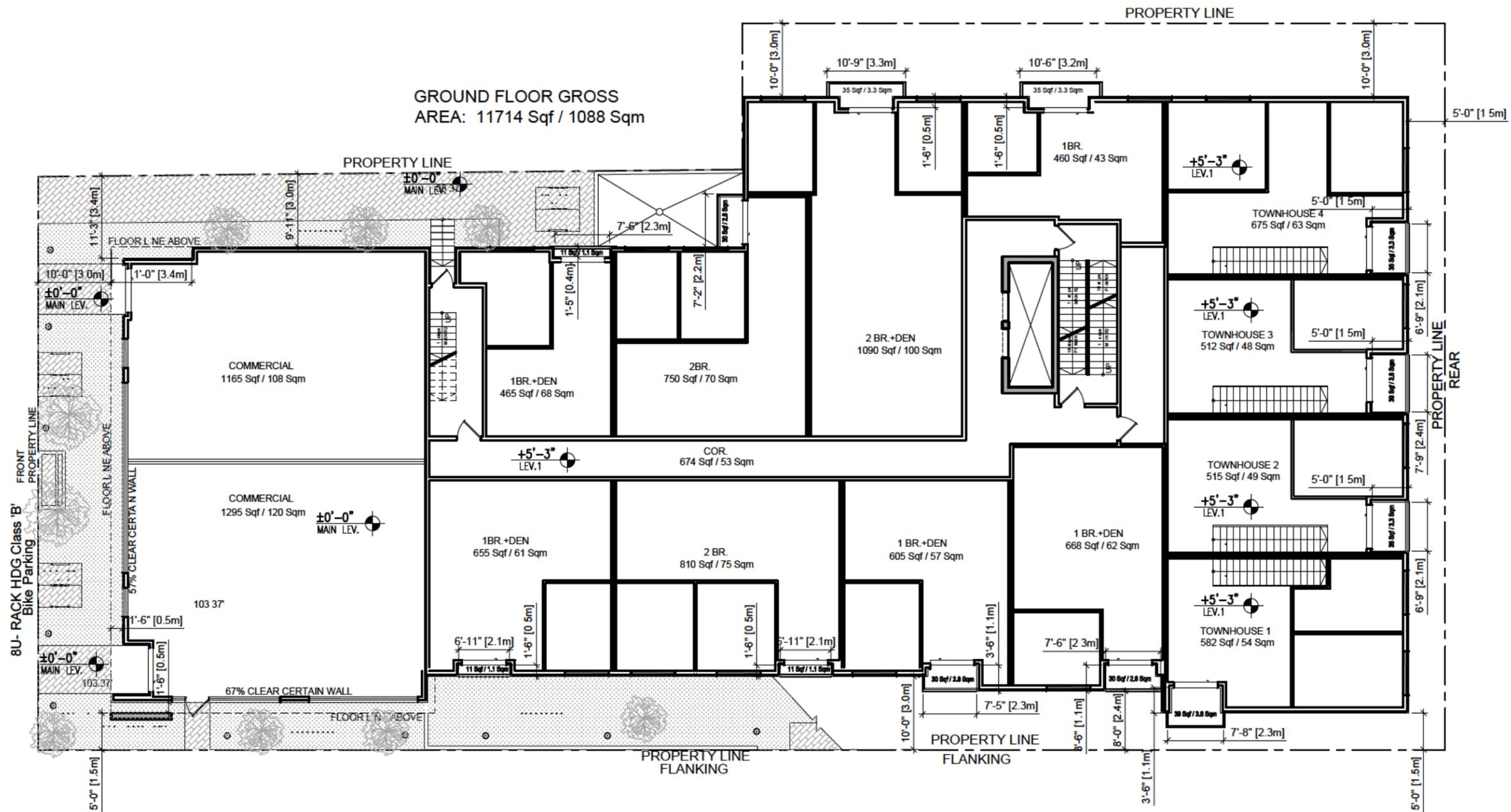
No.	DESCRIPTION	Date

PROJECT  
169 WYSE ROAD  
DARTMOUTH, NS

TITLE:  
**PARKING P1 FLOOR PLAN**

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A103
project #: 200106	





**LEVEL.1 FLOOR PLAN**  
SCALE: 1/16" = 1'-0"

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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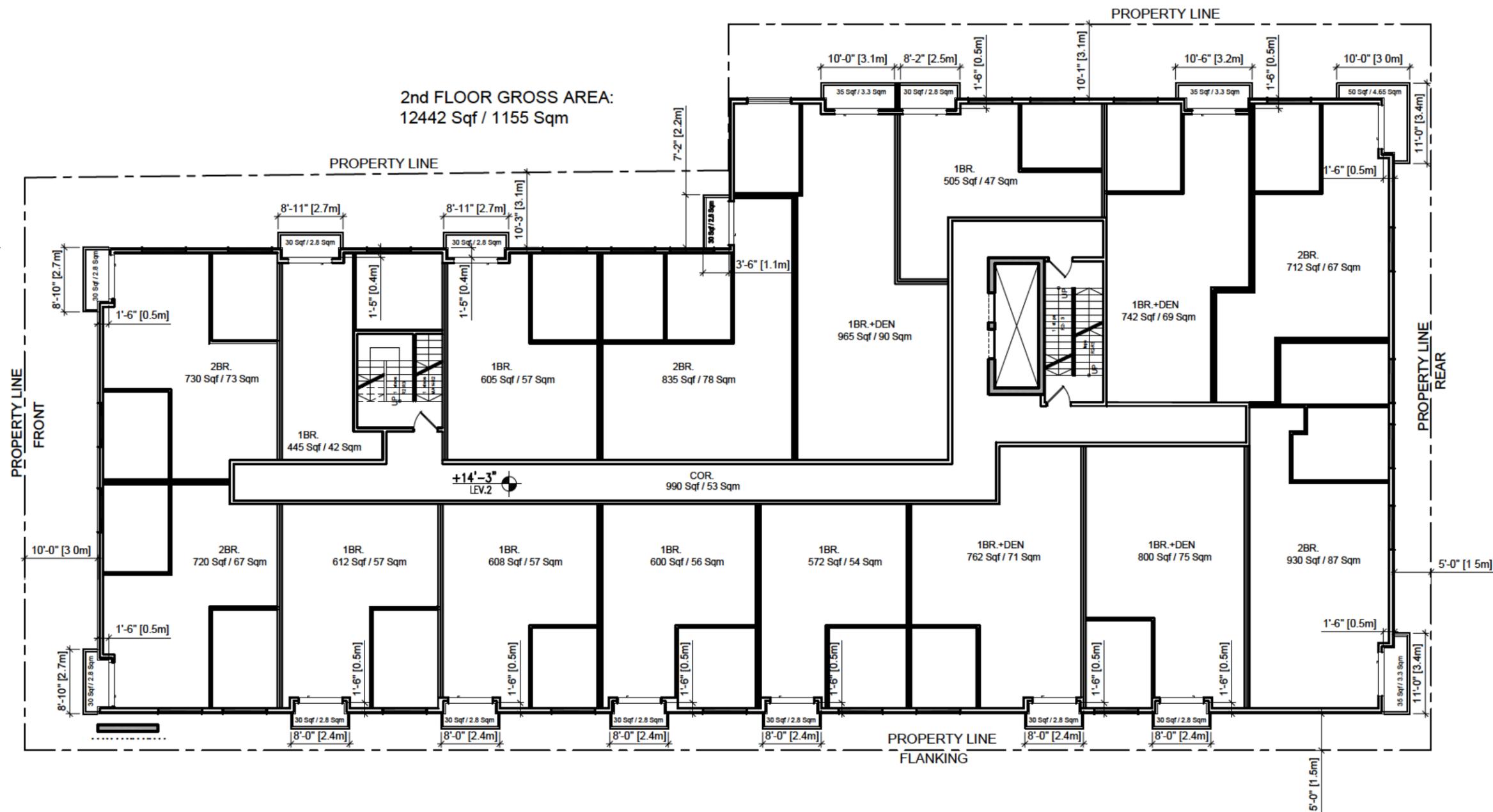
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C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR REVIEW ONLY	04/07/20
C1	ISSUED FOR REVIEW ONLY	04/06/20

No.	DESCRIPTION	Date

PROJECT  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**LEVEL.1 FLOOR PLAN**

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A105
project #: 200106	



CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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No.	DESCRIPTION	Date
C11	ISSUED FOR PERMIT ONLY	04/30/21
C10	ISSUED FOR PERMIT ONLY	03/31/21
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C1	ISSUED FOR REVIEW ONLY	04/06/20

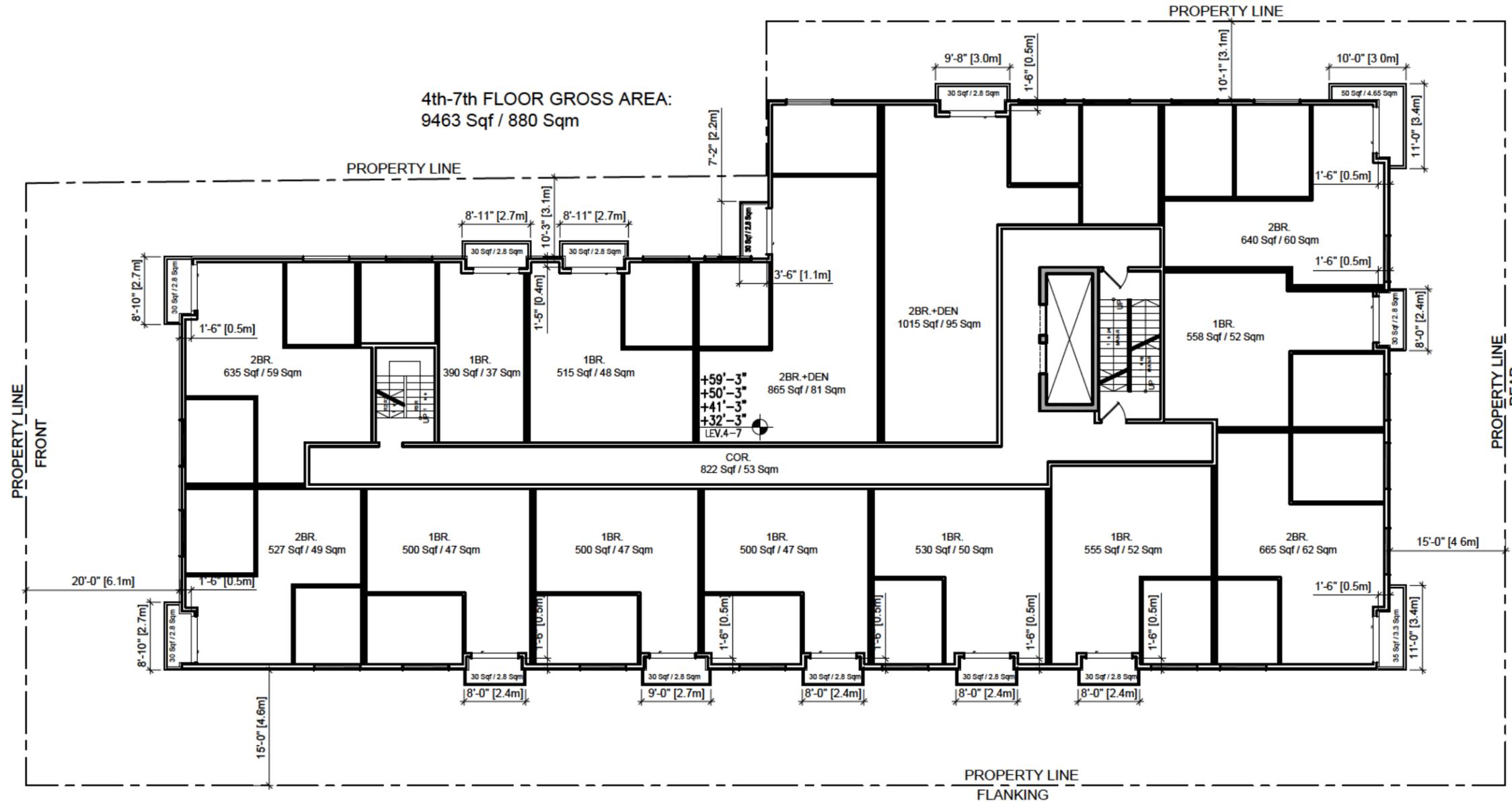
No.	DESCRIPTION	Date

PROJECT  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**LEVEL 2 FLOOR PLAN**

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A106
project #: 200106	





4th-7th FLOOR GROSS AREA:  
9463 Sqf / 880 Sqm

## LEVEL.4 - LEVEL.7 FLOOR PLAN

SCALE: 1/16" = 1'-0"

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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No.	DESCRIPTION	Date
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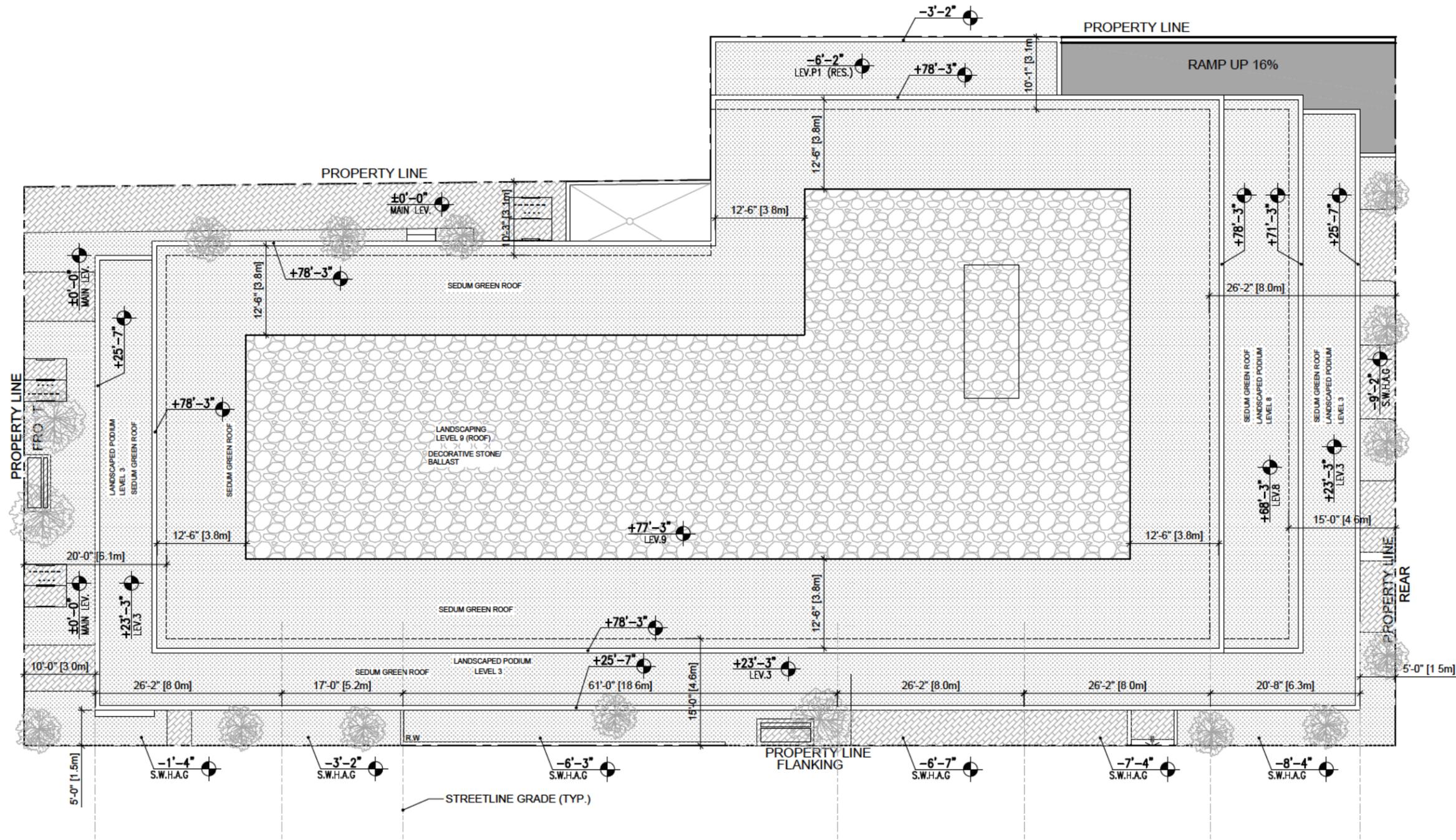
REVISIONS

PROJECT  
169 WYSE ROAD  
DARTMOUTH, NS

TITLE:  
LEVEL.4 -- LEVEL.7  
FLOOR PLAN

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A108
project #: 200106	





S.W.H.A.G= STREET WALL HEIGHT AVERAGE GRADE  
R.W= RETAINING WALL

## ROOF PLAN

SCALE: 1/16" = 1'-0"

ROOF (LEV. 9) LANDSCAPE SUMMERY										
DESCRIPTION	TOTAL GROUND OPEN SPACE AREA		SEC. 158 (2) REQUIREMENTS		TOTAL LANDSCAPED AREA		SOFT LANDSCAPE AREA		HARD LANDSCAPE AREA	
	sqf	sqm	sqf	sqm	sqf	sqm	sqf	sqm	sqf	sqm
GROUND LEVEL	9841	914	N/A	N/A	9841	914	5020	466	4821	448
PERCENT					100%		51.0%		49.0%	

CLIENT:  
**ZAGROS NOVA DEVELOPMENTS Ltd.**

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No.	DESCRIPTION	Date
C10	ISSUED FOR PERMIT ONLY	08/10/21
C9	ISSUED FOR PERMIT ONLY	04/20/21
C8	ISSUED FOR PERMIT ONLY	04/20/21
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C5	ISSUED FOR PERMIT ONLY	11/18/20
C4	ISSUED FOR PERMIT ONLY	11/04/20
C3	ISSUED FOR PERMIT ONLY	10/28/20
C2	ISSUED FOR PERMIT ONLY	08/28/20
C1	ISSUED FOR PERMIT ONLY	08/23/20

REVISIONS

PROJECT

169 WYSE ROAD  
DARTMOUTH, NS

TITLE:

ROOF PLAN

drawn by:

S.S

checked:

M.R

date:

MAR. 2020

approved:

M.R

scale:

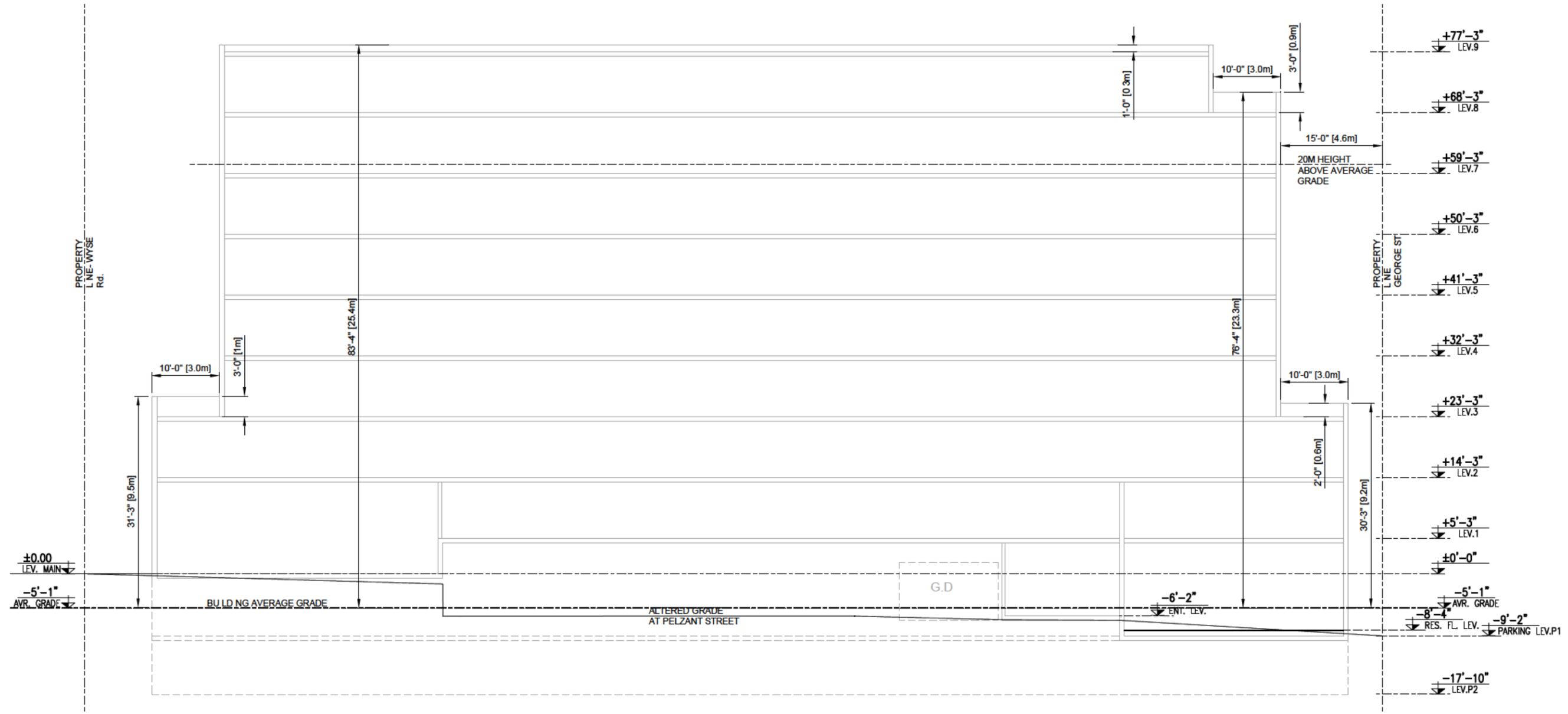
1/16" = 1'

dwg #:

A110

project #:

200106



# TYPICAL SECTION

SCALE: 1/16" = 1'-0"

CLIENT:  
ZAGROS NOVA DEVELOPMENTS Ltd.

101-72 Gary Martin Dr.  
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CONSULTANT:



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No.	DESCRIPTION	Date
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C8	ISSUED FOR PERMIT ONLY	04/09/21
C7	ISSUED FOR PERMIT ONLY	03/31/21
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C5	ISSUED FOR PERMIT ONLY	11/18/20
C4	ISSUED FOR PERMIT ONLY	11/04/20
C3	ISSUED FOR PERMIT ONLY	10/20/20
C2	ISSUED FOR PERMIT ONLY	09/29/20
C1	ISSUED FOR PERMIT ONLY	08/23/20

REVISIONS

PROJECT

169 WYSE ROAD  
DARTMOUTH, NS

TITLE:

TYPICAL SECTION

drawn by: S.S	checked: M.R
date: MAR. 2020	approved: M.R
scale: 1/16" = 1'	dwg #: A111
project #: 200106	

- 1 BRICK
- 2 STONE
- 3 CEMENT BOARD SIDING
- 4 STEEL/ALUMINIUM SIDING
- 5 CONCRETE PARAPET WITH STEEL/ALUMINUM SIDING FINISH
- 6 HANDRAIL SMOKY TEMPERED GLASS
- 7 PATIO DOOR
- 8 VINYL WINDOW
- 9 DISTINCTION STEEL SIDING



1 ELEVATION 1  
A201 1/16" = 1'-0"

Owner  
**ZAGROS NOVA DEVELOPMENTS Ltd.**  
101 72 Gary Martin Dr.  
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CONSULTANT:  
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NO.	DESCRIPTION	Date
C11	ISSUED FOR PERMIT ONLY	04/20/21
C10	ISSUED FOR PERMIT ONLY	03/31/21
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C6	ISSUED FOR PERMIT ONLY	10/28/20
C5	ISSUED FOR PERMIT ONLY	09/09/20
C4	ISSUED FOR PERMIT ONLY	06/23/20
C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR PERMIT ONLY	04/07/20
C1	ISSUED FOR PERMIT ONLY	04/06/20

NO.	DESCRIPTION	Date

REVISIONS  
PROJECT:  
**169 WYSE ROAD DARTMOUTH, NS**

TITLE:  
**ELEVATIONS**

Drawn By: A.A	Checked By: S.S
Date Issue Date	Approved By: M.R
Scale As indicated	<b>A201</b>
Project 200106	

- 1 BRICK
- 2 STONE
- 3 CEMENT BOARD SIDING
- 4 STEEL/ALUMINIUM SIDING
- 5 CONCRETE PARAPET WITH STEEL/ALUMINIUM SIDING FINISH
- 6 HANDRAIL SMOKY TEMPERED GLASS
- 7 PATIO DOOR
- 8 VINYL WINDOW
- 9 DISTINCTION STEEL SIDING



2 ELEVATION 2  
A202 1/16" = 1'-0"

Owner  
**ZAGROS NOVA DEVELOPMENTS Ltd.**  
101 72 Gary Martin Dr.  
Bedford NS Canada B4B 0P7

CONSULTANT:  
**PARSCO**  
Specialized Engineering  
Quality Construction  
Suite 5 1350 Bedford Hwy, Bedford, NS B4A 1E1  
Tel: +1 (902) 402 1323  
Email: [marahbar@parscoeng.com](mailto:marahbar@parscoeng.com)  
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C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR PERMIT ONLY	04/07/20
C1	ISSUED FOR PERMIT ONLY	04/06/20

REVISIONS

PROJECT:  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**ELEVATIONS**

Drawn By: A.A	Checked By: S.S
Date Issue Date	Approved By: M.R
Scale As indicated	<b>A202</b>
Project 200106	

- 1 BRICK
- 2 STONE
- 3 CEMENT BOARD SIDING
- 4 STEEL/ALUMINIUM SIDING
- 5 CONCRETE PARAPET WITH STEEL/ALUMINIUM SIDING FINISH
- 6 HANDRAIL SMOKY TEMPERED GLASS
- 7 PATIO DOOR
- 8 VINYL WINDOW
- 9 DISTINCTION STEEL SIDING



3 ELEVATIONS 3  
A203 1/16" = 1'-0"

Owner  
**ZAGROS NOVA DEVELOPMENTS Ltd.**  
101 72 Gary Martin Dr.  
Bedford NS Canada B4B 0P7

CONSULTANT:  
**PARSCO**  
Specialized Engineering  
Quality Construction  
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Tel: +1 (902) 402 1323  
Email: [marjbar@parscoeng.com](mailto:marjbar@parscoeng.com)  
Web: [www.parscoeng.com](http://www.parscoeng.com)

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C2	ISSUED FOR PERMIT ONLY	04/07/20
C1	ISSUED FOR PERMIT ONLY	04/06/20

REVISIONS		
NO.	DESCRIPTION	Date

PROJECT:  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**ELEVATIONS**

Drawn By: A.A	Checked By: S.S
Date Issue Date	Approved By: M.R
Scale As indicated	<b>A203</b>
Project 200106	

- 1 BRICK
- 2 STONE
- 3 CEMENT BOARD SIDING
- 4 STEEL/ALUMINIUM SIDING
- 5 CONCRETE PARAPET WITH STEEL/ALUMINIUM SIDING FINISH
- 6 HANDRAIL SMOKY TEMPERED GLASS
- 7 PATIO DOOR
- 8 VINYL WINDOW
- 9 DISTINCTION STEEL SIDING



4 ELEVATIONS 4  
A204 1/16" = 1'-0"

Owner  
**ZAGROS NOVA DEVELOPMENTS Ltd.**  
101 72 Gary Martin Dr.  
Bedford NS Canada B4B 0P7

CONSULTANT:  
**PARSCO**  
Specialized Engineering  
Quality Construction  
Suite 5 1350 Bedford Hwy, Bedford, NS B44 1E1  
Tel: +1 (902) 402 1323  
Email: mpar@parscop.com  
Web: www.parscop.com

NO.	DESCRIPTION	Date
C11	ISSUED FOR PERMIT ONLY	04/20/21
C10	ISSUED FOR PERMIT ONLY	03/31/21
C9	ISSUED FOR PERMIT ONLY	02/25/21
C8	ISSUED FOR PERMIT ONLY	11/16/20
C7	ISSUED FOR PERMIT ONLY	11/04/20
C6	ISSUED FOR PERMIT ONLY	10/28/20
C5	ISSUED FOR PERMIT ONLY	09/08/20
C4	ISSUED FOR PERMIT ONLY	06/23/20
C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR PERMIT ONLY	04/07/20
C1	ISSUED FOR PERMIT ONLY	04/06/20

REVISIONS  
PROJECT:  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**ELEVATIONS**

Drawn By: A.A	Checked By: S.S
Date Issue Date	Approved By: M.R
Scale As indicated	<b>A204</b>
Project 200106	



2 ELEVATIONS 4 - Callout 2  
A205 1/16" = 1'-0"



3 ELEVATION 1 - Callout 3  
A205 1/16" = 1'-0"



1 ELEVATION 2 - Callout 1  
A205 1/16" = 1'-0"

Owner  
**ZAGROS NOVA DEVELOPMENTS Ltd.**  
101 72 Gary Martin Dr.  
Bedford NS Canada B4B 0P7

CONSULTANT:  
**PARSCO**  
Specialized Engineering  
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Suite 5 1350 Bedford Hwy, Bedford, NS B4A 1E1  
Tel: +1 (902) 402 1323  
Email: [marjbar@parscoeng.com](mailto:marjbar@parscoeng.com)  
Web: [www.parscoeng.com](http://www.parscoeng.com)

NO.	DESCRIPTION	Date
C11	ISSUED FOR PERMIT ONLY	04/20/21
C10	ISSUED FOR PERMIT ONLY	03/31/21
C9	ISSUED FOR PERMIT ONLY	02/25/21
C8	ISSUED FOR PERMIT ONLY	11/16/20
C7	ISSUED FOR PERMIT ONLY	11/04/20
C6	ISSUED FOR PERMIT ONLY	10/28/20
C5	ISSUED FOR PERMIT ONLY	09/08/20
C4	ISSUED FOR PERMIT ONLY	06/23/20
C3	ISSUED FOR PERMIT ONLY	05/04/20
C2	ISSUED FOR PERMIT ONLY	04/07/20
C1	ISSUED FOR PERMIT ONLY	04/06/20

REVISIONS  
PROJECT:  
**169 WYSE ROAD  
DARTMOUTH, NS**

TITLE:  
**STREET WALL HEIGHT**

Drawn By:	Checked By:
Author	Checker
Date	Approved By:
Issue Date	Approver
Scale	<b>A205</b>
1/16" = 1'-0"	
Project	200106









FORTE CONSTRUCTION MATERIALS

FORTE CONSTRUCTION MATERIALS  
REINFORCING • FORM CHAIRS • CONCRETE PUMP • COLUMNS





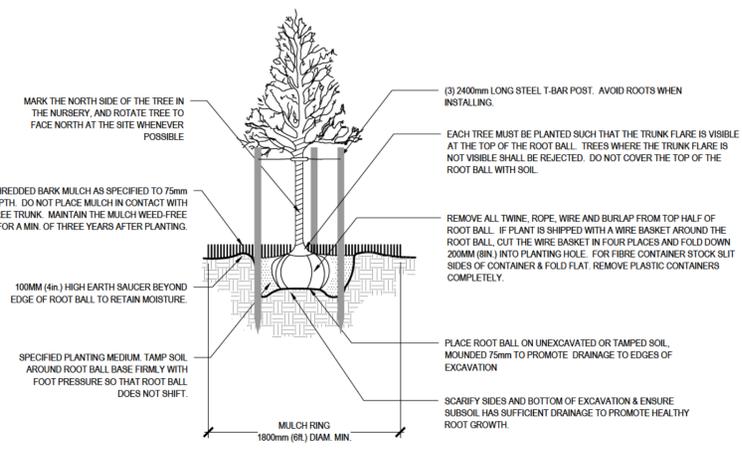






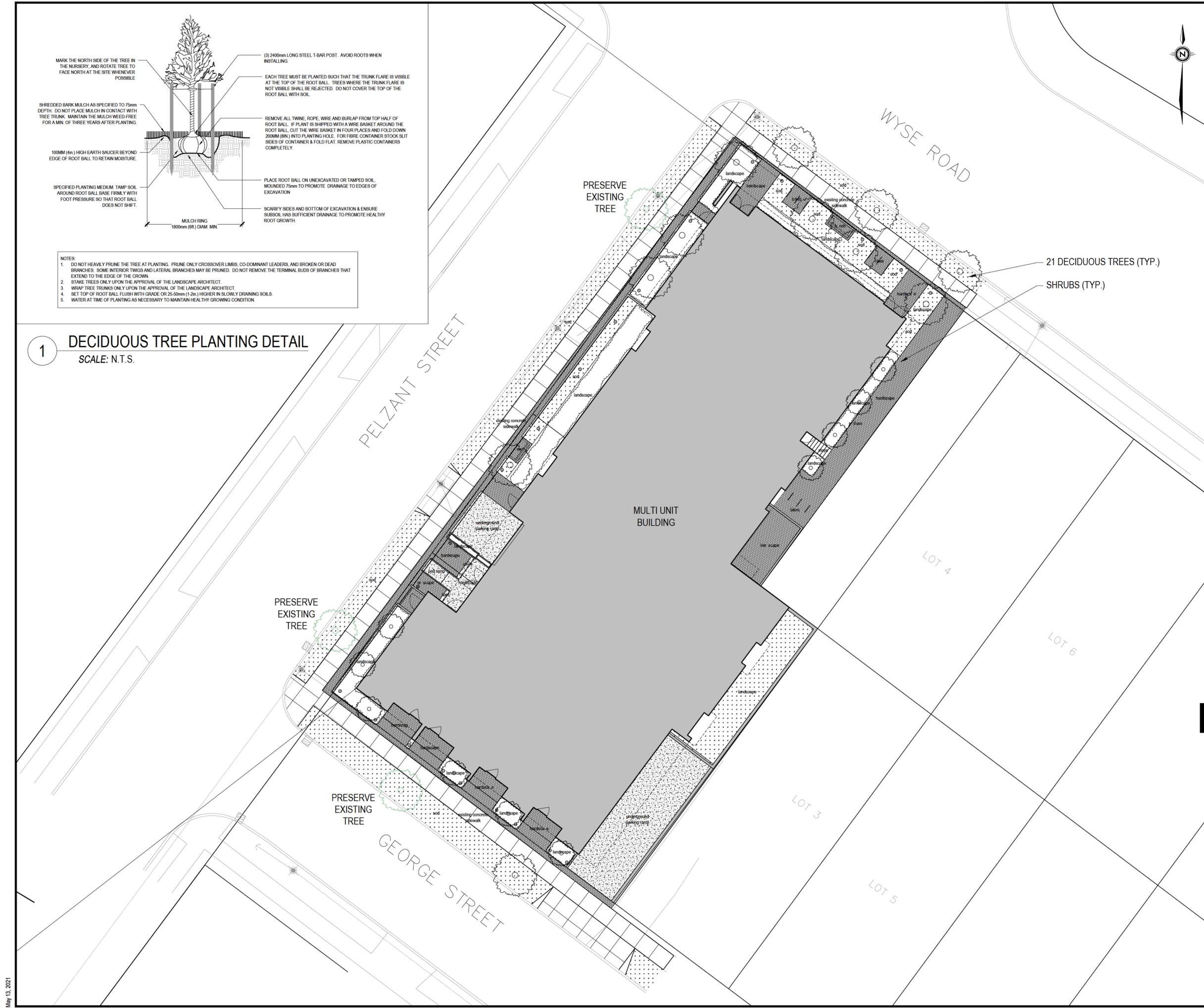




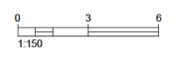


- NOTES:
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED. DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
  - STAKE TREES ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.
  - WRAP TREE TRUNKS ONLY UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT.
  - SET TOP OF ROOT BALL FLUSH WITH GRADE OR 25-50mm (1-2in.) HIGHER IN SLOWLY DRAINING SOILS.
  - WATER AT TIME OF PLANTING AS NECESSARY TO MAINTAIN HEALTHY GROWING CONDITION.

**1 DECIDUOUS TREE PLANTING DETAIL**  
SCALE: N.T.S.



KEY PLAN SCALE = 1:#.#,000



02	UPDATED CONCEPT DESIGN	2021-04-07
01	CONCEPT DESIGN	2021-02-22
NO.	DESCRIPTION	DATE

fathomstudio.ca  
1 Starr Lane  
Dartmouth, NS  
B2Y 4V7

**fathom**

Formerly  
Dexter Planning & Design



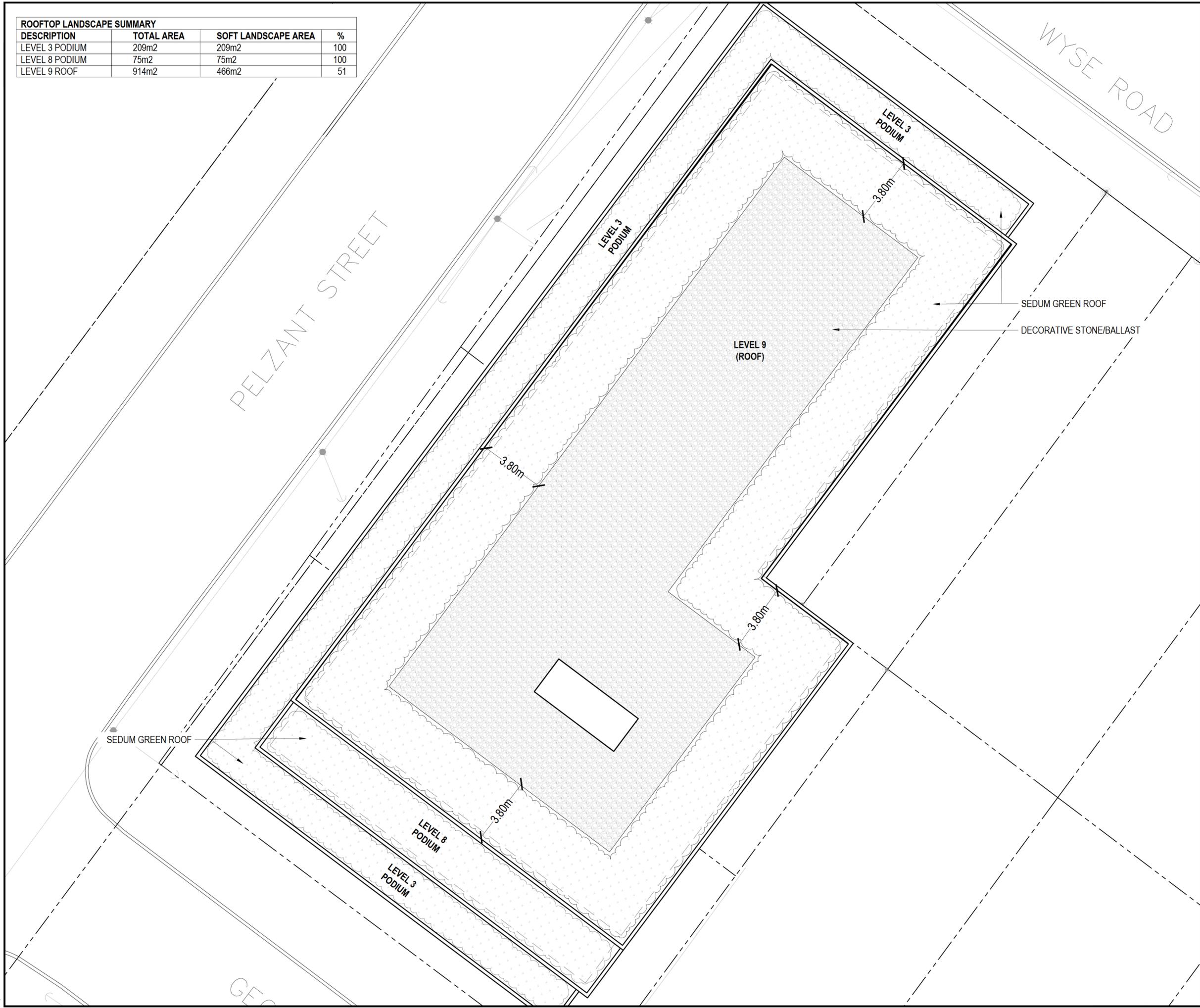
CLIENT  
**ZAGROSNOVA**

PROJECT  
**169 WYSE ROAD**  
DARTMOUTH, NOVA SCOTIA

SHEET DESCRIPTION  
**LANDSCAPE PLAN**

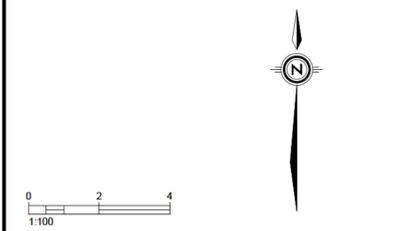
SCALE	DATE	SHEET
1:150	2021/05/13	L100
DRAWN	CHECKED	PROJECT NO.
RTL	RTL	20-177

ROOFTOP LANDSCAPE SUMMARY			
DESCRIPTION	TOTAL AREA	SOFT LANDSCAPE AREA	%
LEVEL 3 PODIUM	209m <sup>2</sup>	209m <sup>2</sup>	100
LEVEL 8 PODIUM	75m <sup>2</sup>	75m <sup>2</sup>	100
LEVEL 9 ROOF	914m <sup>2</sup>	466m <sup>2</sup>	51



KEY PLAN SCALE = 1:##,000

DRAWING KEY	
	SEDUM GREEN ROOF
	DECORATIVE STONE/BALLAST



NO.	DESCRIPTION	DATE
03	PLANNING APPROVAL	2021-05-13
02	UPDATED CONCEPT DESIGN	2021-04-07
01	CONCEPT DESIGN	2021-02-22

fathomstudio.ca  
1 Starr Lane  
Dartmouth, NS  
B2Y 4V7  
Formerly:  
Dartmouth Planning & Design

CLIENT  
ZAGROSNVA

PROJECT  
169 WYSE ROAD  
DARTMOUTH, NOVA SCOTIA

SHEET DESCRIPTION  
ROOFTOP LANDSCAPE PLAN

SCALE	DATE	SHEET
1:100	2021/04/07	L101
DRAWN JM	CHECKED RTL	PROJECT NO. 20-177



---

# 169 Wyse Road

## Transportation Impact Study

July 2020

Prepared for:

Zargos Nova Developments Ltd.  
101-72 Gary Martin Drive  
Bedford, Nova Scotia  
B4B 0P7

Prepared by:

Roger N. Boychuk, P. Eng.  
Senior Transportation Engineer

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Release

R0 — July 22, 2020



## Table of contents

01	Introduction and Existing Conditions	1	APPENDIX A	TRAFFIC COUNTS
1.1	Context and Study Area	2	APPENDIX B	TRIP GENERATION
1.2	Existing Roads and Intersections	3	APPENDIX C	TRIP DISTRIBUTION / ASSIGNMENT
1.3	Other Transportation Infrastructure	5	APPENDIX D	SYNCHRO REPORTS
02	Existing and Future Traffic Conditions	6		
2.1	Existing Traffic	7		
2.2	Analysis Period	7		
2.3	Analysis Time Horizon	7		
03	Proposed Development	8		
3.1	Trip Generation	10		
3.2	Trip Distribution and Assignment	10		
04	Transportation Analysis	11		
4.1	Transportation Modeling	12		
05	Conclusions and Recommendations	14		

# 01 Introduction and Existing Conditions

## 1.1 Context and Study Area

This study was prepared to identify the anticipated impacts of a new 100-unit mixed use development in southeast corner of the Wyse Road and Pelzant Street intersection in Dartmouth, Nova Scotia. The development is located about 500 meters north of the Halifax Harbour and about 800 meters west of the Macdonald Bridge. This positions the building immediately east of Boland Road which is a common commuter route used as an approach to the Macdonald Bridge.

At Boland Street, the Wyse Road cross section expands from a two-lane cross section west of the intersection to a 6 lane divided cross section approaching the Wyse Road intersection with Nantucket Avenue and the Macdonald Bridge.

This parcel of land has undergone a number of different land use re-developments and then sat vacant for a number of years. The current development proposal consists of 100 residential units and a small component of ground floor commercial space. The proposal complements the surrounding residential and commercial retail land uses and conveniently connects to major transit and active transportation infrastructure.

Vehicle access to the development will be provided through a new parkade ramp located on George Street which helps limit direct trips onto Wyse Road near the Boland Street intersection which includes a relatively complex arrangement of different driveways and roadways.

This Transportation Impact Study follows HRM's Guidelines for the Preparation of Transportation Impact Studies and general Traffic and Transportation Engineering principles for such studies.



## 1.2 Existing Roads and Intersections



### Wyse Road

Wyse Road is a major roadway that runs parallel to the Halifax Harbour between Windmill Road and Albro Lake Road. Adjacent to the development Wyse includes one eastbound lane towards the McDonald Bridge and three westbound lanes including: a dedicated right turn to Boland Street; a single through lane; and, a left turn lane that provides access to both Pelzant Street and to a commercial driveway directly opposite Boland Street. East of the development site, Wyse expands to three lanes in each direction with a wide grassed median. Wyse is a transit and truck route and includes concrete sidewalks on both sides of the road as well as multiple mid-block pedestrian crosswalks.



### Pelzant Street

Pelzant Street is a two-lane undivided local urban roadway about 9 meters in width and extends from Wyse Road approximately 285 meters south to Windmill Road. It is a curbed roadway with sidewalks on both sides of the road separated from the roadway by a grassed boulevard. The roadway is primarily residential in nature though has commercial access at Wyse Road and runs adjacent to Victoria Park and the Rope Works Community Garden located between John Street and Bligh Street immediately east of Pelzant Street.



### Boland Road

Boland Road is a two lane undivided urban roadway approximately 11 meters in width with curb and gutter and sidewalks on both sides of the road. Boland has mixed roadside environment including single family dwellings, multi-unit apartments and commercial properties closer to Wyse Road. Boland is a common commuter route that many drivers use as a connection between Victoria Road and Wyse Road. The intersections of Boland Road with both Wyse Road and Victoria Road are signalized.



### George Street

Similar to Pelzant, George Street is a two-lane undivided local urban roadway about 9 meters in width and has very low volumes of traffic. It is about 145 meters in length and extends between Pelzant Street at its west end and Dawson Street to the east. Dawson in turn also connects to Wyse and Windmill Road. It is a curbed roadway with sidewalks on both sides of the road separated from the roadway by a grassed boulevard. The roadway is primarily residential in nature and is the proposed access road to the development's parking driveway.



# 1.3 Other Transportation Infrastructure

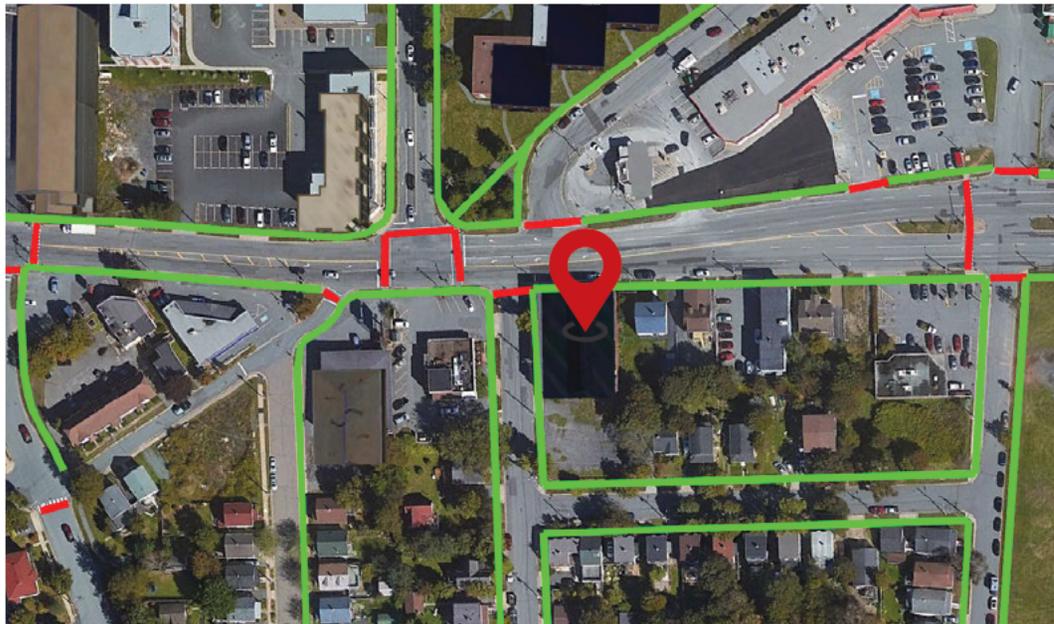
## Active Transportation

The downtown areas of both Halifax and Dartmouth have documented high cyclist and pedestrian activity (and other travel modes). This study area is no exception with many local AT origins and destinations surrounding the site as well as being located immediately adjacent to critical AT and transit corridors. These include the Dartmouth Bridge Transit Terminal, Dartmouth High and Biccennial Schools, Dartmouth Common, the recently expanded and renovated Zatzman Sportsplex, Downtown Dartmouth, the Dartmouth waterfront, and various commercial and retail businesses. The development also has nearby access to the dedicated bicycle and pedestrian walking lanes that cross the Macdonald Bridge connecting Dartmouth and Halifax.

All streets surrounding the development have sidewalks present on both sides of the street including Wyse Road, Pelzant Street, Dawson Street and George Street. Pedestrian crossing locations are present on all legs of the Wyse / Boland intersection immediately adjacent to the development and a mid-block pedestrian crossing of Wyse Road is located approximately 110 meters to the east near Dawson Street.

## Transit

The proposed development is located about 300 meters west of the Mcdonald Bridge on the south side of Wyse Road and there is about 500 meters between the development and the main transit terminal building. The development therefore has direct access to one of HRMs biggest transit terminals which includes immediate access to over 20 different bus routes at the terminal or on connecting roadways. Additional routes are available at the Alderney Gate Terminal include the Alderney Ferry to Halifax which is located about 800 meters to the southeast.



## 02 Existing and Future Traffic Conditions

## 2.1 Existing Traffic

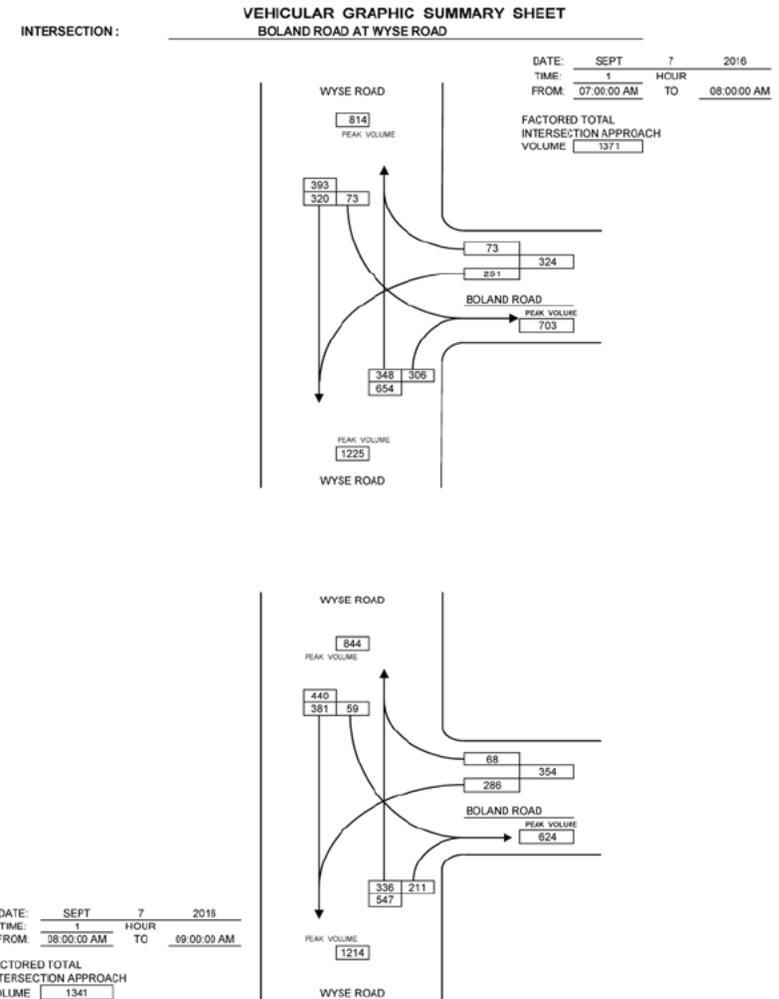
Recent and historical traffic counts were provided from HRM for all available intersections in the study area. Most counts were completed during 2017 and 2018, through the most recent counts at the nearest Boland / Wyse intersection were from 2016. Given the timing of this study and the changed traffic patterns due to the COVID19 pandemic, more recent counts were not practical to collect. Volume data was therefore supplemented with 2018 counts at the Sobeyes intersection with Wyse Road (about 230 meters west of Wyse Road) and 2018 counts at Boland Road with Victoria, about 460 meters to the north. Relevant volume data is included in Appendix A of this report.

## 2.2 Analysis Period

The development is surrounded by residential and commercial development and is located one of the major commuter roads approaching the McDonald Bridge. Therefore the weekday AM and PM peak hours are considered to be the critical periods for the analysis.

## 2.3 Analysis Time Horizon

Based on recommended HRM guidelines, the base year for this study has been established as 2020 and such studies frequently addresses a 5-year time horizon (2025) which includes background traffic growth, new traffic related to the Wyse Road development and any other significant transportation impacts anticipated during that period. Given the relatively low volume of traffic generated by the development relative to the total traffic on the road network, this study addresses the 2020 base year and the 2025 horizon year with the development in place.



# 03 Proposed Development



## The Proposed Development - 169 Wyse Road

The proposed development is a 12 story building that includes:

- 100 residential units: 71 one-bedroom, 25 two-bedroom and 4 townhouse units;
- ~2800 ft<sup>2</sup> of ground floor commercial space on Wyse Road;
- 59 underground parking spaces; and,
- 62 Bicycle parking spaces: 52 Class 'A' and 10 Class 'B'

Access to the underground parkade is provided from a driveway ramp to George Street. George Street is a local two-lane residential roadway approximately 150 meters in length connecting to Pelzant Street at its west end and Dawson Street to the east.

### 3.1 Trip Generation

#### Trips Generated by the Development

The new trips generated by the development were based on guidance provided from the Institute of Transportation Engineers (ITE) Trip Generation Guide (10th Edition). The table to the right shows the estimated trips generated by the development based on an assumed 96 apartments and 4 townhouse units. The ITE trip generation land use 231 accounts for a component of ground floor residential development as part of a multi-story residential building.

Land Use	Trip Code	# Units	Variable	AM Peak			PM Peak		
				Enter	Exit	TOTAL	Enter	Exit	TOTAL
Townhouse Units	220	4	Units	0	2	2	1	1	2
Residential - Ground Floor Commercial	231	96	Units	8	21	29	25	10	35
<b>TOTAL DEVELOPMENT TRIPS</b>				<b>8</b>	<b>23</b>	<b>31</b>	<b>26</b>	<b>11</b>	<b>37</b>

#### Transit and Active Transportation Impacts

There is expected to be a significant amount of active transportation activity generated by the site given the availability of various active transportation and transit options surrounding the site. This development site is located immediately adjacent to a major commuter route and therefore is likely to attract residents that have some propensity for active or transit related modes of transportation. While it is very likely that some trips will use active transportation modes (including walking or cycling to the bus terminal) during peak commuter periods, we have assumed no trip reduction related to AT use in order to remain conservative in our assumptions.

### 3.2 Trip Distribution and Assignment

The development has direct access to a variety of different routes as shown to the right. It is assumed that traffic will distribute itself through the network based on the most convenient route between their trip origin and destination. It is possible that some drivers may alter their most logical route based on congestion that may occur entering the Macdonald Bridge, particularly during the AM peak. Given the relatively low volumes generated by the site, alternate route assignments are not expected to have any significant impact on operations.



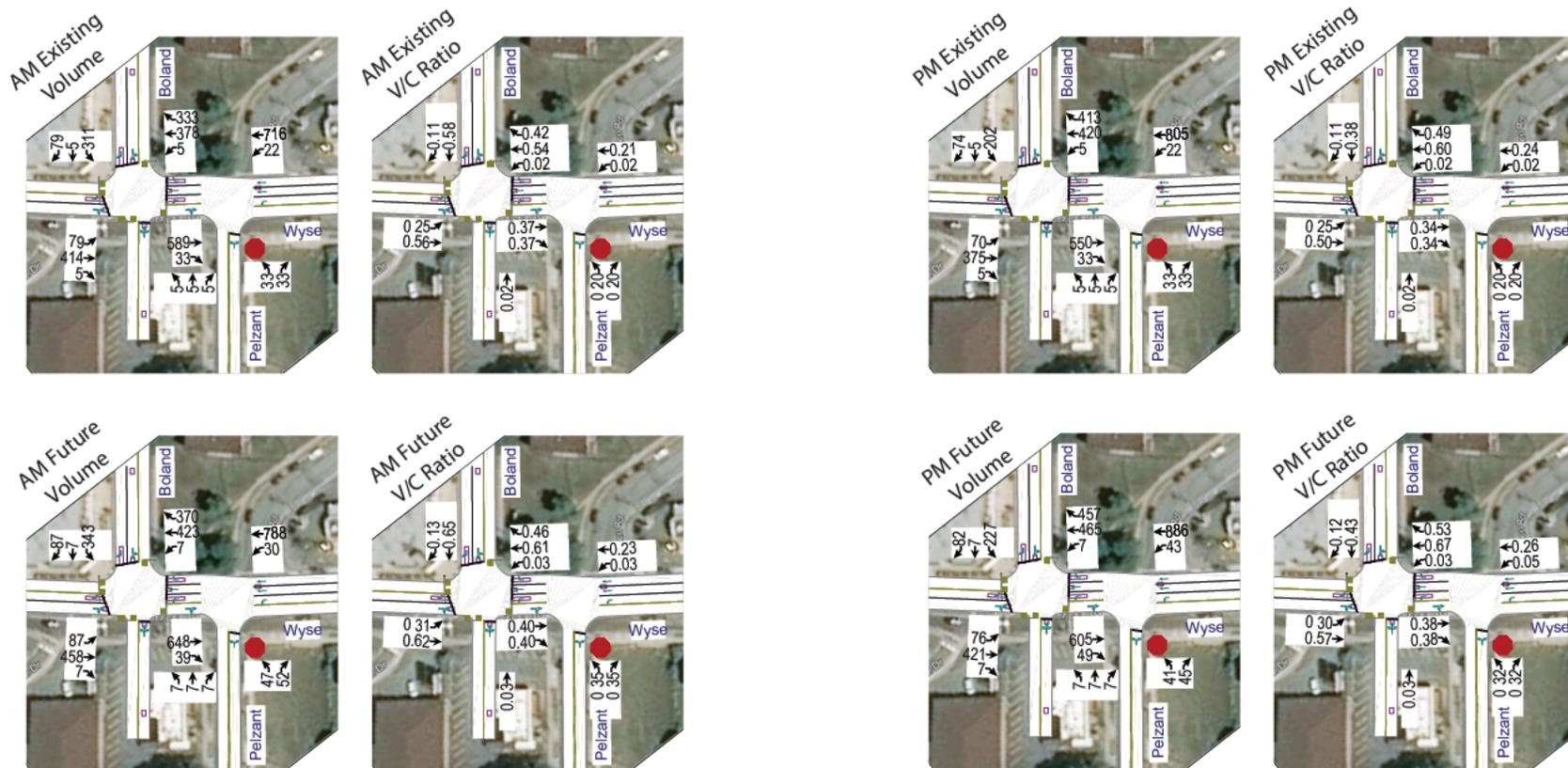
# 04 Transportation Analysis

# 4.1 Transportation Modeling

Given the low volume of new traffic added to the road network by the proposed development, the preparation of a detailed area traffic model for the adjacent road network does not provide much value. Based on the trip volume and distribution assumptions, the peak number of trips added to any external origin or destination is about 10 trips per hour, or about 1 vehicle every 6 minutes. In relative terms, these 10 vehicles would be about 0.3% of the approximately 3500 vehicles that pass through the Wyse / Nantucket / McDonald Bridge intersection during the AM peak hour.

To get a better sense of the operation impact of the development and the capacity that is available on the road network, a localized Synchro/SimTraffic (v.11) model was prepared for the weekday AM and PM peak hours of analysis. The model was prepared to understand the impact to adjacent intersections and included the intersections of Boland Road and Pelzant Street with Wyse Road. For the purposes of this study, it was assumed that all traffic from the development traveled through this intersection. In addition, baseline traffic volumes was increased by 10% to ensure a conservative analysis.

The figures to the right show the results for existing and future development conditions during the AM and PM weekday peak hours. Volumes are the adjusted peak hours that include peak hour factor adjustments. Future conditions include the addition of 10% traffic growth and the development volumes all concentrated to the Pelzant intersection.



## Operations

The results show that existing intersections at Pelzant and Boland operate with significant excess capacity with maximum critical volume to capacity (V/C) ratios of about 0.60 (60% of capacity for a given movement) for both the AM and PM peak hours. Under future conditions with background growth and full development traffic, capacity utilization only increases slightly. The actual impacts are expected to be less than this as traffic from the development distributes itself to other access points in the adjacent network.

Traffic destined to Windmill Road is expected to be limited to only a few vehicles per hour and the lower traffic volumes on Windmill Road will allow those intersections used by development traffic to continue to operate at a high level of service.

The most significant operational challenge in the area of the development is the regular congestion that occurs during the AM peak hour on Wyse Road as traffic approaches the McDonald Bridge. Traffic queuing often extends towards the Boland intersection and may impede some movements to and from side streets in the area. This is a common occurrence for all vehicles in this area, therefore the impacts to the very low volumes of development traffic are no different than the current situation on the road network.

The location of the development's driveway on George Street allows residents to make a variety of route choices that are either most convenient for them, or allows them to avoid congestions or less desirable movements.

## Active Transportation and Transit

The site is well connected to a variety of active transportation routes and it is expected that many residents will elect to use active transportation or transit for commuting and general travel around the City. The development is very well positioned to take advantage of these amenities and as such, provide very good opportunities to promote residents to switch from passenger vehicle travel to alternate travel modes.

The development is also conveniently located in close proximity to a variety of common commercial and retail businesses including multiple grocery stores, drug stores, fitness facilities, restaurants and more. The convenience of these amenities further helps promote active transportation modes of travel.

## Safety

There are some challenges associated with the location and spacing of the various roadway intersections on Wyse Road adjacent to the development. There are 4 roadway connections and a driveway connection to Wyse Road all within a space of about 60 meters. These include Jamieson Street, Boland Road and the driveway opposite Boland, Pelzant Street and Green Road. With the exception of Boland Road, all other connections are low volume and therefore limit the risk associated with the closely spaced and offset intersections.

It is important to note that this situation is present today and is completely independent of the development. Nonetheless, the safety implications for drivers and AT users is important to bear in mind during the design process to minimize any risks that may be present where practical. Fortunately, residents of this new development have a variety of travel choices should they not feel comfortable navigating these areas along Wyse Road.

# 05 Conclusions and Recommendations



This Transportation Impact Study was prepared to evaluate the anticipated impacts of the proposed development at 169 Wyse Road on the surrounding transportation network including roads, intersections and active transportation infrastructure. The development is expected to include about 100 residential units with a small ground floor commercial space.

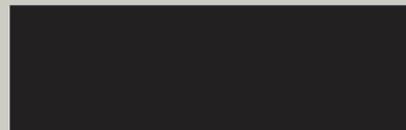
The proposed development fits well with the surrounding residential land users and is very conveniently situated near a wide variety of businesses and local amenities that are conducive to supporting residential development. It is also extremely well positioned to take advantage of adjacent transit and active transportation facilities including the Dartmouth Bridge Transit Terminal.

The development is expected to generate very low volumes of new traffic to the road network, and trips that are generated have a variety of route choices that they can select. The access to the development is located off George Street and therefore does not impact operations on Wyse Road and connects to a number of different adjacent streets to help support different route choices.

There are no specific improvements to the surrounding road or active transportation networks required to support this development. That said, as detailed design proceeds adequate space should be provided in the northwest corner of the building for pedestrian traffic at the corner of Pelzant Street with Wyse Road.

We trust that this report satisfies the Halifax requirements for the preparation of a development Transportation Impact Study. Should there be any questions or comments regarding the content of the study, please do not hesitate to contact the undersigned.

Sincerely,



Roger Boychuk • P Eng • Senior Transportation Engineer  
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902 461 2525 x 201 [direct] • 902 233 1152 [mobile]

# APPENDIX A

## Appendix A: TRAFFIC COUNTS

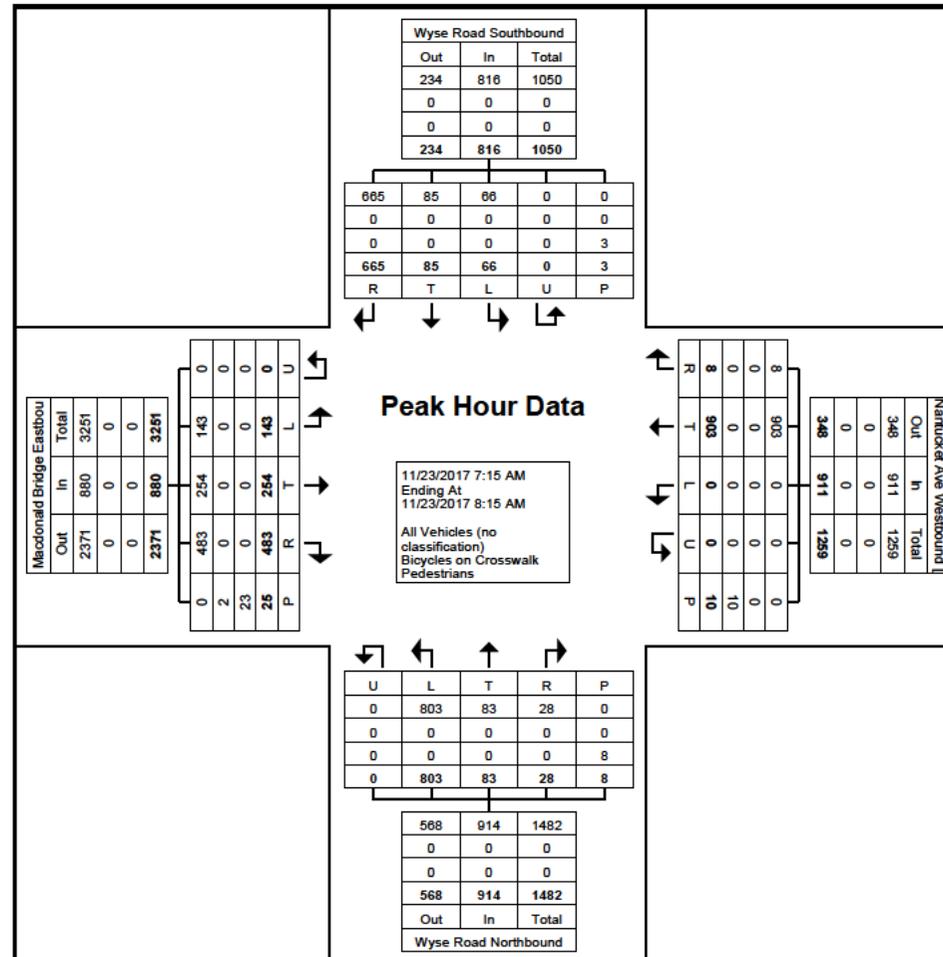
Halifax Regional Municipality (Dartmouth, NS)  
PO Box 1749

Halifax, Nova Scotia, Canada B3J 3A5  
(902) 490-4866

Count Name: NANTUCKET AVENUE AT WYSE  
ROAD  
Site Code: 17RQ330  
Start Date: 11/23/2017  
Page No: 4

### Turning Movement Peak Hour Data (7:15 AM)

Start Time	Wyse Road Southbound Southbound						Nantucket Ave Westbound Westbound						Wyse Road Northbound Northbound						Macdonald Bridge Eastbound Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
7:15 AM	201	21	18	0	2	240	3	196	0	0	2	199	6	19	197	0	5	222	120	66	45	0	7	231	892
7:30 AM	140	16	19	0	0	175	2	243	0	0	2	245	6	23	212	0	1	241	120	56	36	0	6	212	873
7:45 AM	177	28	15	0	0	220	2	225	0	0	0	227	6	16	221	0	2	243	125	53	25	0	6	203	893
8:00 AM	147	20	14	0	1	181	1	239	0	0	6	240	10	25	173	0	0	208	118	79	37	0	6	234	863
Total	665	85	66	0	3	816	8	903	0	0	10	911	28	83	803	0	8	914	483	254	143	0	25	880	3521
Approach %	81.5	10.4	8.1	0.0	-	-	0.9	99.1	0.0	0.0	-	-	3.1	9.1	87.9	0.0	-	-	54.9	28.9	16.3	0.0	-	-	-
Total %	18.9	2.4	1.9	0.0	-	23.2	0.2	25.6	0.0	0.0	-	25.9	0.8	2.4	22.8	0.0	-	26.0	13.7	7.2	4.1	0.0	-	25.0	-
PHF	0.827	0.759	0.868	0.000	-	0.850	0.667	0.929	0.000	0.000	-	0.930	0.700	0.830	0.908	0.000	-	0.940	0.966	0.804	0.794	0.000	-	0.940	0.986
All Vehicles (no classification)	665	85	66	0	-	816	8	903	0	0	-	911	28	83	803	0	-	914	483	254	143	0	-	880	3521
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	8.0	-	-
Pedestrians	-	-	-	-	3	-	-	-	-	-	10	-	-	-	-	-	8	-	-	-	-	-	23	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	92.0	-	-



Turning Movement Peak Hour Data Plot (7:15 AM)

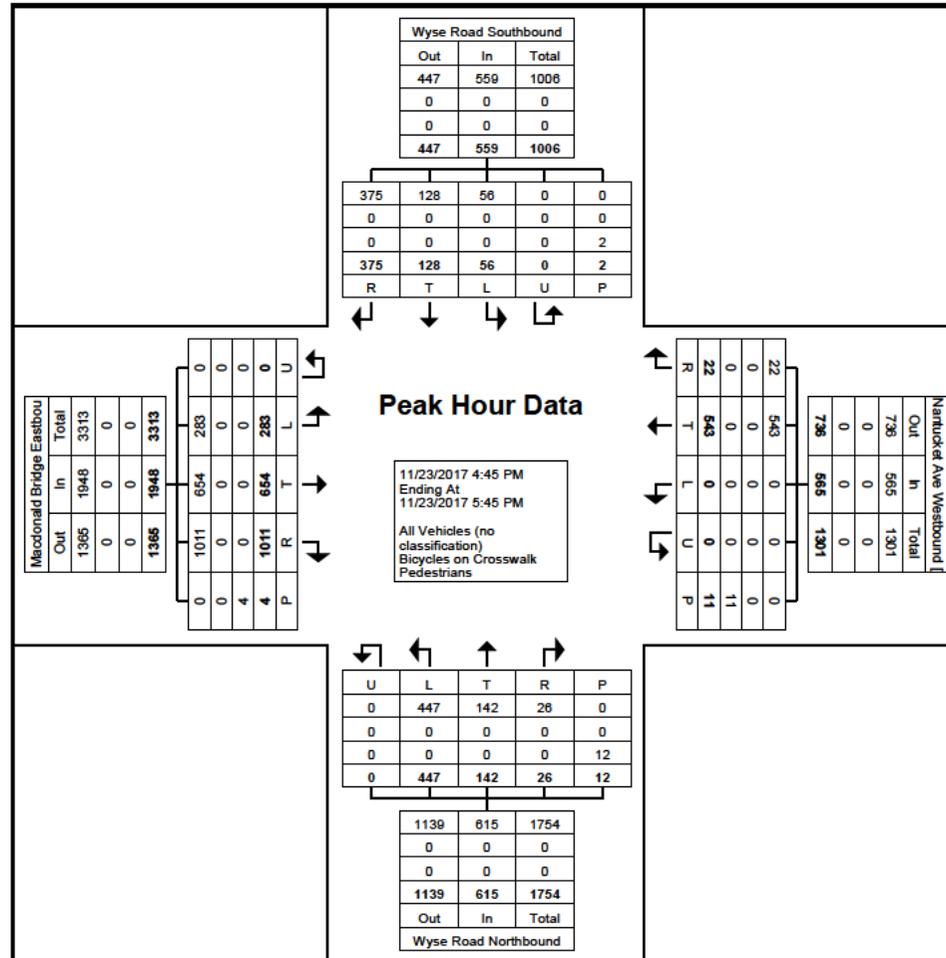
Halifax Regional Municipality (Dartmouth, NS)  
PO Box 1749

Halifax, Nova Scotia, Canada B3J 3A5  
(902) 490-4866

Count Name: NANTUCKET AVENUE AT WYSE  
ROAD  
Site Code: 17RQ330  
Start Date: 11/23/2017  
Page No: 10

### Turning Movement Peak Hour Data (4:45 PM)

Start Time	Wyse Road Southbound Southbound						Nantucket Ave Westbound Westbound						Wyse Road Northbound Northbound						Macdonald Bridge Eastbound Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4:45 PM	93	38	12	0	2	143	9	145	0	0	6	154	4	41	95	0	6	140	238	181	72	0	3	491	928
5 00 PM	100	31	15	0	0	146	6	128	0	0	1	134	7	50	115	0	1	172	244	147	64	0	1	455	907
5:15 PM	88	27	22	0	0	137	5	143	0	0	3	148	5	32	122	0	5	159	253	173	77	0	0	503	947
5 30 PM	94	32	7	0	0	133	2	127	0	0	1	129	10	19	115	0	0	144	276	153	70	0	0	499	905
Total	375	128	56	0	2	559	22	543	0	0	11	565	26	142	447	0	12	615	1011	654	283	0	4	1948	3687
Approach %	67.1	22.9	10.0	0.0	-	-	3.9	96.1	0.0	0.0	-	-	4.2	23.1	72.7	0.0	-	-	51.9	33.6	14.5	0.0	-	-	-
Total %	10.2	3.5	1.5	0.0	-	15.2	0.6	14.7	0.0	0.0	-	15.3	0.7	3.9	12.1	0.0	-	16.7	27.4	17.7	7.7	0.0	-	52.8	-
PHF	0.938	0.842	0.636	0.000	-	0.957	0.611	0.936	0.000	0.000	-	0.917	0.650	0.710	0.916	0.000	-	0.894	0.916	0.903	0.919	0.000	-	0.968	0.973
All Vehicles (no classification)	375	128	56	0	-	559	22	543	0	0	-	565	26	142	447	0	-	615	1011	654	283	0	-	1948	3687
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	100.0	-	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	2	-	-	-	-	-	11	-	-	-	-	-	12	-	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (4:45 PM)

## MANUAL TRAFFIC COUNTS

INTERSECTION:

BOLAND ROAD AT WYSE ROAD

WEATHER  
RECORDER

SUNNY / CLEAR  
JS

DAY	DATE	MONTH	YEAR
WED	7	SEPT	2016

STREET: TIME: 15 MIN INTERVALS		BOLAND ROAD			FROM THE WEST			WYSE ROAD			WYSE ROAD			TOTAL
		FROM THE EAST			FROM THE NORTH			FROM THE SOUTH						
		L	S	R	L	S	R	L	S	R	L	S	R	
07:00:00 AM	07:15:00 AM	63	0	28	0	0	0	13	70	0	0	64	58	296
07:15:00 AM	07:30:00 AM	45	0	13	0	0	0	8	87	0	0	110	103	366
07:30:00 AM	07:45:00 AM	69	0	13	0	0	0	33	76	0	0	70	46	307
07:45:00 AM	08:00:00 AM	74	0	19	0	0	0	19	87	0	0	104	99	402

TOTAL	251	0	73	0	0	0	73	320	0	0	348	306	1371
PEAK		324			0			393			654		
15 MIN PEAK		372			0			436			852		
PEAK HOUR FACTOR		0.87			0			0.9			0.77		
TWO WAY TOTALS		703			0			814			1225		FACTOR
													1
													1371

DAY	DATE	MONTH	YEAR
WED	7	SEPT	2016

TIME: 15 MIN INTERVALS		FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
		L	S	R	L	S	R	L	S	R	L	S	R	
08:00:00 AM	08:15:00 AM	108	0	24	0	0	0	16	151	0	0	103	69	471
08:15:00 PM	08:30:00 AM	51	0	17	0	0	0	15	84	0	0	116	47	330
08:30:00 AM	08:45:00 AM	79	0	19	0	0	0	17	92	0	0	44	55	306
08:45:00 AM	09:00:00 AM	48	0	8	0	0	0	11	54	0	0	73	40	234

TOTAL	286	0	68	0	0	0	59	381	0	0	336	211	1341
PEAK		354			0			440			547		
15 MIN PEAK		528			0			668			688		
PEAK HOUR FACTOR		0.67			0			0.66			0.8		
TWO WAY TOTALS		624			0			844			1214		FACTOR
													1
													1341

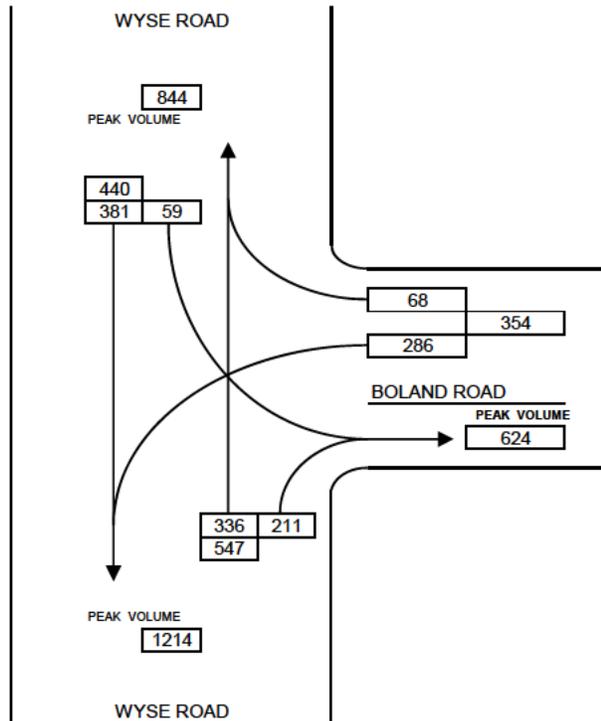
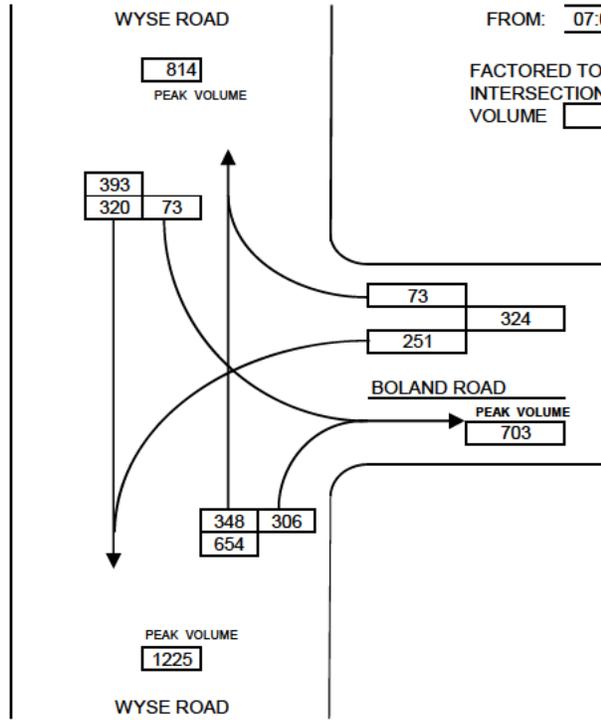
# VEHICULAR GRAPHIC SUMMARY SHEET

## BOLAND ROAD AT WYSE ROAD

INTERSECTION :

DATE: SEPT 7 2016  
 TIME: 1 HOUR  
 FROM: 07:00:00 AM TO 08:00:00 AM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 1371



DATE: SEPT 7 2016  
 TIME: 1 HOUR  
 FROM: 08:00:00 AM TO 09:00:00 AM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 1341

# MANUAL TRAFFIC COUNTS

INTERSECTION:

BOLAND ROAD AT WYSE ROAD

WEATHER  
RECORDER

SUNNY / CLEAR  
JS

DAY	DATE	MONTH	YEAR
WED	7	SEPT	2016

STREET: TIME: 15 MIN INTERVALS		BOLAND ROAD			FROM THE WEST			WYSE ROAD			WYSE ROAD			TOTAL
		FROM THE EAST			FROM THE NORTH			FROM THE SOUTH						
		L	S	R	L	S	R	L	S	R	L	S	R	
04:00:00 PM	04:15:00 PM	30	0	15	0	0	0	16	63	0	0	97	107	328
04:15:00 PM	04:30:00 PM	41	0	16	0	0	0	11	91	0	0	115	100	374
04:30:00 PM	04:45:00 PM	44	0	14	0	0	0	10	77	0	0	91	89	325
04:45:00 PM	05:00:00 PM	34	0	15	0	0	0	16	91	0	0	82	84	322

TOTAL	149	0	60	0	0	0	53	322	0	0	385	380	1349
PEAK	209			0			375			765			
15 MIN PEAK	232			0			428			860			
PEAK HOUR FACTOR	0.9			0			0.88			0.89			
TWO WAY TOTALS	642			0			820			1236			FACTOR
													1
													1349

DAY	DATE	MONTH	YEAR
WED	7	SEPT	2016

TIME: 15 MIN INTERVALS		FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
		FROM THE EAST			FROM THE NORTH			FROM THE SOUTH						
		L	S	R	L	S	R	L	S	R	L	S	R	
05:00:00 PM	05:15:00 PM	48	0	20	0	0	0	21	111	0	0	99	85	384
05:15:00 PM	05:30:00 PM	45	0	18	0	0	0	14	90	0	0	99	78	344
05:30:00 PM	05:45:00 PM	56	0	15	0	0	0	21	76	0	0	91	61	320
05:45:00 PM	06:00:00 PM	39	0	15	0	0	0	8	68	0	0	97	67	294

TOTAL	188	0	68	0	0	0	64	345	0	0	386	291	1342
PEAK	256			0			409			677			
15 MIN PEAK	284			0			528			736			
PEAK HOUR FACTOR	0.9			0			0.77			0.92			
TWO WAY TOTALS	611			0			863			1210			FACTOR
													1
													1342

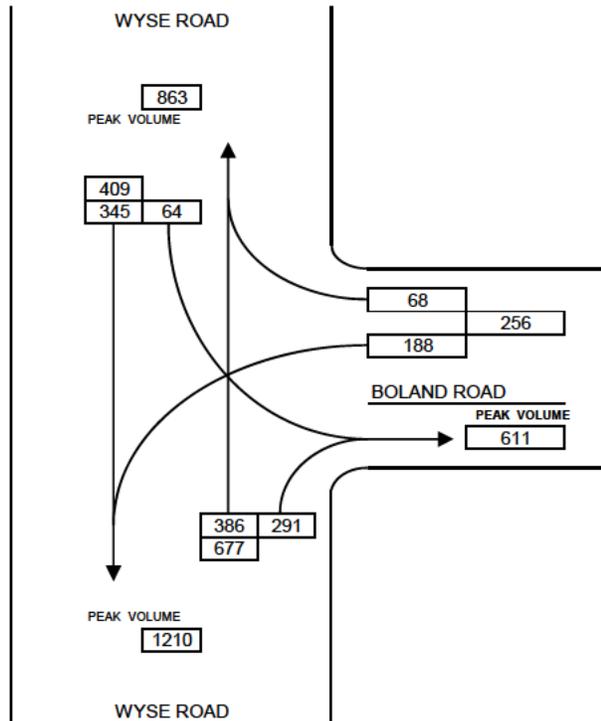
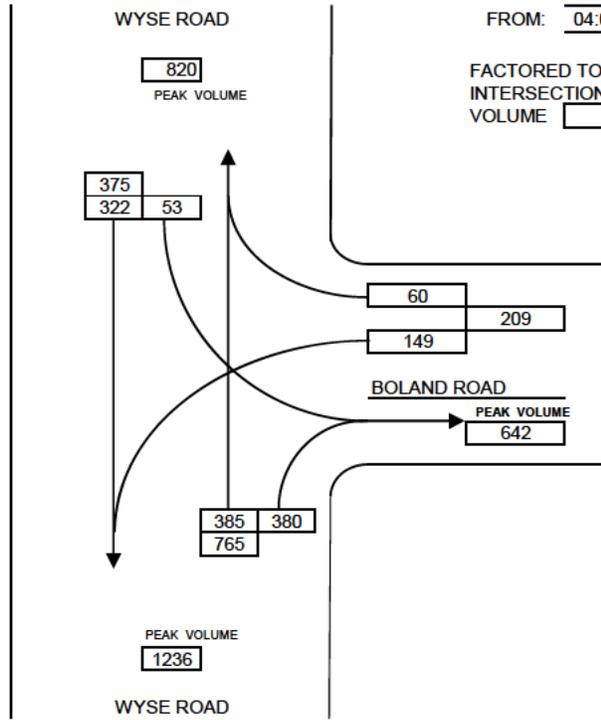
# VEHICULAR GRAPHIC SUMMARY SHEET

## BOLAND ROAD AT WYSE ROAD

INTERSECTION :

DATE: SEPT 7 2016  
 TIME: 1 HOUR  
 FROM: 04:00:00 PM TO 05:00:00 PM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 1349



DATE: SEPT 7 2016  
 TIME: 1 HOUR  
 FROM: 05:00:00 PM TO 06:00:00 PM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 1342

# MANUAL TRAFFIC COUNTS

INTERSECTION: JAMIESON STREET AT WYSE ROAD

WEATHER: SUNNY  
 RECORDER: MIO

DAY: FRIDAY    DATE: 17    MONTH: JULY    YEAR: 2015

STREET: TIME: 15 MIN INTERVALS		FROM THE EAST			JAMIESON STREET FROM THE WEST			WYSE ROAD FROM THE NORTH			WYSE ROAD FROM THE SOUTH			TOTAL
		L	S	R	L	S	R	L	S	R	L	S	R	
7:00:00 AM	7:15:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	0	<del>X</del>	6	<del>X</del>	90	3	5	58	<del>X</del>	162
7:15:00 AM	7:30:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	0	<del>X</del>	9	<del>X</del>	71	0	9	38	<del>X</del>	127
7:30:00 AM	7:45:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	1	<del>X</del>	9	<del>X</del>	77	2	8	69	<del>X</del>	166
7:45:00 AM	8:00:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	1	<del>X</del>	11	<del>X</del>	85	2	9	61	<del>X</del>	169

TOTAL	0	0	0	2		35		323	7	31	226		624
PEAK		0			37			330			257		
15 MIN PEAK		0			48			372			308		
PEAK HOUR FACTOR		0			0.77			0.89			0.83		
TWO WAY TOTALS		0			75			558			615		FACTOR
													1
													624

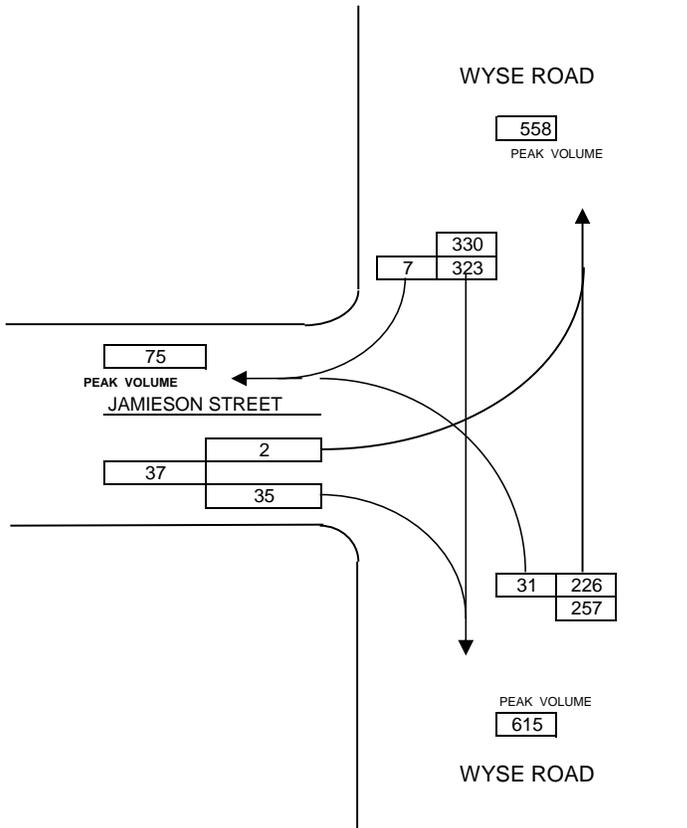
DAY: FRIDAY    DATE: 17    MONTH: JULY    YEAR: 2015

TIME: 15 MIN INTERVALS		FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
		L	S	R	L	S	R	L	S	R	L	S	R	
8:00:00 AM	8:15:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	4	<del>X</del>	10	<del>X</del>	83	3	4	68	<del>X</del>	172
8:15:00 AM	8:30:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	3	<del>X</del>	15	<del>X</del>	88	1	7	59	<del>X</del>	173
8:30:00 AM	8:45:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	7	<del>X</del>	9	<del>X</del>	87	4	2	60	<del>X</del>	169
8:45:00 AM	9:00:00 AM	<del>X</del>	<del>X</del>	<del>X</del>	2	<del>X</del>	10	<del>X</del>	97	4	6	72	<del>X</del>	191

TOTAL				16		44		355	12	19	259		705
PEAK					60			367			278		
15 MIN PEAK					72			404			312		
PEAK HOUR FACTOR					0.83			0.91			0.89		
TWO WAY TOTALS					91			642			677		FACTOR
													1
													705

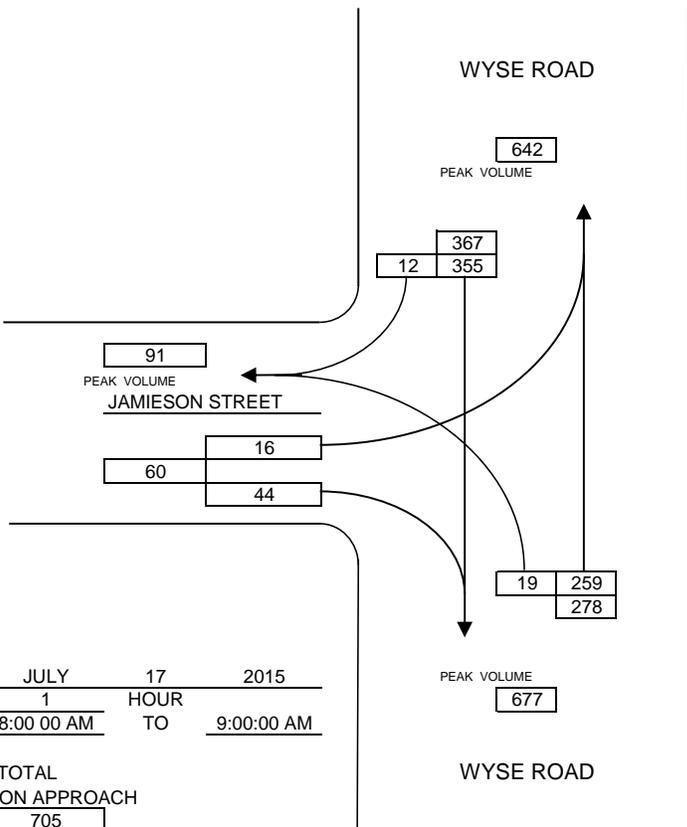
# VEHICULAR GRAPHIC SUMMARY SHEET

INTERSECTION : JAMIESON STREET AT WYSE ROAD



DATE: JULY 17 2015  
 TIME: 1 HOUR  
 FROM: 7:00:00 AM TO 8:00:00 AM

FACTORED TOTAL INTERSECTION APPROACH VOLUME 624



DATE: JULY 17 2015  
 TIME: 1 HOUR  
 FROM: 8:00 00 AM TO 9:00:00 AM

FACTORED TOTAL INTERSECTION APPROACH VOLUME 705

## MANUAL TRAFFIC COUNTS

INTERSECTION: JAMIESON STREET AT WYSE ROAD

WEATHER SUNNY  
 RECORDER MIO

DAY DATE MONTH YEAR  
FRIDAY 17 JULY 2015

STREET: TIME: 15 MIN INTERVALS		JAMIESON STREET			WYSE ROAD			WYSE ROAD			TOTAL		
		FROM THE EAST			FROM THE WEST			FROM THE NORTH				FROM THE SOUTH	
		L	S	R	L	S	R	L	S	R	L	S	R
4:00:00 PM	4:15:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	6	<del>X</del>	9	<del>X</del>	102	10	9	106	<del>X</del>
4:15:00 PM	4:30:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	10	<del>X</del>	9	<del>X</del>	114	7	5	111	<del>X</del>
4:30:00 PM	4:45:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	8	<del>X</del>	8	<del>X</del>	106	12	4	131	<del>X</del>
4:45:00 PM	5:00:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	11	<del>X</del>	6	<del>X</del>	98	11	12	118	<del>X</del>

TOTAL	0	0	0	35		32		420	40	30	466		1023
PEAK		0			67			460			496		
15 MIN PEAK		0			76			484			540		
PEAK HOUR FACTOR		0			0.88			0.95			0.92		
TWO WAY TOTALS		0			137			961			948		FACTOR
													1
													1023

DAY DATE MONTH YEAR  
FRIDAY 17 JULY 2015

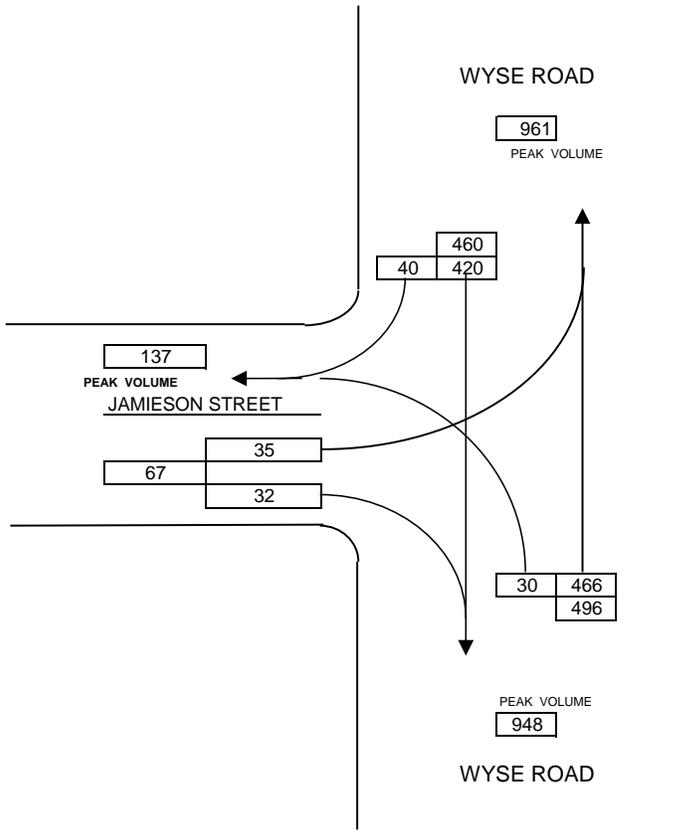
TIME: 15 MIN INTERVALS		FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
		L	S	R	L	S	R	L	S	R	L	S	R	
5:00:00 PM	5:15:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	7	<del>X</del>	5	<del>X</del>	112	4	11	124	<del>X</del>	
5:15:00 PM	5:30:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	10	<del>X</del>	16	<del>X</del>	94	19	10	138	<del>X</del>	
5:30:00 PM	5:45:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	5	<del>X</del>	7	<del>X</del>	94	11	7	97	<del>X</del>	
5:45:00 PM	6:00:00 PM	<del>X</del>	<del>X</del>	<del>X</del>	7	<del>X</del>	14	<del>X</del>	108	4	7	84	<del>X</del>	

TOTAL				29		42		408	38	35	443		995
PEAK					71			446			478		
15 MIN PEAK					104			464			592		
PEAK HOUR FACTOR					0.68			0.96			0.81		
TWO WAY TOTALS					144			918			928		FACTOR
													1
													995

# VEHICULAR GRAPHIC SUMMARY SHEET

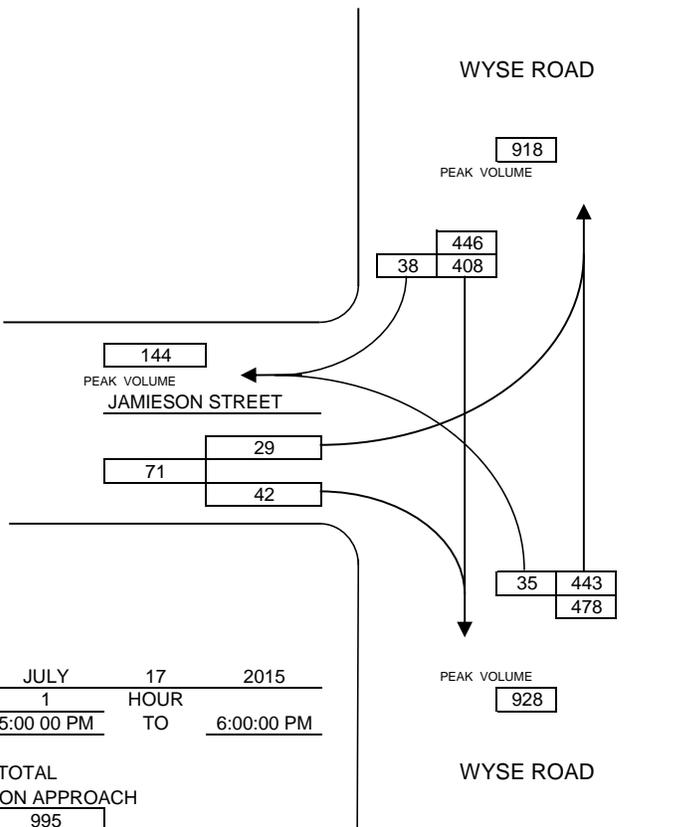
INTERSECTION :

JAMIESON STREET AT WYSE ROAD



DATE: JULY 17 2015  
 TIME: 1 HOUR  
 FROM: 4:00:00 PM TO 5:00:00 PM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 1023



DATE: JULY 17 2015  
 TIME: 1 HOUR  
 FROM: 5:00 00 PM TO 6:00:00 PM

FACTORED TOTAL  
 INTERSECTION APPROACH  
 VOLUME 995

Halifax Regional Municipality (Dartmouth, NS)  
PO Box 1749

Halifax, Nova Scotia, Canada B3J 3A5  
(902) 490-4866

Count Name: WYSE RD AT CIVIC 210  
(SOBEYS ENTRANCE)  
Site Code: 18RQ449  
Start Date: 10/23/2018  
Page No: 4

### Turning Movement Peak Hour Data (8:15 AM)

Start Time	WYSE RD Southbound						SOBEYS ENTRANCE Westbound						WYSE RD Northbound						PART SOURCE ENTRANCE Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
8:15 AM	0	104	5	0	0	109	4	1	4	0	7	9	0	70	0	0	0	70	1	0	0	0	0	1	189
8:30 AM	3	114	9	0	1	126	5	0	2	0	4	7	0	58	0	0	0	58	1	0	0	0	0	1	192
8:45 AM	3	104	7	0	0	114	3	0	8	0	4	11	1	64	1	0	0	66	1	0	2	0	7	3	194
9:00 AM	5	73	14	0	0	92	7	0	5	0	3	12	1	66	3	0	0	70	1	0	6	0	1	7	181
Total	11	395	35	0	1	441	19	1	19	0	18	39	2	258	4	0	0	264	4	0	8	0	8	12	756
Approach %	2.5	89.6	7.9	0.0	-	-	48.7	2.6	48.7	0.0	-	-	0.8	97.7	1.5	0.0	-	-	33.3	0.0	66.7	0.0	-	-	-
Total %	1.5	52.2	4.6	0.0	-	58.3	2.5	0.1	2.5	0.0	-	5.2	0.3	34.1	0.5	0.0	-	34.9	0.5	0.0	1.1	0.0	-	1.6	-
PHF	0.550	0.866	0.625	0.000	-	0.875	0.679	0.250	0.594	0.000	-	0.813	0.500	0.921	0.333	0.000	-	0.943	1.000	0.000	0.333	0.000	-	0.429	0.974
All Vehicles (no classification)	11	395	35	0	-	441	19	1	19	0	-	39	2	258	4	0	-	264	4	0	8	0	-	12	756
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	-	100.0	-	-	100.0	100.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	1	-	-	-	-	-	18	-	-	-	-	-	0	-	-	-	-	-	8	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-



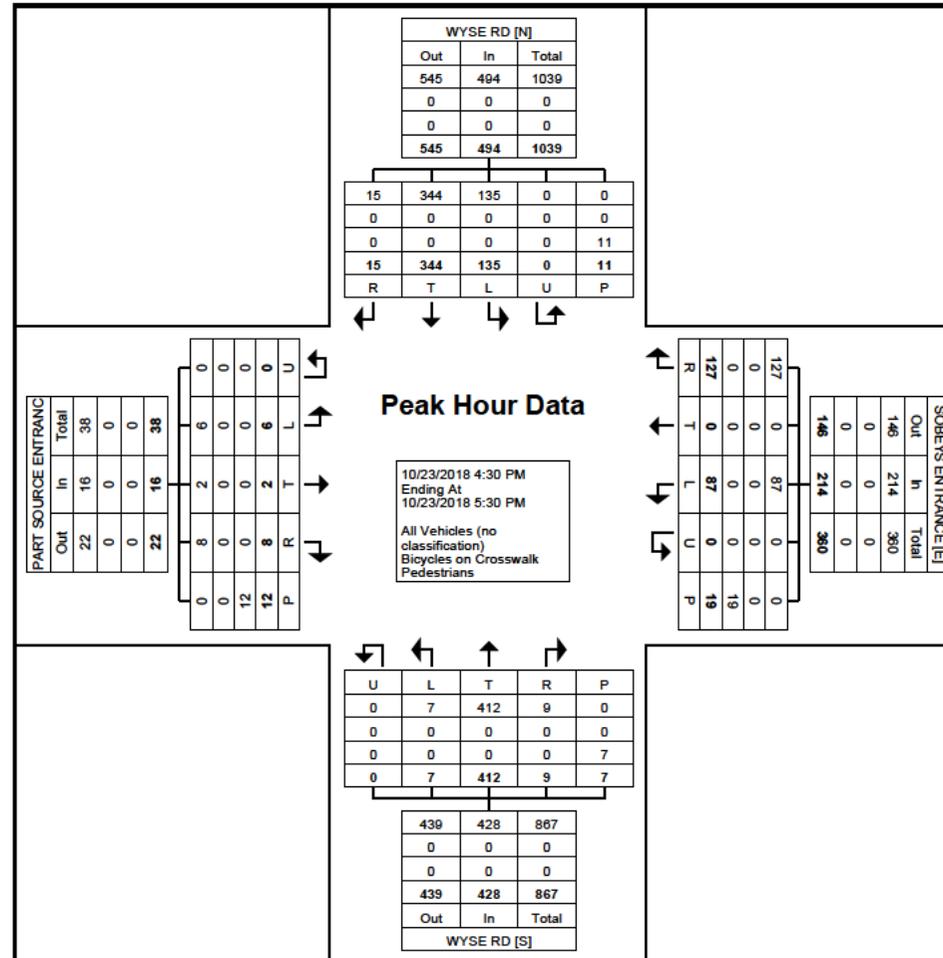
Halifax Regional Municipality (Dartmouth, NS)  
PO Box 1749

Halifax, Nova Scotia, Canada B3J 3A5  
(902) 490-4866

Count Name: WYSE RD AT CIVIC 210  
(SOBEYS ENTRANCE)  
Site Code: 18RQ449  
Start Date: 10/23/2018  
Page No: 6

### Turning Movement Peak Hour Data (4:30 PM)

Start Time	WYSE RD Southbound						SOBEYS ENTRANCE Westbound						WYSE RD Northbound						PART SOURCE ENTRANCE Eastbound						Int. Total
	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	Right	Thru	Left	U-Turn	Peds	App. Total	
4 30 PM	5	85	39	0	3	129	35	0	19	0	4	54	5	101	3	0	2	109	1	2	1	0	2	4	296
4:45 PM	5	103	36	0	3	144	27	0	28	0	6	55	1	109	0	0	1	110	4	0	2	0	4	6	315
5 00 PM	3	86	30	0	2	119	30	0	28	0	4	58	2	103	1	0	3	106	0	0	1	0	4	1	284
5:15 PM	2	70	30	0	3	102	35	0	12	0	5	47	1	99	3	0	1	103	3	0	2	0	2	5	257
Total	15	344	135	0	11	494	127	0	87	0	19	214	9	412	7	0	7	428	8	2	6	0	12	16	1152
Approach %	3.0	69.6	27.3	0.0	-	-	59.3	0.0	40.7	0.0	-	-	2.1	96.3	1.6	0.0	-	-	50.0	12.5	37.5	0.0	-	-	-
Total %	1.3	29.9	11.7	0.0	-	42.9	11.0	0.0	7.6	0.0	-	18.6	0.8	35.8	0.6	0.0	-	37.2	0.7	0.2	0.5	0.0	-	1.4	-
PHF	0.750	0.835	0.865	0.000	-	0.858	0.907	0.000	0.777	0.000	-	0.922	0.450	0.945	0.583	0.000	-	0.973	0.500	0.250	0.750	0.000	-	0.667	0.914
All Vehicles (no classification)	15	344	135	0	-	494	127	0	87	0	-	214	9	412	7	0	-	428	8	2	6	0	-	16	1152
% All Vehicles (no classification)	100.0	100.0	100.0	-	-	100.0	100.0	-	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0	100.0	100.0	-	-	100.0	100.0
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	-	11	-	-	-	-	-	19	-	-	-	-	-	7	-	-	-	-	-	12	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-



Turning Movement Peak Hour Data Plot (4:30 PM)

# MANUAL TRAFFIC COUNTS

INTERSECTION				BOLAND ROAD AT VICTORIA ROAD				WEATHER				CLOUDY	
DAY	DATE	MONTH	YEAR	RECORDER				MARTIN BRIEN					
THURS	12	JULY	2018										

TIME	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			TOTAL
	FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			
15 MIN INTERVALS	L	S	R	L	S	R	L	S	R	L	S	R	
07 00 00 AM - 07 15 00 AM	0	0	0	28	0	7	0	95	93	1	81	0	305
07 15 00 AM - 07 30 00 AM	0	0	0	25	0	7	0	111	85	4	59	0	291
07 30 00 AM - 07 45 00 AM	0	0	0	40	0	11	0	122	99	4	95	0	371
07 45 00 AM - 08 00 00 AM	0	0	0	32	0	2	0	116	86	5	113	0	354

TOTAL	0	0	0	125	0	27	0	444	363	14	348	0	1321
PEAK	0	0	0	152	0	2	0	807	611	2	362	0	
4(15 MIN PEAK)	0	0	0	204	0	8	0	884	756	6	85	0	
PEAK HOUR FACTOR	0	0	0	0.75	0	0.91	0	0.91	0.77	0.77	0.77	0	AAWT FACTOR
TWO WAY TOTALS	0	0	0	529	0	2	0	1280	939	2	833	0	1308

DAY	DATE	MONTH	YEAR	RECORDER				MARTIN BRIEN			
THURS	12	JULY	2018								

TIME	FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
	L	S	R	L	S	R	L	S	R	L	S	R	
08 00 00 AM - 08 15 00 AM	0	0	0	28	0	2	0	128	81	2	129	0	370
08 15 00 AM - 08 30 00 AM	0	0	0	26	0	8	0	119	75	6	85	0	319
08 30 00 AM - 08 45 00 AM	0	0	0	40	0	6	0	147	94	5	115	1	408
08 45 00 AM - 09 00 00 AM	0	0	0	41	0	6	0	123	74	2	115	0	361

TOTAL	0	0	0	135	0	22	0	517	324	15	444	1	1458
PEAK	0	0	0	157	0	8	0	841	517	6	460	0	
4(15 MIN PEAK)	0	0	0	188	0	24	0	964	524	11	524	0	
PEAK HOUR FACTOR	0	0	0	0.84	0	0.87	0	0.87	0.88	0.88	0.88	0	AAWT FACTOR
TWO WAY TOTALS	1	0	0	496	0	2	0	1420	999	2	999	0	1443

### Intersection Peak Hour

08:00 - 09:00	Mode	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	Car	0	0	0	130	0	21	0	495	317	13	430	1	1407
	Truck	0	0	0	5	0	1	0	22	7	2	14	0	51
	Bicycle	0	0	0	2	0	0	0	0	0	0	2	0	4
	Vehicle Total	0	0	0	137	0	22	0	517	324	15	446	1	1462
	Approach Factor	0			0.85			0.87			0.88			FACTOR
														1
														1462

### Peak Hour Pedestrians

08:00 - 09:00	Pedestrians	NE			NW			SW			SE			Total
		Left	Right	Total										
		6	0	6	0	2	2	2	1	3	4	1	5	16

### Car traffic

Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7 00	0	0	0	26	0	7	0	90	92	1	77	0	293
7 15	0	0	0	25	0	7	0	106	84	3	56	0	281
7 30	0	0	0	37	0	11	0	118	98	4	91	0	359
7 45	0	0	0	32	0	2	0	104	86	5	110	0	339
8 00	0	0	0	24	0	2	0	124	78	2	124	0	354
8 15	0	0	0	27	0	8	0	113	73	6	83	0	310
8 30	0	0	0	39	0	5	0	139	93	4	111	1	392
8 45	0	0	0	40	0	6	0	119	73	1	112	0	351
TOTAL	0	0	0	250	0	48	0	913	677	26	764	1	2679

### Truck traffic

Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7 00	0	0	0	2	0	0	0	5	1	0	4	0	12
7 15	0	0	0	0	0	0	0	5	1	1	3	0	10
7 30	0	0	0	3	0	0	0	4	1	0	4	0	12
7 45	0	0	0	0	0	0	0	12	0	0	3	0	15
8 00	0	0	0	2	0	0	0	4	3	0	5	0	14
8 15	0	0	0	0	0	0	0	6	2	0	2	0	10
8 30	0	0	0	2	0	1	0	8	1	1	4	0	17
8 45	0	0	0	1	0	0	0	4	1	1	3	0	10
TOTAL	0	0	0	10	0	1	0	48	10	3	28	0	100

### Bicycle traffic

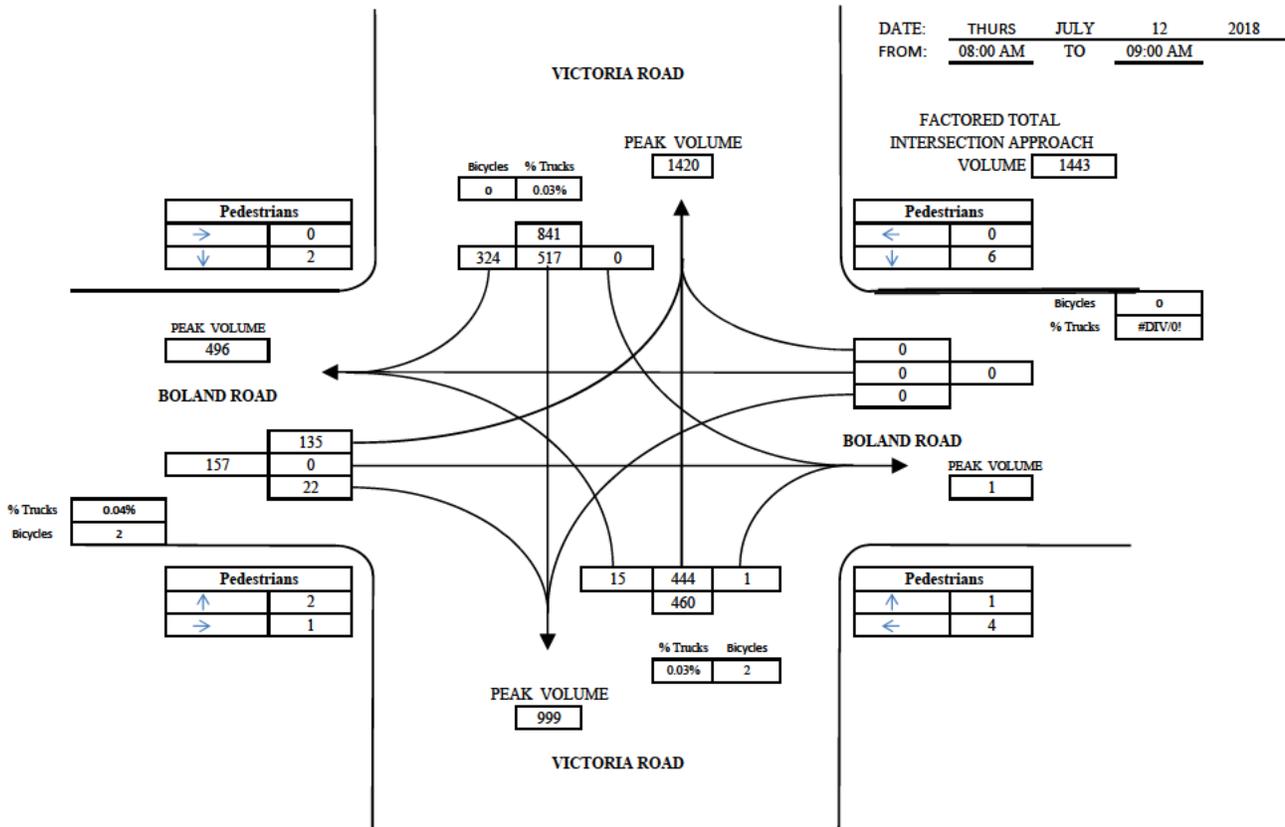
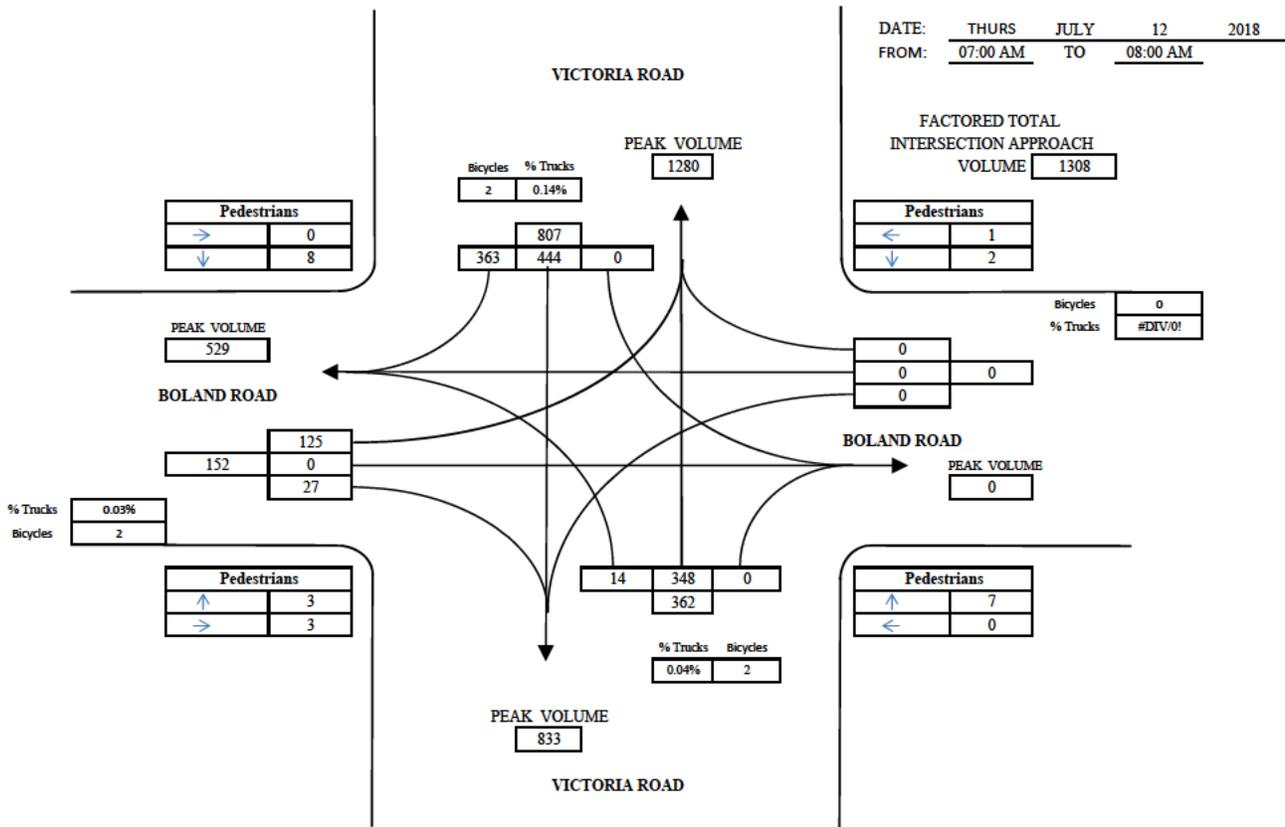
Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7 00	0	0	0	0	0	0	0	0	0	0	0	0	0
7 15	0	0	0	1	0	0	0	0	1	0	1	0	3
7 30	0	0	0	1	0	0	0	1	0	0	1	0	3
7 45	0	0	0	0	0	0	0	0	0	0	0	0	0
8 00	0	0	0	2	0	0	0	0	0	0	1	0	3
8 15	0	0	0	0	0	0	0	0	0	0	1	0	1
8 30	0	0	0	0	0	0	0	0	0	0	0	0	0
8 45	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	4	0	0	0	1	1	0	4	0	10

### Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total										
7 00	1	0	1	0	2	2	0	0	0	0	1	1	4
7 15	0	0	0	0	1	1	1	1	2	0	1	1	4
7 30	1	1	2	0	3	3	2	2	4	0	4	4	13
7 45	0	0	0	0	2	2	0	0	0	0	1	1	3
8 00	1	0	1	0	0	0	1	0	1	0	0	0	2
8 15	0	0	0	1	0	0	0	1	1	0	1	1	3
8 30	1	0	1	0	0	0	0	0	0	2	0	2	3
8 45	3	0	3	0	2	2	1	0	1	2	0	2	8
TOTAL	8	1	9	0	10	10	5	4	9	4	8	12	40

# VEHICULAR GRAPHIC SUMMARY SHEET

## BOLAND ROAD AT VICTORIA ROAD



# MANUAL TRAFFIC COUNTS

INTERSECTION				BOLAND ROAD AT VICTORIA ROAD				WEATHER				SUNNY	
DAY	DATE	MONTH	YEAR	RECORDER				MARTIN BRIEN					
THURS.	12	JULY	2018										

TIME	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			TOTAL
	FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			
15 MIN INTERVALS	L	S	R	L	S	R	L	S	R	L	S	R	
04 00 00 PM - 04 15 00 PM	0	0	0	94	0	13	0	127	51	5	199	0	489
04 15 00 PM - 04 30 00 PM	0	1	1	92	0	13	0	128	51	13	165	0	464
04 30 00 PM - 04 45 00 PM	0	2	0	102	0	9	0	138	64	8	196	0	519
04 45 00 PM - 05 00 00 PM	0	0	0	84	0	7	0	162	46	7	182	0	488
TOTAL	0	3	1	372	0	42	0	555	212	33	742	0	1960
PEAK				414			767			775			
4(15 MIN PEAK)				444			832			816			
PEAK HOUR FACTOR	0.5			0.93			0.92			0.95			AAWT
TWO WAY TOTALS	4			662			1882			1372			FACTOR
												0.99	
												1940	

DAY	DATE	MONTH	YEAR										
THURS.	12	JULY	2018										
TIME	FROM THE EAST			FROM THE WEST			FROM THE NORTH			FROM THE SOUTH			TOTAL
15 MIN INTERVALS	L	S	R	L	S	R	L	S	R	L	S	R	
05 00 00 PM - 05 15 00 PM	0	0	0	94	0	10	0	143	55	8	187	0	497
05 15 00 PM - 05 30 00 PM	0	0	0	88	0	6	0	171	52	9	176	0	502
05 30 00 PM - 05 45 00 PM	0	0	0	81	0	9	0	137	52	12	167	0	458
05 45 00 PM - 06 00 00 PM	0	0	0	69	0	8	0	153	61	5	164	0	460
TOTAL	0	0	0	332	0	33	0	604	220	34	694	0	1917
PEAK				365			824			728			
4(15 MIN PEAK)				416			892			780			
PEAK HOUR FACTOR	0			0.88			0.92			0.93			AAWT
TWO WAY TOTALS	0			619			1850			1365			FACTOR
												0.99	
												1898	

### Intersection Peak Hour

16:30 - 17:30	Car	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	Truck	0	0	0	4	0	0	0	14	4	0	18	0	40
	Bicycle	0	0	0	2	0	0	0	2	1	0	1	0	6
	Vehicle Total	0	2	0	369	0	32	0	616	218	32	742	0	2011
	Approach Factor	0.25			0.9			0.93			0.95			FACTOR
												1		
												2011		

### Peak Hour Pedestrians

16:30 - 17:30	Pedestrians	NE			NW			SW			SE			Total
		Left	Right	Total										
		9	0	9	0	6	6	2	1	3	0	2	2	20

### Car traffic

Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16 00	0	0	0	91	0	13	0	125	47	5	196	0	477
16 15	0	1	1	92	0	13	0	124	49	13	161	0	454
16 30	0	2	0	101	0	9	0	135	64	8	189	0	508
16 45	0	0	0	82	0	7	0	157	43	7	179	0	475
17 00	0	0	0	92	0	10	0	142	54	8	183	0	489
17 15	0	0	0	88	0	6	0	166	52	9	172	0	493
17 30	0	0	0	81	0	9	0	134	51	12	160	0	447
17 45	0	0	0	68	0	8	0	148	60	5	158	0	447
TOTAL	0	3	1	695	0	75	0	1131	420	67	1398	0	3790

### Truck traffic

Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16 00	0	0	0	3	0	0	0	2	4	0	3	0	12
16 15	0	0	0	0	0	0	0	4	2	0	4	0	10
16 30	0	0	0	1	0	0	0	3	0	0	7	0	11
16 45	0	0	0	2	0	0	0	5	3	0	3	0	13
17 00	0	0	0	1	0	0	0	1	1	0	4	0	7
17 15	0	0	0	0	0	0	0	5	0	0	4	0	9
17 30	0	0	0	1	0	0	0	3	1	0	7	0	12
17 45	0	0	0	1	0	0	0	5	1	0	6	0	13
TOTAL	0	0	0	9	0	0	0	28	12	0	38	0	87

### Bicycle traffic

Interval starts	BOLAND ROAD			BOLAND ROAD			VICTORIA ROAD			VICTORIA ROAD			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
16 00	0	0	0	0	0	0	0	0	0	0	0	0	0
16 15	0	0	0	0	0	0	0	0	0	0	0	0	0
16 30	0	0	0	1	0	0	0	0	1	0	0	0	2
16 45	0	0	0	0	0	0	0	0	0	0	1	0	1
17 00	0	0	0	1	0	0	0	1	0	0	0	0	2
17 15	0	0	0	0	0	0	0	1	0	0	0	0	1
17 30	0	0	0	0	0	0	0	2	0	0	1	0	3
17 45	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	2	0	0	0	4	1	0	2	0	9

### Pedestrian volumes

Interval starts	NE			NW			SW			SE			Total
	Left	Right	Total										
16 00	0	0	0	0	2	2	5	1	6	0	1	1	9
16 15	0	0	0	0	3	3	0	0	0	0	0	0	3
16 30	3	0	3	0	1	1	1	0	1	0	0	0	5
16 45	2	0	2	0	2	2	0	1	2	0	0	0	6
17 00	4	0	4	0	2	2	0	0	0	0	1	1	3
17 15	0	0	0	4	0	4	0	0	0	0	1	1	6
17 30	0	0	0	0	5	5	0	1	1	1	0	1	7
17 45	0	0	0	0	0	0	1	0	1	0	1	1	2
TOTAL	9	0	9	0	16	16	8	3	11	1	4	5	41



# APPENDIX B

## Appendix B: TRIP GENERATION

## Trip Generation Summary

Alternative: Alternative 1

Phase:

Open Date: 7/20/2020

Project: 169 Wyse Road

Analysis Date: 7/20/2020

ITE	Land Use	Weekday Average Daily Trips			Weekday AM Peak Hour of Adjacent Street Traffic			Weekday PM Peak Hour of Adjacent Street Traffic					
		*	Enter	Exit	Total	*	Enter	Exit	Total	*	Enter	Exit	Total
220	Townhouses		15	14	29		0	2	2		1	1	2
	4 Dwelling Units												
231	Mid-Rise Residential - Ground Commercial		165	165	330		8	21	29		25	10	35
	96 Dwelling Units												
Unadjusted Volume			180	179	359		8	23	31		26	11	37
Internal Capture Trips			0	0	0		0	0	0		0	0	0
Pass-By Trips			0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets			180	179	359		8	23	31		26	11	37

Total Weekday Average Daily Trips Internal Capture = 0 Percent

Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

\* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

**TRIP GENERATION 10, TRAFFICWARE, LLC**

# APPENDIX C

## Appendix C: TRIP ASSIGNMENT

**Development: 169 Wyse Road**

**Driveway: 1      Pelzant**

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Pelzant to Wyse West	25.00	2	25.00	6
2	Pelzant to Boland North	15.00	1	15.00	3
3	Pelzant to Wyse East	60.00	5	60.00	14

**Development: 169 Wyse Road**

**Driveway: 1      Pelzant**

Origin #	Route	To		From	
		Distribution %	Trips	Distribution %	Trips
1	Pelzant to Wyse West	25.00	7	25.00	3
2	Pelzant to Boland North	15.00	4	15.00	2
3	Pelzant to Wyse East	60.00	16	60.00	7

# APPENDIX D

## Appendix D: SYNCHRO REPORTS

1: Wyse & Boland

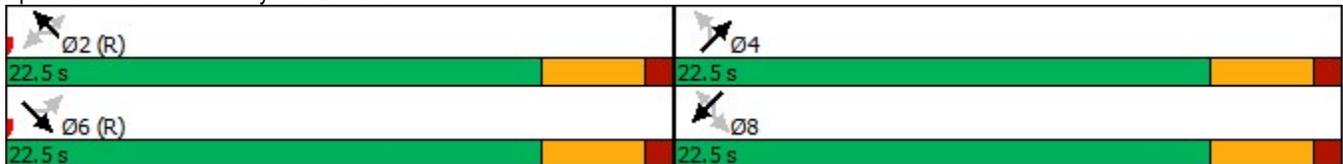
Existing AM Peak

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	73	381	5	5	348	306	5	5	5	286	5	73
Future Volume (vph)	73	381	5	5	348	306	5	5	5	286	5	73
Satd. Flow (prot)	1652	1880	0	1652	1739	1478	0	1770	0	0	1795	1601
Flt Permitted	0.457			0.411				0.909			0.719	
Satd. Flow (perm)	795	1880	0	715	1739	1478	0	1635	0	0	1354	1601
Satd. Flow (RTOR)		2				333		5				79
Lane Group Flow (vph)	79	419	0	5	378	333	0	15	0	0	316	79
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		6			2			4				8
Permitted Phases	6			2		2	4			8		8
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	18.0	18.0		18.0	18.0	18.0		18.0			18.0	18.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40		0.40			0.40	0.40
v/c Ratio	0.25	0.56		0.02	0.54	0.42		0.02			0.58	0.11
Control Delay	11.6	13.9		8.4	14.0	3.3		7.2			16.0	3.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	11.6	13.9		8.4	14.0	3.3		7.2			16.0	3.3
LOS	B	B		A	B	A		A			B	A
Approach Delay		13.5			9.0			7.2			13.4	
Approach LOS		B			A			A			B	

Intersection Summary

Cycle Length: 45  
 Actuated Cycle Length: 45  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.58  
 Intersection Signal Delay: 11.4  
 Intersection LOS: B  
 Intersection Capacity Utilization 58.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Wyse & Boland



						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	542	30	20	659	30	30
Future Volume (Veh/h)	542	30	20	659	30	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	589	33	22	716	33	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)	30					
pX, platoon unblocked			0.84		0.84	0.84
vC, conflicting volume			622		1008	606
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			450		911	430
tC, single (s)			4.1		*6.5	*6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	93
cM capacity (veh/h)			925		243	505
Direction, Lane #	SE 1	NW 1	NW 2	NW 3	NE 1	
Volume Total	622	22	358	358	66	
Volume Left	0	22	0	0	33	
Volume Right	33	0	0	0	33	
cSH	1700	925	1700	1700	329	
Volume to Capacity	0.37	0.02	0.21	0.21	0.20	
Queue Length 95th (m)	0.0	0.6	0.0	0.0	5.6	
Control Delay (s)	0.0	9.0	0.0	0.0	18.7	
Lane LOS		A			C	
Approach Delay (s)	0.0	0.3			18.7	
Approach LOS					C	
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			
* User Entered Value						

1: Wyse & Boland

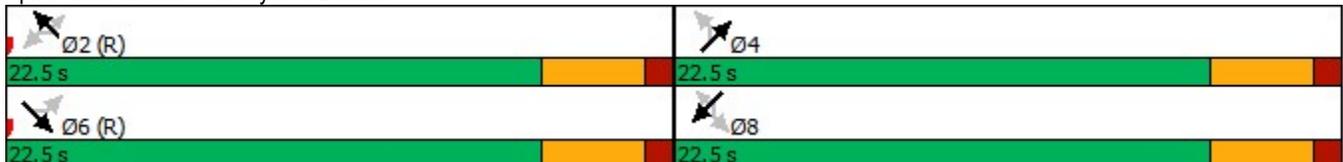
Future AM Peak

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	73	381	5	5	348	306	5	5	5	286	5	73
Future Volume (vph)	80	421	6	6	389	340	6	6	6	316	6	80
Satd. Flow (prot)	1652	1880	0	1652	1739	1478	0	1770	0	0	1795	1601
Flt Permitted	0.407			0.361				0.897			0.715	
Satd. Flow (perm)	708	1880	0	628	1739	1478	0	1613	0	0	1347	1601
Satd. Flow (RTOR)		2				370		7				87
Lane Group Flow (vph)	87	465	0	7	423	370	0	21	0	0	350	87
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		6			2			4				8
Permitted Phases	6			2		2	4			8		8
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	18.0	18.0		18.0	18.0	18.0		18.0			18.0	18.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40		0.40			0.40	0.40
v/c Ratio	0.31	0.62		0.03	0.61	0.46		0.03			0.65	0.13
Control Delay	13.0	15.1		8.7	15.3	3.5		7.2			18.5	3.2
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	13.0	15.1		8.7	15.3	3.5		7.2			18.5	3.2
LOS	B	B		A	B	A		A			B	A
Approach Delay		14.8			9.8			7.2			15.4	
Approach LOS		B			A			A			B	

Intersection Summary

Cycle Length: 45  
 Actuated Cycle Length: 45  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green  
 Natural Cycle: 50  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.65  
 Intersection Signal Delay: 12.6  
 Intersection LOS: B  
 Intersection Capacity Utilization 58.5%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 1: Wyse & Boland



						
Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations				 	 	
Traffic Volume (veh/h)	542	30	20	659	30	30
Future Volume (Veh/h)	596	36	28	725	43	48
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	648	39	30	788	47	52
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	30					
pX, platoon unblocked			0.81		0.81	0.81
vC, conflicting volume			687		1122	668
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			497		1033	473
tC, single (s)			4.1		*6.5	*6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		76	89
cM capacity (veh/h)			862		197	462
<b>Direction, Lane #</b>	<b>SE 1</b>	<b>NW 1</b>	<b>NW 2</b>	<b>NW 3</b>	<b>NE 1</b>	
Volume Total	687	30	394	394	99	
Volume Left	0	30	0	0	47	
Volume Right	39	0	0	0	52	
cSH	1700	862	1700	1700	282	
Volume to Capacity	0.40	0.03	0.23	0.23	0.35	
Queue Length 95th (m)	0.0	0.8	0.0	0.0	11.6	
Control Delay (s)	0.0	9.3	0.0	0.0	24.5	
Lane LOS		A			C	
Approach Delay (s)	0.0	0.3			24.5	
Approach LOS					C	
<b>Intersection Summary</b>						
Average Delay			1.7			
Intersection Capacity Utilization			40.5%		ICU Level of Service	A
Analysis Period (min)			15			
* User Entered Value						

1: Wyse & Boland

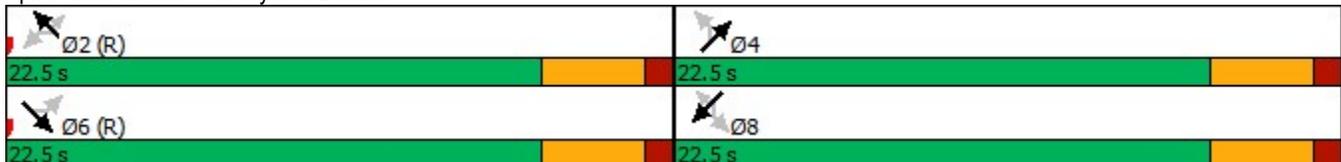
Existing PM Peak

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	64	345	5	5	386	380	5	5	5	186	5	68
Future Volume (vph)	64	345	5	5	386	380	5	5	5	186	5	68
Satd. Flow (prot)	1652	1880	0	1652	1739	1478	0	1770	0	0	1795	1601
Flt Permitted	0.410			0.455				0.925			0.721	
Satd. Flow (perm)	713	1880	0	791	1739	1478	0	1664	0	0	1358	1601
Satd. Flow (RTOR)		2				413		5				74
Lane Group Flow (vph)	70	380	0	5	420	413	0	15	0	0	207	74
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		6			2			4				8
Permitted Phases	6			2		2	4			8		8
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	18.0	18.0		18.0	18.0	18.0		18.0			18.0	18.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40		0.40			0.40	0.40
v/c Ratio	0.25	0.50		0.02	0.60	0.49		0.02			0.38	0.11
Control Delay	11.8	13.0		8.4	15.2	3.6		7.2			12.2	3.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	11.8	13.0		8.4	15.2	3.6		7.2			12.2	3.3
LOS	B	B		A	B	A		A			B	A
Approach Delay		12.8			9.5			7.2			9.8	
Approach LOS		B			A			A			A	

Intersection Summary

Cycle Length: 45  
 Actuated Cycle Length: 45  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.60  
 Intersection Signal Delay: 10.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 53.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 1: Wyse & Boland





Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	506	30	20	741	30	30
Future Volume (Veh/h)	506	30	20	741	30	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	550	33	22	805	33	33
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (m)	30					
pX, platoon unblocked			0.85		0.85	0.85
vC, conflicting volume			583		1013	566
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			416		924	397
tC, single (s)			4.1		*6.5	*6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		86	94
cM capacity (veh/h)			964		242	535
Direction, Lane #	SE 1	NW 1	NW 2	NW 3	NE 1	
Volume Total	583	22	402	402	66	
Volume Left	0	22	0	0	33	
Volume Right	33	0	0	0	33	
cSH	1700	964	1700	1700	333	
Volume to Capacity	0.34	0.02	0.24	0.24	0.20	
Queue Length 95th (m)	0.0	0.5	0.0	0.0	5.5	
Control Delay (s)	0.0	8.8	0.0	0.0	18.4	
Lane LOS	A			C		
Approach Delay (s)	0.0	0.2				18.4
Approach LOS				C		
<b>Intersection Summary</b>						
Average Delay			1.0			
Intersection Capacity Utilization			38.6%	ICU Level of Service		A
Analysis Period (min)			15			

\* User Entered Value

1: Wyse & Boland

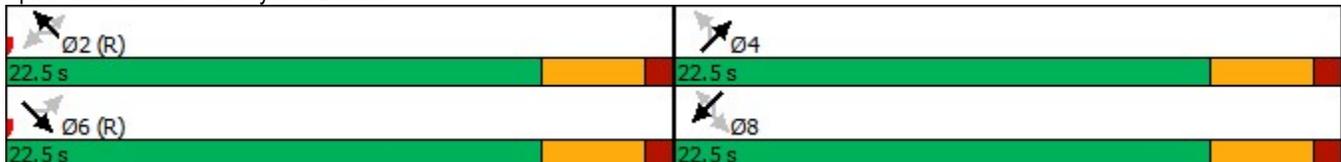
Future PM Peak

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	64	345	5	5	386	380	5	5	5	186	5	68
Future Volume (vph)	70	387	6	6	428	420	6	6	6	209	6	75
Satd. Flow (prot)	1652	1880	0	1652	1739	1478	0	1770	0	0	1797	1601
Flt Permitted	0.361			0.401				0.915			0.717	
Satd. Flow (perm)	628	1880	0	697	1739	1478	0	1646	0	0	1350	1601
Satd. Flow (RTOR)		2				457		7				82
Lane Group Flow (vph)	76	428	0	7	465	457	0	21	0	0	234	82
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases		6			2			4				8
Permitted Phases	6			2		2	4			8		8
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5
Total Split (%)	50.0%	50.0%		50.0%	50.0%	50.0%	50.0%	50.0%		50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	4.5
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	18.0	18.0		18.0	18.0	18.0		18.0			18.0	18.0
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40		0.40			0.40	0.40
v/c Ratio	0.30	0.57		0.03	0.67	0.53		0.03			0.43	0.12
Control Delay	13.3	14.1		8.7	17.1	3.8		7.2			13.0	3.3
Queue Delay	0.0	0.0		0.0	0.0	0.0		0.0			0.0	0.0
Total Delay	13.3	14.1		8.7	17.1	3.8		7.2			13.0	3.3
LOS	B	B		A	B	A		A			B	A
Approach Delay		14.0			10.5			7.2			10.5	
Approach LOS		B			B			A			B	

Intersection Summary

Cycle Length: 45  
 Actuated Cycle Length: 45  
 Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SETL, Start of Green  
 Natural Cycle: 45  
 Control Type: Pretimed  
 Maximum v/c Ratio: 0.67  
 Intersection Signal Delay: 11.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 53.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 1: Wyse & Boland





Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	506	30	20	741	30	30
Future Volume (Veh/h)	557	45	40	815	38	41
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	605	49	43	886	41	45
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (m)	30					
pX, platoon unblocked			0.82		0.82	0.82
vC, conflicting volume			654		1158	630
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			469		1084	439
tC, single (s)			4.1		*6.5	*6.5
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			95		78	91
cM capacity (veh/h)			894		183	490
<b>Direction, Lane #</b>	<b>SE 1</b>	<b>NW 1</b>	<b>NW 2</b>	<b>NW 3</b>	<b>NE 1</b>	
Volume Total	654	43	443	443	86	
Volume Left	0	43	0	0	41	
Volume Right	49	0	0	0	45	
cSH	1700	894	1700	1700	272	
Volume to Capacity	0.38	0.05	0.26	0.26	0.32	
Queue Length 95th (m)	0.0	1.2	0.0	0.0	10.0	
Control Delay (s)	0.0	9.2	0.0	0.0	24.2	
Lane LOS		A			C	
Approach Delay (s)	0.0	0.4			24.2	
Approach LOS					C	
<b>Intersection Summary</b>						
Average Delay			1.5			
Intersection Capacity Utilization			38.6%	ICU Level of Service	A	
Analysis Period (min)	15					

\* User Entered Value

August 28, 2020

Zagros Nova Developments Ltd.  
72 Gary Martin Drive, Unit 101  
Bedford, NS B4B 0P7

Attn: Seraj Bagheri  
[REDACTED]

Dear Mr. Bagheri:

Re: Qualitative Pedestrian Level Wind Assessment  
169 Wyse Road, Dartmouth, Nova Scotia  
Gradient Wind File 20-180

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Gradient Wind Engineering Inc. (Gradient Wind) was retained by Zagros Nova Developments Limited to undertake a qualitative pedestrian level wind (PLW) assessment for the proposed residential development located at 169 Wyse Road in Dartmouth, Nova Scotia (hereinafter referred to as “subject site”) to satisfy By-Law requirements for buildings exceeding 20 m in height but not exceeding 40 m. This report provides a qualitative assessment of pedestrian wind comfort and safety for the subject site based on architectural drawings provided by Parsco Optimized Engineering in August 2020, consideration of existing and approved future surrounding buildings, statistical knowledge of the Halifax area wind climate, and experience with similar past projects in Halifax.

A qualitative wind assessment is useful to identify any significant massing features or design elements which may adversely impact pedestrian activities within the study area, and to recommend conceptual mitigation measures, as may be required.

## 1. TERMS OF REFERENCE

The subject site is located at 169 Wyse Road, on a parcel of land bordered by George Street to the west, Pelzant Street to the north, Wyse Road to the east, and existing developments to the south. The proposed development comprises a 10-storey building with a 3-storey podium. The building features an irregular planform at grade and is situated on a sloped parcel of land. Level P1 includes underground parking at the

east, townhouses with grade-level entrances at the west, and a lobby, gym, and party room within the centre of the floorplan. The Main Floor plan comprises commercial space at the east, at grade fronting Wyse Road, the second floor of the townhouses at the west, and residential units throughout the remainder of the floorplan. An outdoor terrace is located along the south elevation at grade. Levels 2 and above comprise residential units. At Level 4, the building steps back from all elevations; the roof of the podium features outdoor amenity space. The building rises with a consistent planform to level 10 and is served by a mechanical penthouse at the west end of the roof level.



*Rendering, West Perspective  
(Courtesy of Parsco Optimized Engineering)*

Regarding wind exposures, the near-field surroundings of the development (defined as an area falling within a 200-metre (m) radius of the site) are characterized by low-rise developments in all directions, two mid-rise (6-storey) buildings to the north, and some undeveloped land to the south. The far-field surroundings (defined as the area beyond the near field and within a two-kilometer (km) radius) are characterized by a continuation of the low-rise surroundings from the northwest clockwise to the southeast, and downtown Dartmouth at a distance of approximately 1.2 km to the southeast. From the southeast clockwise to the northeast, the far-field surroundings include the Halifax Harbour and a mix of high-rise and low-rise buildings in North End Halifax.

A site plan is provided in Figure 1, while a ground floor plan is provided in Figure 2. The Roof plan is illustrated in Figure 3, which includes the grade-level outdoor amenity terrace along the south elevation and the outdoor amenity terrace at Level 4. Figures 2 and 3 include letter tags identifying wind sensitive pedestrian locations considered in this assessment.

## **2. METHODOLOGY**

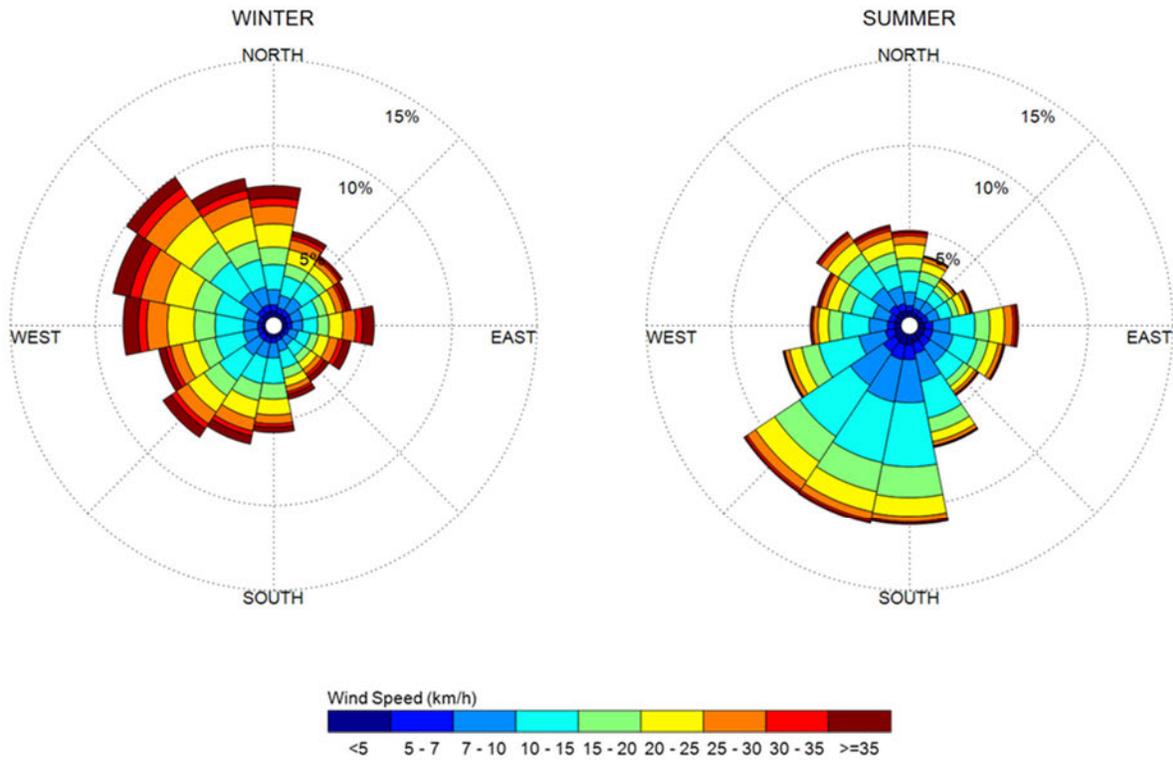
The main aspects of a qualitative pedestrian level wind assessment include (i) consideration of the statistical properties of the local wind climate; (ii) knowledge of wind flow behaviour in typical urban and suburban environments; and (iii) an understanding of how common wind conditions relate to typical pedestrian activity types.

## 2.1 Halifax Area Wind Climate

The statistical model of the Halifax wind climate is illustrated on the following page and indicates the directional character of local winds on a seasonal basis. The plots illustrate seasonal distribution of measured wind speeds and directions in kilometers per hour (km/h). Probabilities of occurrence of different wind speeds are represented as stacked polar bars in sixteen azimuth divisions. The radial direction represents the percentage of time for various wind speed ranges per wind direction during a 40-year measurement period. The more common wind speeds and directions can be identified by the longer length of the bars. For Halifax, the most common winds concerning pedestrian comfort occur from the western hemisphere. The directional preference and relative magnitude of the wind speed varies somewhat from season to season, with the summer displaying calmer wind speeds than the winter.

This analysis has considered data from CFB Halifax – 12 Wing Shearwater, as required by the Halifax Regional Centre Land Use By-law. It should be noted that this weather station, unlike Halifax Stanfield International Airport, has not kept complete weather records since 2004. From 2005 to 2019, approximately 62% of hourly wind and weather observations are missing.

## SEASONAL DISTRIBUTION OF WIND CFB SHEARWATER AIRPORT, HALIFAX, NOVA SCOTIA



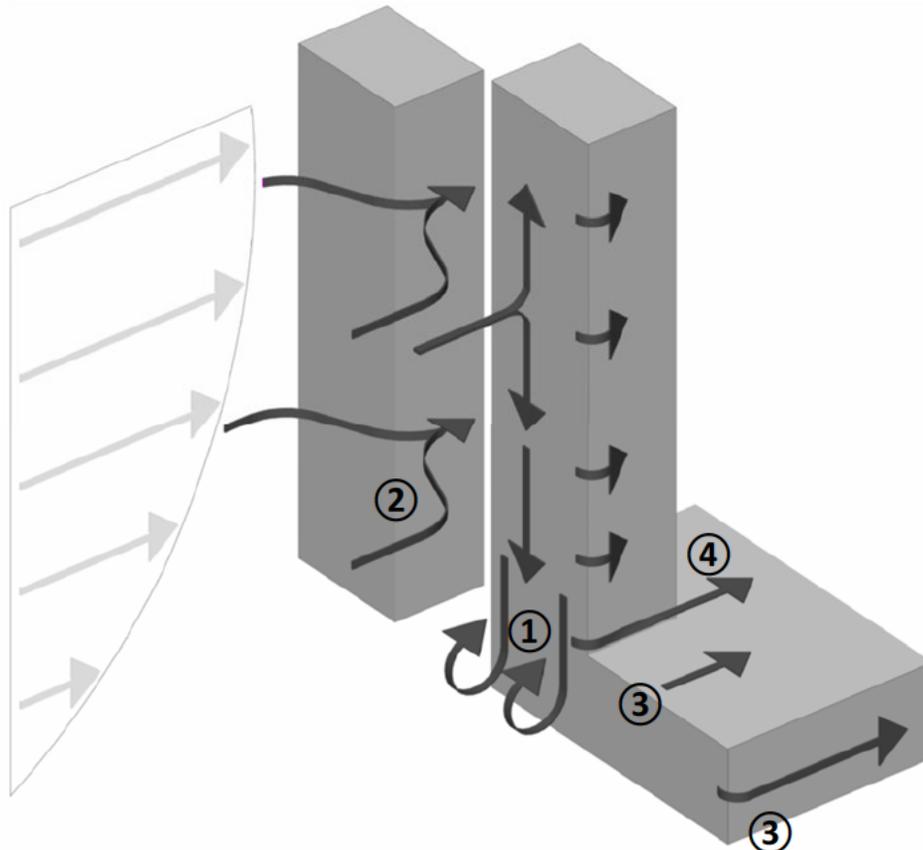
### Notes:

1. Radial distances indicate percentage of time of wind events.
2. Wind speeds are mean hourly in km/h, measured at 10 m above the ground.

## 2.2 Massing vs. Climate – Geometric Effects

The physical features of a development site that are most influential to the local wind conditions include the massing and relative spacing of surrounding buildings, the geometry and orientation of the study building, and the alignment of the study building with respect to statistically prominent wind directions.

Wind flow characteristics which combine to determine how conditions will develop include phenomena known as downwash, channelling coupled with acceleration, and shielding, as illustrated in the image below. Downwash ① relates to the effect of winds against a tall building, whereby much of the impinging flow on the windward side of the building, nominally below two-thirds of the total height, is directed to lower levels. Taller buildings with smooth façades and no podiums produce the strongest downwash effects at grade, while the presence of protruding balconies and a tower setback from the podium edge mitigates downwash effects at the ground level. Channelling ② refers to acceleration of wind through gaps between buildings, while acceleration of wind ③ occurs around building corners. Shielding ④ relates to calm zones on the leeward side of buildings, protected from prevailing winds.



### 2.3 Pedestrian Wind Comfort and Safety Criteria – Halifax Regional Municipality

Pedestrian comfort and safety criteria are based on the Halifax Regional Centre Land Use By-Law and the mechanical effects of wind without consideration of other meteorological conditions (i.e., temperature, relative humidity). The comfort criteria assume that pedestrians are appropriately dressed for a specified outdoor activity during any given season. Five pedestrian comfort classes are based on 80% non-exceedance mean wind speed ranges, which include (1) Sitting; (2) Standing; (3) Strolling; (4) Walking; and (5) Uncomfortable. More specifically, the comfort classes and associated mean wind speed ranges are summarized as follows:

- 1) **Sitting:** Gust Equivalent Mean (GEM) wind speeds no greater than 10 km/h occurring at least 80% of the time between the hours of 6:00 and 23:00. The equivalent gust speed is 18 km/h.
- 2) **Standing:** GEM wind speeds no greater than 14 km/h occurring at least 80% of the time between the hours of 6:00 and 23:00. The equivalent gust wind speed is 26 km/h.
- 3) **Strolling:** GEM wind speeds no greater than 17 km/h occurring at least 80% of the time between the hours of 6:00 and 23:00. The equivalent gust wind speed is 31 km/h.
- 4) **Walking:** GEM wind speeds no greater than 20 km/h occurring at least 80% of the time between the hours of 6:00 and 23:00. The equivalent gust wind speed is 37 km/h.
- 5) **Uncomfortable:** Uncomfortable conditions are characterized by predicted values that fall below the 80% target for walking. Brisk walking and exercise, such as jogging, would be acceptable for moderate excesses of this criterion.

The pedestrian safety wind speed criterion is based on the approximate threshold that would cause a vulnerable member of the population to fall. A 0.1% exceedance gust wind speed of 90 km/h is classified as dangerous. The gust speeds, and equivalent mean speeds, are selected based on 'The Beaufort Scale', presented on the following page, which describes the effects of forces produced by varying wind speed levels on objects. Gust speeds are included because pedestrians tend to be more sensitive to wind gusts than to steady winds for lower wind speed ranges. For strong winds approaching dangerous levels, this effect is less important because the mean wind can also create problems for pedestrians.

### 3. ANTICIPATED PEDESTRIAN WIND COMFORT

Based on consideration of the subject site, surrounding building massing, and the relationship to the local wind climate, the statements below summarize our assessment of wind comfort at key pedestrian areas for the existing and proposed massing scenarios.

#### 3.1 Existing Massing

The site of the proposed development is exposed to winds from all compass directions. However, the low-rise surroundings are not expected to accelerate winds. Overall, wind conditions over the surrounding sidewalks are expected to be suitable for standing or better during the summer and suitable for walking or better during the winter, which are acceptable.

#### 3.2 Proposed Massing

**Sidewalk and Building Entrances along Wyse Road (Figure 2, Tags A, B, & C):** This area is expected to be somewhat affected by wind acceleration around the northeast corner of the building for prominent westerly winds. Less prominent easterly winds are also expected to accelerate around the northeast and southeast corners of the building. The area will be largely protected from southwest winds, which are prominent in the summer by the upwind massing of the building. Regarding higher level winds, downwash effects for westerly winds are expected to be reduced by the setback of the building at Level 4 and by the inclusion of balconies.

Overall, conditions along the sidewalk, represented by tag 'A', are expected to be suitable for a mix of sitting and standing during the summer season, becoming suitable for strolling, or better, during the winter season. These conditions are considered acceptable.

The building entrances at the north and south extents of the east elevation, respectively represented by tags 'B' and 'C', will be somewhat sheltered by the overhang of the balconies above. Nevertheless, conditions in the immediate vicinity of the north entrance, represented by tag 'B', may be somewhat windy. If this entrance will serve as a primary access point for the commercial space, and calmer conditions are desired, we recommend either a) moving the entrance by a distance of at least 3 m to the south (nearer to the centre of the east elevation), or b) recessing the entrance by a minimum of 1.5 m into the façade, while maintaining the wall along the north elevation.

**Sidewalk and Building Entrance along Pelzant Street (Figure 2, Tags D & E):** The sidewalk along Pelzant Street, represented by tag 'D', will be exposed to prominent winds from the southwest clockwise to the north. However, the area will be somewhat shielded from direct winds by the existing massing to the west. The setback of the building from the podium will reduce the effects of downwash at grade. Southwest winds, which are prominent during the summer season, are expected to accelerate around the northeast corner of the building. The building entrance near the western extent of the north elevation, represented by tag 'E', is recessed by approximately 2.5 m from the outer façade, which is a positive design feature that will result in calm wind conditions in the immediate vicinity of the entrance.

Overall, conditions over the Pelzant Street sidewalk are expected to be suitable for standing or better during the summer season. During the winter season, conditions are predicted to be suitable for strolling or walking near the northwest and northeast building corners, and suitable for standing elsewhere. These conditions are considered acceptable. Conditions at the building entrance are expected to be suitable for sitting throughout the year, which is acceptable.

**Sidewalk and Townhouse Entrances along George Street (Figure 2, Tag F):** This area will be shielded from prominent winds from the western hemisphere by the existing upwind massing. The setback of the building from the podium will reduce the effects of downwash at grade. Wind acceleration around the northwest building corner may affect part of the sidewalk along George Street near Pelzant Street.

Overall, conditions along George Street are predicted to be suitable for standing or better during the summer season. During the winter season, conditions are expected to be suitable for strolling or walking near the northwest building corner, and suitable for standing or better elsewhere. Conditions at the townhouse entrances are predicted to be suitable for standing or better throughout the year. These conditions are considered acceptable.

**Grade-Level Terraces along South Elevation (Figure 2, Tag G):** The terrace along the south elevation of the building will be protected from prominent winds from the northwest quadrant by the proposed building, and protected from winds from the southwest quadrant by the existing massing upwind of the area. While some downwash effects are expected for easterly winds, these winds are less common. The setback at Level 4 along the south elevation is smaller than along the other elevations but will still mitigate the effects of downwash. Overall, wind conditions within the landscaped areas are expected to be suitable

for sitting during the summer season, and suitable for strolling or better during the winter season. These conditions are considered acceptable.

**Level 4 Outdoor Amenity Terrace (Figure 3, Tags H & I):** Wind conditions over the terrace at Level 4 will be affected by downwash from the building. The terrace is at a higher elevation than the existing surrounding massing and so will also be exposed to direct winds from all directions. The balconies at Level 5 and above will act to somewhat reduce downwash effects and acceleration around the building corners. To protect against direct winds over the Level 4 amenity terrace, we recommend introducing a 1.8-m tall solid wind screen around the perimeter of the roof.

Overall, provided the terrace design incorporates the aforementioned wind barrier, summer wind conditions over the terrace are expected to be mostly suitable for sitting within the regions identified by tag 'H', while areas near the southwest, northwest, and northeast building corners, represented by tag 'I', may experience conditions suitable for standing. During the winter season, conditions are predicted to be suitable for walking or better.

**Influence of the Proposed Development on Existing Wind Conditions near the Subject Site:** The introduction of the proposed development is not expected to significantly influence pedestrian wind comfort over neighbouring areas. Nearby building entrances, sidewalks, laneways, parking areas, transit stops, and other pedestrian-sensitive areas beyond the development site are expected to continue to experience acceptable wind conditions.

**Applicability of Predictions:** The forgoing statements and conclusions apply to common weather systems, during which no dangerous or consistently strong wind conditions are expected anywhere over the study site. During such extreme weather events, (e.g., hurricanes, tropical storms, nor'easters, and downbursts), pedestrian safety is the main concern. However, these events are generally short-lived and infrequent and there is often sufficient warning for pedestrians to take appropriate cover.

#### **4. SUMMARY AND RECOMMENDATIONS**

Based on a qualitative analysis of architectural drawings, surrounding building massing, and the Halifax area wind climate, the following general statements summarize our prediction of existing and future wind conditions for the subject site at 167 Wyse Road in Dartmouth, Nova Scotia.

1. Following the introduction of the proposed building, all public sidewalks surrounding the subject site are expected to continue to experience acceptable wind conditions throughout the year.
2. If the entrance at the north extent of the east elevation will serve as a primary entrance to the commercial space, we recommend mitigation to protect the entrance area from potentially strong wind accelerations around the northeast building corner. Specifically, we recommend either a) moving the entrance to the south by a minimum of 3 m (i.e., nearer to the centre of the east elevation), or b) recessing the entrance by a minimum of 1.5 m into the façade, while maintaining the wall along the north elevation.
3. To achieve conditions suitable for sitting during the summer season over the Level 4 amenity terrace, we recommend introducing a 1.8-m tall solid wind screen around the perimeter of the roof.
4. The introduction of the proposed building is not expected to significantly influence pedestrian wind comfort at neighbouring areas beyond the development site. In particular, nearby building entrances, sidewalks, parking areas, transit stops, and other pedestrian-sensitive areas beyond the development site are expected to experience acceptable wind conditions or conditions similar to those that presently exist without the proposed building in place.

The foregoing statements and conclusions apply to common weather systems, during which no dangerous or consistently strong wind conditions are expected anywhere over the subject site. During such extreme weather events, (e.g., hurricanes, tropical storms, nor'easters, and downbursts), pedestrian safety is the main concern. However, these events are generally short-lived and infrequent and there is often sufficient warning for pedestrians to take appropriate cover.

This concludes our qualitative assessment of pedestrian wind comfort. Please advise the undersigned of any questions or comments.

Sincerely,

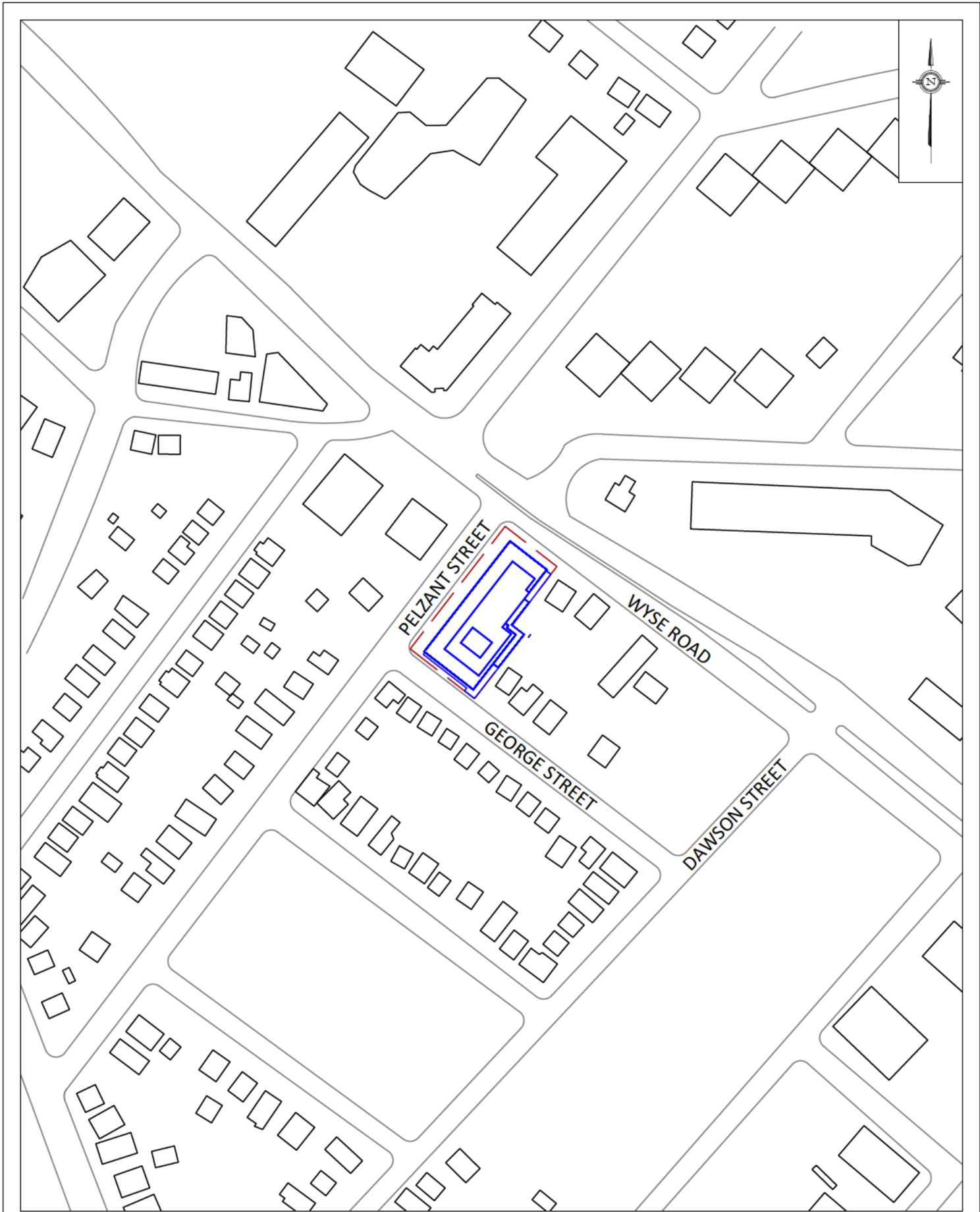
***Gradient Wind Engineering Inc.***



Sacha Ruzzante, M.A.Sc.  
Junior Wind Scientist



Justin Ferraro, P.Eng.  
Principal



**GRADIENTWIND**

ENGINEERS & SCIENTISTS

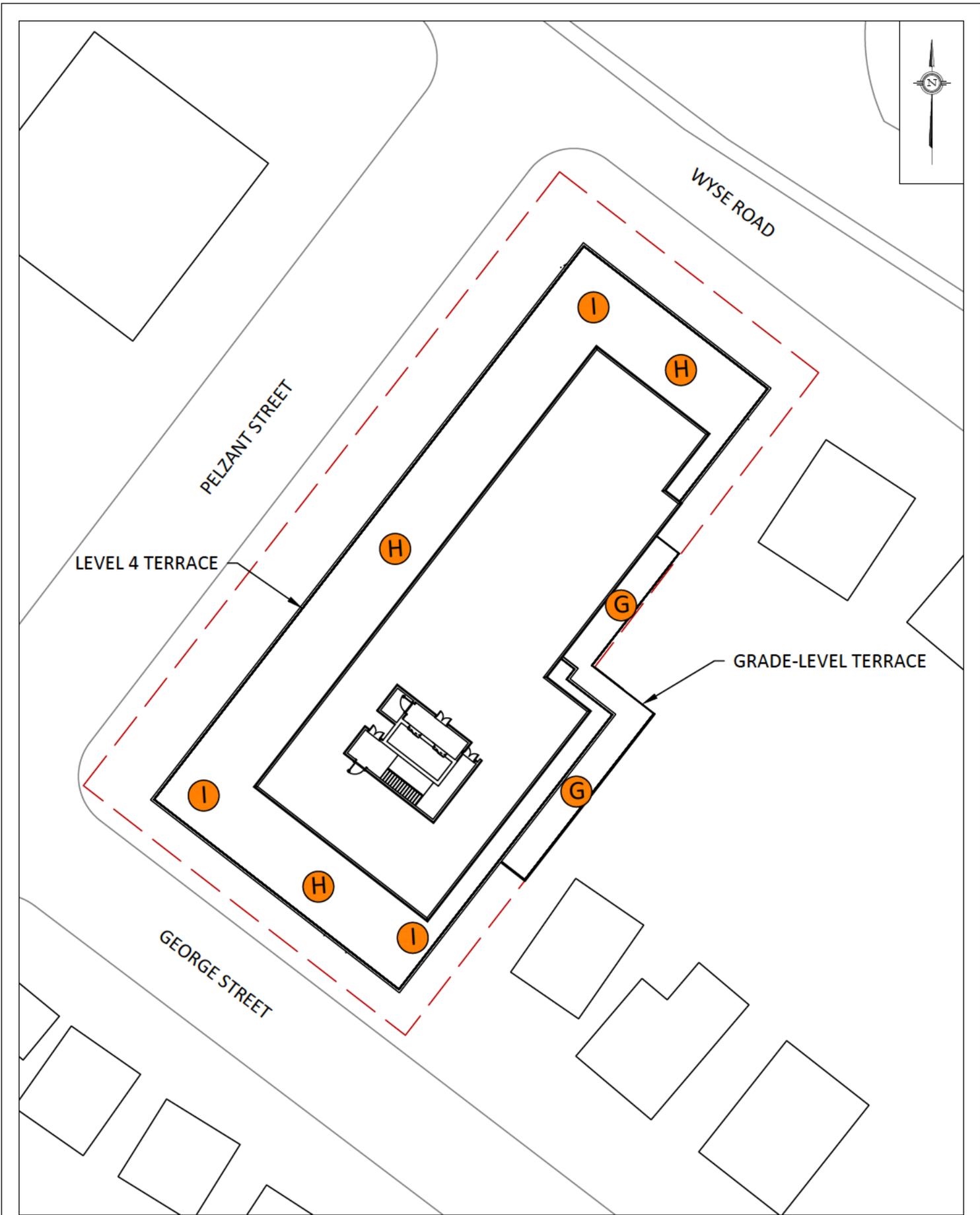
127 WALGREEN ROAD, OTTAWA, ON  
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PROJECT	169 WYSE ROAD, DARTMOUTH QUALITATIVE PEDESTRIAN LEVEL WIND ASSESSMENT	
SCALE	1:2000	DRAWING NO. 20-180-DTPLW-1
DATE	AUGUST 28, 2020	DRAWN BY N.M.P.

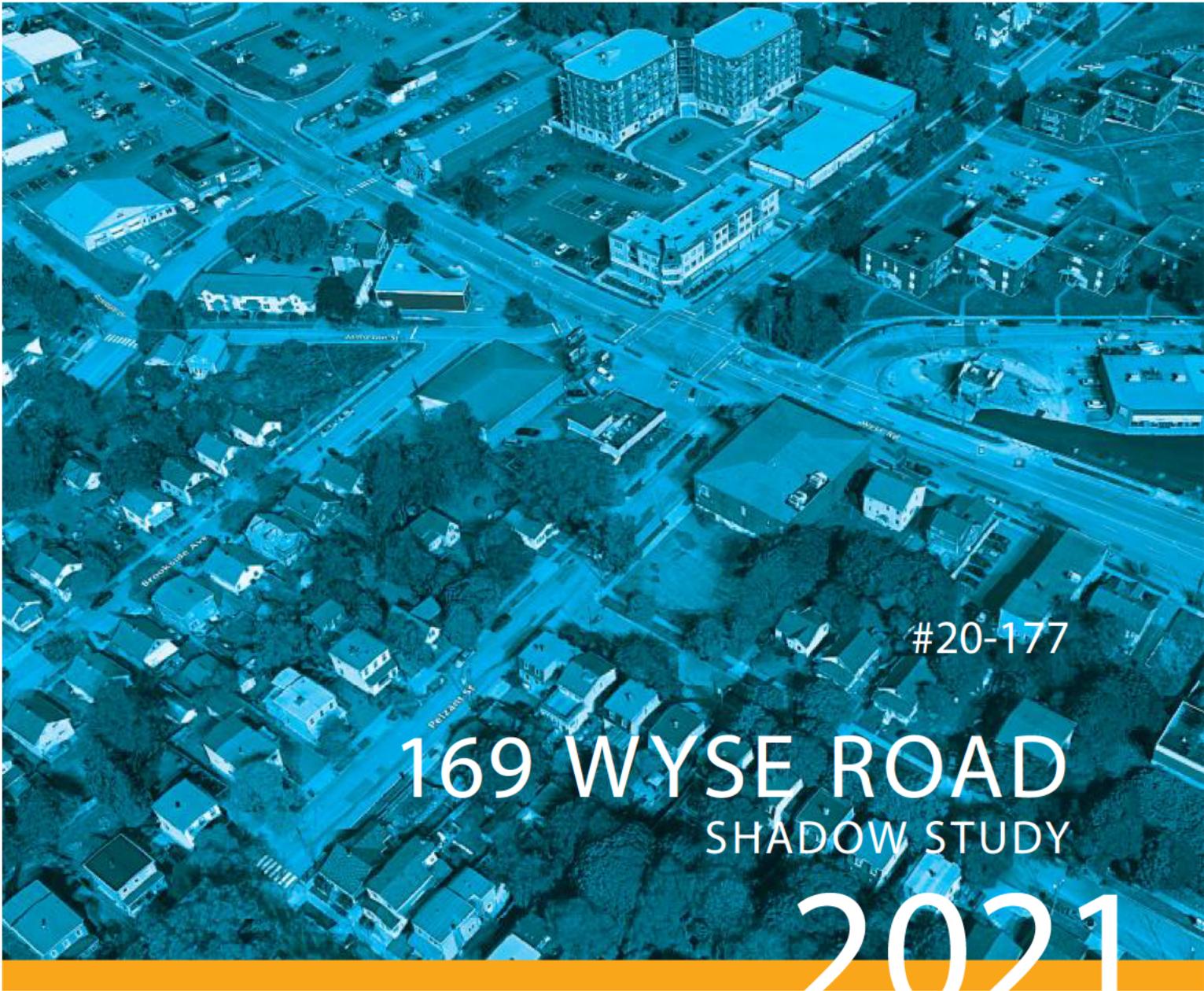
DESCRIPTION	FIGURE 1: SITE PLAN AND SURROUNDING CONTEXT
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<b>GRADIENTWIND</b> ENGINEERS & SCIENTISTS 127 WALGREEN ROAD, OTTAWA, ON 613 836 0934 • GRADIENTWIND.COM	PROJECT 169 WYSE ROAD, DARTMOUTH QUALITATIVE PEDESTRIAN LEVEL WIND ASSESSMENT	DESCRIPTION FIGURE 2: GROUND FLOOR PLAN WITH REFERENCE MARKERS
	SCALE 1:800	DRAWING NO. 20-180-DTPLW-2
	DATE AUGUST 28, 2020	DRAWN BY N.M.P.



<b>GRADIENTWIND</b> ENGINEERS & SCIENTISTS 127 WALGREEN ROAD, OTTAWA, ON 613 836 0934 • GRADIENTWIND.COM	PROJECT	169 WYSE ROAD, DARTMOUTH QUALITATIVE PEDESTRIAN LEVEL WIND ASSESSMENT	DESCRIPTION	FIGURE 3: GRADE-LEVEL AND LEVEL 4 TERRACES WITH REFERENCE MARKERS	
	SCALE	1:400	DRAWING NO.		20-180-DTPLW-3
	DATE	AUGUST 28, 2020	DRAWN BY		N.M.P.



#20-177

# 169 WYSE ROAD

SHADOW STUDY

# 2021

DRAFT REPORT  
APRIL 8, 2021

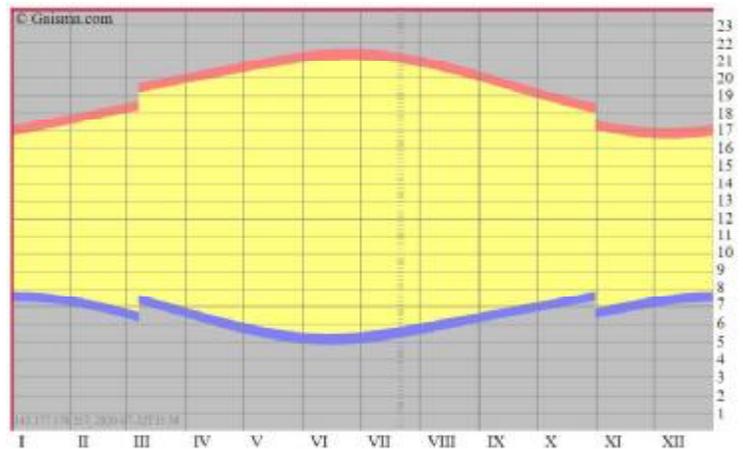
submitted by:





2020 Sun Graph for Halifax

A 3D computer model was created of the new building adding digital terrain data from local LIDAR and simplified models of existing buildings using GIS building footprint data. Existing building heights were confirmed and modelled as part of the simulation. Trees were not included in the simulation so we would expect much more shade in the summer as a result of trees. The simulation provides an accurate impression of shade from the new building and changes to the hours of sunshine at ground level. There would be more sunlight at 4-5' off the ground than is depicted by the model, the the model is a good representation of a worst case scenario.



## DARTMOUTH NSMIND DATA

The building was simulated at the 3 key periods (summer solstice, equinox and winter solstice) to assess the shade impacts throughout the year at the extremes. At Summer Solstice, the sun rises at 5:28am and sets at 9:02 pm for a total sunlight length of 15.34 hours. At Equinox, the sun rises at 7am and sets at 7:12 pm for a total sunlight length of 12.12 hours. At Winter Solstice, the sun rises at 7:48am and sets at 4:17 pm for a total sunlight length of 8.49 hours.

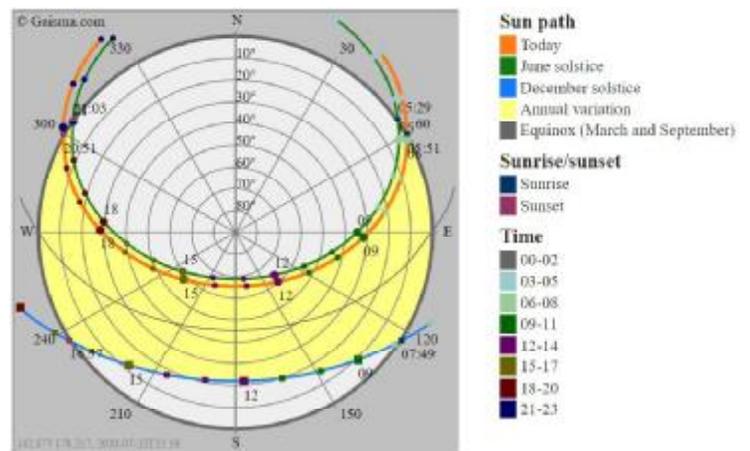


Figure 1 shows the summer solstice (June 21) conditions when the sun is at its highest angle in the sky. A portion of the block to the southwest of the building will be in shade from sunup at 5:28am till about 7-8am in the morning. The mature trees in this neighbourhood already cast shadow at this time of the morning over much of the same area. By about 9am there will be no shade impacts from the building on surrounding properties until about 3pm. From about 3 till sundown, the building will cast shade on 4 properties along Wyse Road. Generally speaking, there are some morning impacts along Pelzant until about 8am and then minor impacts for the remainder of the day.

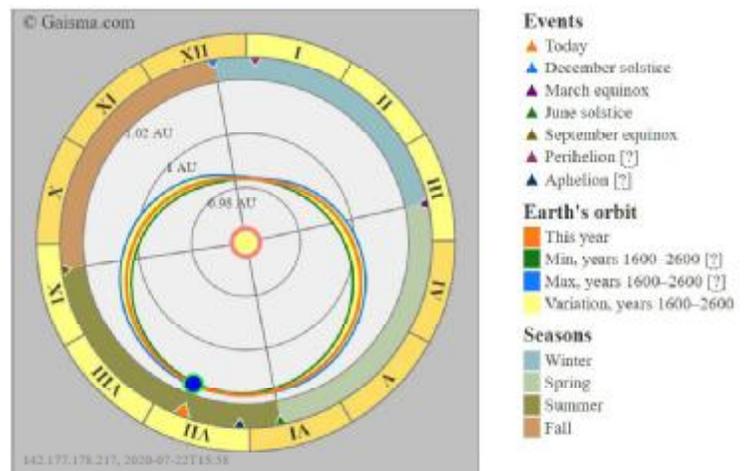
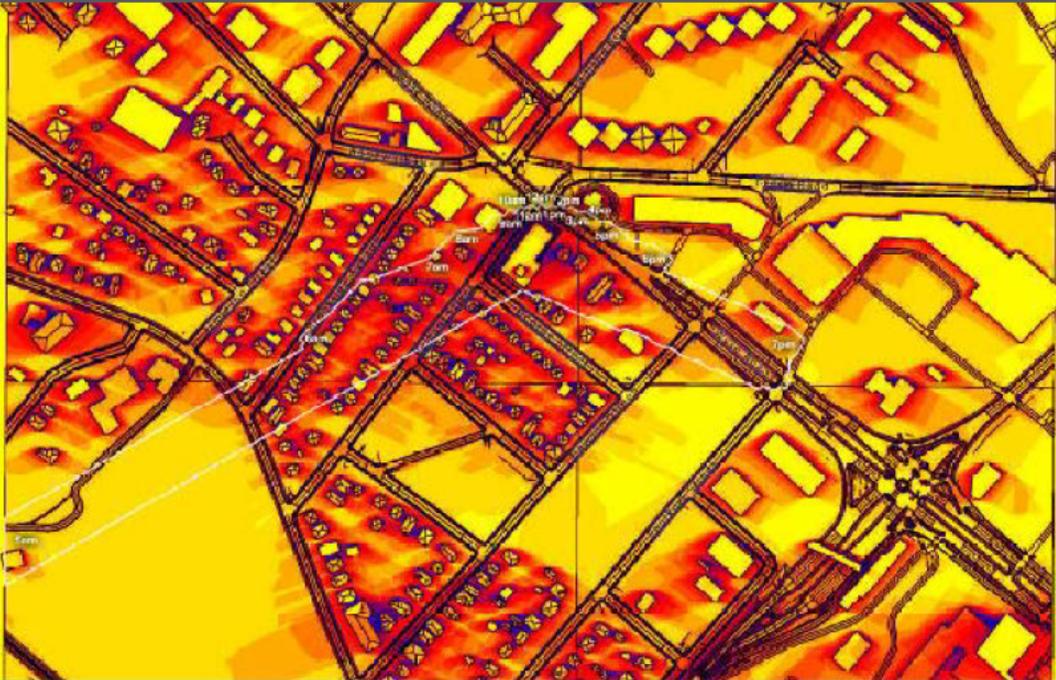


Figure 2 shows the Equinox (Sept 21 and March 21) conditions when the sun is at its midpoint angle in the sky. At this time of the year the sun rises in the due east and sets

# SHADE STUDY

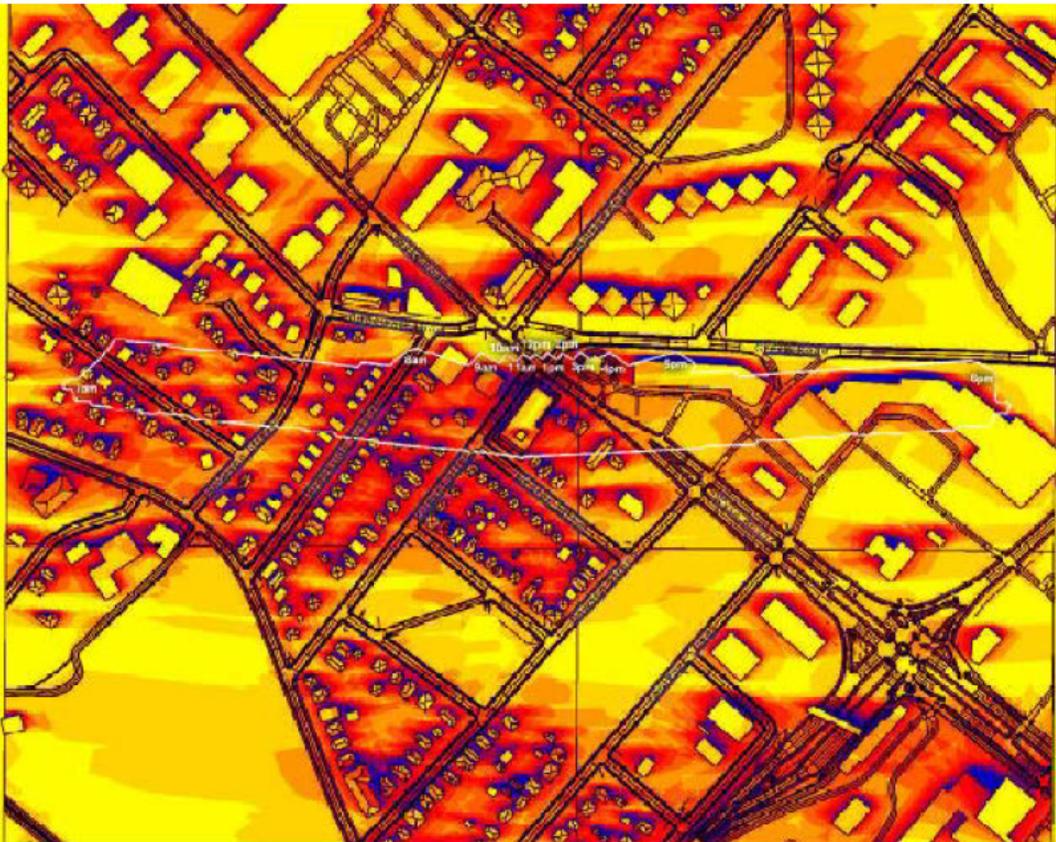
Fig 8.  
Summer  
Solstice  
(June 21)



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 hours of shade

fathom

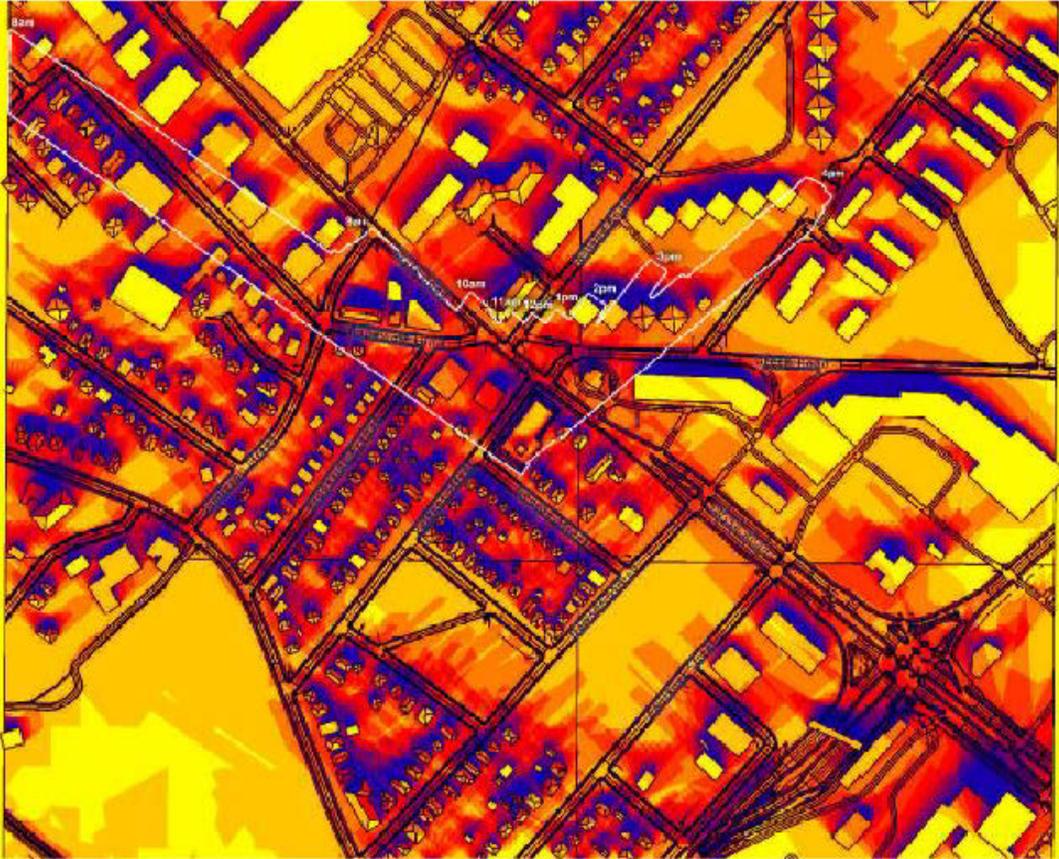
Fig 9.  
Equinox  
(Sept 21  
& Mar 21)



0 1 2 3 4 5 6 7 8 9 10 11 12 hours of shade

fathom

Fig 10.  
Winter  
Solstice  
(Dec 21)



0 1 2 3 4 5 6 7 8 9 hours of shade

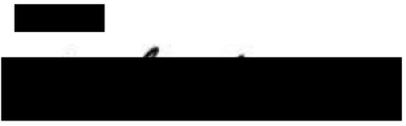
fathom

in the due west. Properties to the west of the new building will be impacted from sunrise up till about 9am then there are no impacts on surrounding properties again till about 3pm. After 3pm, shade from the building will be cast on a few of the commercial properties on Wyse Road just east of the building.

Figure 3 shows the winter solstice (Dec 21) conditions when the sun is at its lowest angle in the sky and the daylight time is the shortest. Though the shadows are longer due to the low sun angle, the impact angle is much reduced. The north-west side of the building facing Rosedale and Jamison Street will have shade impacts from sunup (7:48am) till about 10am. There will be no impacts on surrounding properties until about 2pm. At 2pm until sundown (4:17pm), there will be some shade impacts on the Housing Nova Scotia properties to the north-east of the new development.

Generally speaking, the building has some brief early morning shading to the neighbourhood to the south-west but very minor impacts to other surrounding properties. The shadows do not impact any of the identified parks in the centre plan Schedule 27 map (shown on the next page).

If you have any questions about this shadow report, please feel free to contact me at your convenience.



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## PART VI DESIGN CRITERIA CHECKLIST

The Regional Centre Land Use Bylaw requires an application for Level II and Level III site plan approval, or an application for Level I site plan approval that includes a registered heritage property or a building located in a heritage conservation district include a design rationale that identifies how each specific design requirement contained in Part VI is:

- (a) either applicable or not applicable in the specific context of the application; and
- (b) if applicable, the manner in which it has been addressed by the design.

Please complete this checklist to satisfy this application requirement.

This checklist is intended to be used as a guide to Part VI of the Regional Centre Land Use Bylaw. Additional requirements and definitions can be found within the full document. The Regional Centre Land Use Bylaw can be found here:

<https://www.halifax.ca/about-halifax/regional-community-planning/community-plan-areas/regional-centre-plan-area>

*Please note that all diagrams referenced in this form can be found in Part VI of the Regional Centre Land Use Bylaw	
<b>Part VI, Chapter 2: At-Grade Private Open Space Design Requirements</b>	
<b>Design Requirement: Contribution to Open Space Network</b>	
<p><b>Section 113</b> Where one or more at-grade private open space(s) are proposed, at least one shall contribute to the Regional Centre’s network of open spaces by: (a) abutting an existing public open space that is not a public sidewalk; (b) abutting an existing public sidewalk; (c) abutting an existing mid-block at-grade private open space; or (d) establishing a new mid-block at-grade private open space.</p>	<p>Rationale: the proposed open spaces at Wyse Rd and Pelzant street abutting an existing public sidewalk. Also, proposed a side yard abutting Wyse Rd Street’s sidewalk which is a public sidewalk.</p>
<b>Design Requirement: At-Grade Private Open Spaces Abutting a Public Sidewalk</b>	
<p><b>Section 114</b> At-grade private open spaces that abut public sidewalks shall provide pedestrian access by having at least one contiguous connection of not less than 2.0 metres wide, from the at-grade private open space to the public sidewalk.</p>	<p>Rationale: a 2m wide pedestrian access is provided for the side yard abutting Wyse Rd Street’s sidewalk.</p>

Design Requirement: At-Grade Private Open Spaces – Medium Scale	
<p><b>Section 115</b> At-grade private open spaces with a contiguous area of 15 square metres or greater, and dimensions of not less than 3.0 metres by 5.0 metres shall: (a) provide (i) barrier-free access, and (ii) permanent seating; and (b) provide one or more of the following materials for groundcover (i) vegetation, (ii) brick pavers, stone pavers, or concrete pavers, or (iii) wood, excluding composites.</p>	<p>Rationale: open spaces have barrier-free access and covered with vegetation excluding entrances. The permanent benches are provided along Pelzant Street and Wyse Rd including additional deciduous trees with min. base caliper of 100mm.</p>
Design Requirement: Weather Protection for At-Grade Private Open Spaces – Medium Scale	
<p><b>Section 116</b> At-grade private open spaces with a contiguous area of 15 square metres or greater, and dimensions of not less than 3.0 metres by 5.0 metres shall offer weather protection to its users through at least one of the following (Diagram 7): (a) a new deciduous tree that is not a shrub or the retention of an existing tree that is not a shrub with a minimum base caliper of 100 millimetres; (b) canopies or awnings on abutting façades; (c) recessed entrances of abutting façades; (d) cantilever(s) of a building on the same lot; or (e) structures such as gazebos, pergolas, or covered site furnishings</p>	<p>Rationale: open spaces are protected with additional deciduous trees with min. base caliper of 100mm.</p>

Design Requirement: At-Grade Private Open Spaces – Large Scale	
<p><b>Section 117</b> In addition to meeting the requirements of Sections 115 and 116, at-grade private open spaces with a contiguous area exceeding 400 square metres and with an average depth exceeding 2.5 metres, shall provide at least three of the following: (a) an additional deciduous tree that is not a shrub or the retention of an existing tree that is not a shrub with a minimum base caliper of 100 millimetres; (b) a permanent table and chair(s); (c) a public art piece, a cultural artifact, or a commemorative monument; (d) a structure such as a gazebo or pergola; or (e) a planter or planting bed.</p>	<p>Rationale:</p> <p>n/a for this building, however, deciduous trees with min. base caliper of 100mm. Also, a planter box is provided at the main entrance at Pelzant Street.</p>
Design Requirement: Existing Access to Public Open Spaces	
<p><b>Section 118</b> At-grade private open spaces shall maintain existing accesses to abutting public open spaces.</p>	<p>Rationale:</p> <p>n/a for this building. there is no public open space around the building.</p>

Design Requirement: Privacy for Grade-Related Units	
<p><b>Section 119</b> At-grade private open spaces which are 2.5 metres deep or greater, as measured perpendicularly from the streetline, and which are located between the streetline and a grade-related unit, shall provide privacy for the residential units by using a minimum of one of the following elements per grade-related unit (Diagram 8): (a) a deciduous tree that is not a shrub with a minimum base caliper of 50 millimetres; (b) a minimum of two shrubs, each no less than 1.0 metre in height; (c) planters ranging in height from 0.25 to 1.0 metres; or (d) masonry walls ranging in height from 0.25 to 1.0 metres.</p>	<p>Rationale: a deciduous tree with min. base caliper of 50mm is provided per each grade-related units at George Street.</p>
Design Requirement: Walkways to be Hard-Surfaced	
<p><b>Section 120</b> Walkways within at-grade private open spaces shall be hard-surfaced, excluding asphalt</p>	<p>Rationale: walkway within at-grade private open space is decorative concrete pavers.</p>
Part VI, Chapter 3: Building Design Requirements	
Design Requirement: Streetwall Articulation	
<p><b>Section 121</b> Streetwalls shall be divided into distinct sections no less than 0.3 metres in width and not exceeding 8 metres in width, from the ground floor to the top of the streetwall, with each section differentiated by using at least two of the following (Diagram 9): (a) colour(s); (b) material(s); or (c) projections and recesses not less than 0.15 metres in depth.</p>	<p>Rationale: street walls along Wyse Rd, Pelzant and George St. are divided not exceeding 8m in width from the ground floor to the top of the street wall. In street walls each section is differentiated by using recesses in various depth (min. 0.15m), material and colours.</p>

Design Requirement: Articulation of Non-Streetwalls Fronting an At-Grade Private Open Space	
<p><b>Section 122</b> Any exterior wall within the podium that is not a streetwall, and fronts an at-grade private open space abutting a public right-of-way, shall meet the requirements of Section 121 as if it was a streetwall.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: Side Façade Articulation	
<p><b>Section 123</b> Where a side yard is proposed or required, the side yard façade shall continue the streetwall articulation for a depth greater than or equal to the width of the side yard, as measured at the streetline, using the same options chosen to achieve the design requirement in Section 121 (Diagram 10).</p>	<p>Rationale: same street wall articulation along Wyse Rd is continued for a depth of 3m to the rear yard façade.</p>
Design Requirement: Pedestrian Entrances Along Streetwalls	
<p><b>Section 124</b> (1) Subject to Subsection 124(2), pedestrian entrances in the streetwall shall be distinguished from the remainder of the streetwall by using at least two of the following: (a) changes in colour; (b) changes in materials; or (c) projections and recesses not less than 0.15 metres in depth</p> <p>(2) Canopies or awnings shall not be used to meet the requirements of Subsection 124(1).</p>	<p>Rationale: entrances distinguished by changing colours, and they recessed for min. 0.15m in depth.</p>

**Design Requirement: Pedestrian Entrances Along Non-Streetwalls Fronting an At-Grade Private Open Space**

<p><b>Section 125</b> Any exterior wall within the podium that is not a streetwall, and fronts an at-grade private open space, shall meet the requirements of Section 124 as if it was a streetwall.</p>	<p>Rationale: n/a for this building.</p>
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**Design Requirement: Number of Pedestrian Entrances Along Streetwalls**

<p><b>Section 126</b> Streetwalls shall provide: (a) a minimum of one pedestrian entrance per storefront; or (b) a minimum of 2 pedestrian entrances where the storefront is greater than 24 metres wide</p>	<p>Rationale: two entrances along Wyse Rd, five entrances along Pelzant St. and four entrances along George St. are provided.</p>
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**Design Requirement: Ground Floor Transparency – Commercial Uses**

<p><b>Section 127</b> For at-grade commercial uses in the streetwall, between 50% and 80% of the building's ground floor façade dedicated to commercial uses shall consist of clear glass glazing.</p>	<p>Rationale: for at-grade commercial uses in Wyse Rd street wall 57% , and in Pelzant St. 67% of the building's ground floor façade is consisted of clear glass glazing.</p>
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Design Requirement: Ground Floor Transparency – Grade-Related Unit Uses	
<p><b>Section 128</b> For grade-related unit uses in the streetwall, between 25% and 80% of the building's ground floor façade dedicated to grade-related unit uses shall consist of clear glass glazing.</p>	<p>Rationale: for at-grade related unit uses in George street wall 30% of the building's ground floor façade is consisted of clear glass glazing.</p>
Design Requirement: Access Ramps Along Streetwalls	
<p><b>Section 129</b> Where a ramp for barrier-free access is provided between a streetwall and a sidewalk, no portion of the access ramp shall exceed a width of 2.0 metres and depth of 2.0 metres.</p>	<p>Rationale: a ramp is provided at the main entrance at Pelzant St. for barrier-free access with 1.3m width and 2m depth.</p>
Design Requirement: Weather Protection	
<p><b>Section 130</b> (1) Subject to Subsection 130(2), where entrances for commercial uses or multi-unit dwelling uses are proposed in the streetwall, weather protection for pedestrians shall be provided above the entrances and shall consist of at least one of the following (Diagram 11): (a) canopies; (b) awnings; (c) recessed entrances; or (d) cantilevers.</p> <p>(2) Subsection 131(1) shall not apply to the entrances of grade-related units</p>	<p>Rationale: entrances along Wyse Rd are protected with cantilevers, entrances along Pelzant St. are protected with cantilevers and recess in 0.5m depth, and entrances along George St. are protected with porches as weather protections.</p>

Design Requirement: Exposed Foundations and Underground Parking Structures	
<p><b>Section 131</b> Exterior foundation walls and underground parking structures the height of which exceeds 0.6 metres above grade shall be clad in a material consistent with the overall design of the same exterior façade.</p>	<p>Rationale: exterior foundation wall along Pelzant St. are cladded with the same material as the street wall.</p>
Design Requirement: Building Top Distinction	
<p><b>Section 132</b> (1) Subject to Subsection 132(2), a portion of the top third of a building shall be differentiated from lower portions of the same building, by using two or more of the following (Diagram 12): (a) colour(s); (b) material(s); and (c) projections and recesses not less than 0.15 metres in depth.</p> <p>(2) The minimum height of the differentiated portion shall be no less than: (a) 0.5 metres in height for a low-rise building or mid-rise building; (b) 1.0 metres in height for a tall mid-rise building; and (c) 3.0 metres in height for a high-rise building.</p>	<p>Rationale: Top third of entire building differentiated from lower portions by changing parapet's materials and colour, also the top floor's exterior wall is projected in 0.15m depth in Wyse Rd and Pelzant Street. Along George Street upper third portion differential is maintained with the top floor setback and changing the parapet's materials and colour.</p>
Design Requirement: Penthouses	
<p><b>Section 133</b> Penthouses shall be visually integrated into the overall design of the building</p>	<p>Rationale: n/a for this building.</p>

Design Requirement: Rooftop Mechanical Features	
<p><b>Section 134</b> Rooftop mechanical features shall be visually integrated into the design of the building and concealed from the public view at the streetline.</p>	<p>Rationale: n/a for this building.</p>
Part VI, Chapter 4: Parking, Access, and Utilities Design Requirements	
Design Requirement: Pedestrian Connections	
<p><b>Section 135</b> Where pedestrian connections are proposed on the site, at least one shall connect (Diagram 13): (a) one public street to another public street; (b) one public street to a public open space; (c) one sidewalk to another sidewalk; or (d) one public street or a sidewalk to an at-grade private open space that is located on the site.</p>	<p>Rationale: a pedestrian connection is proposed on the side yard to the Wyse Rd public sidewalk.</p>
Design Requirement: Pedestrian Connections Through Accessory Surface Parking Lots	
<p><b>Section 136</b> (1) Pedestrian connections within accessory surface parking lots shall be no less than 2.0 metres wide.</p> <p>(2) Pedestrian connections within accessory surface parking lots shall be delineated by raised walkways, no less than 0.15 metres high, and consisting of: (a) poured concrete; (b) brick pavers; (c) stone pavers; or (d) concrete pavers.</p> <p>(3) Where a pedestrian connection crosses a driving aisle, the surface of the aisle shall be raised to meet the elevation of the abutting pedestrian connection and delineated with a change of colour or material from the driving aisle.</p> <p>(4) A pedestrian connection shall provide a direct route between parking areas, building entrances, and the nearest sidewalk.</p>	<p>Rationale: n/a for this building. No accessory surface parking lot is proposed for this building.</p>

Design Requirement: Motor Vehicle and Service Accesses	
<p><b>Section 137 (1)</b> Motor vehicle and service accesses in the streetwall shall be minimized by using the same colours or materials chosen for the streetwall.</p> <p>(2) All motor vehicle and service accesses shall: (a) not exceed the height of the ground floor or 4.5 metres, whichever is less; and (b) be completely enclosed with a door(s)</p>	<p>Rationale: the garage door is a overhead door with max. 2.4m height and is completely enclosed. the door is minimized by using the same material as street wall.</p>
Design Requirement: Parking Internal to a Building or Within a Parking Structure	
<p><b>Section 138</b> Where parking internal to a building is located within the streetwall, it shall be screened from public view from any public right-of-way or park.</p>	<p>Rationale: parking internal to the building in Pelzant St. is screened by the exterior walls.</p>
Design Requirement: Visual Impact Mitigation for Utility and Mechanical Features	
<p><b>Section 139</b> The visual impact of utility features and mechanical features, including vents and meters, shall be minimized by concealing them from public view at the streetline by: (a) using opaque screening; or (b) enclosing them within a projection or recess in the building.</p>	<p>Rationale: meters will be concealed at the side yard of the building, which is not street wall, by using opaque screens and recess in the building.</p>

Design Requirement: Heat Pumps and Other Heating and Ventilation Equipment for Individual Units	
<p><b>Section 140</b> Heat pumps and other heating and ventilation equipment for individual units are permitted on balconies, unenclosed porches, and verandas if they are concealed from public view at the streetline by: (a) using opaque screening; or (b) enclosing them within a projection or recess in the building.</p>	<p>Rationale: Opaque screening is provided for balconies (smoky tempered glass).</p>
Part VI, Chapter 5: Heritage Conservation Design Requirements	
Design Requirement: Conservation of Character-Defining Elements	
<p><b>Section 141</b> Character-defining elements of registered heritage buildings shall be conserved and remain unobstructed.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: New Windows and Doors	
<p><b>Section 142</b> New window and door openings on registered heritage buildings shall match established patterns (materials, design, detail, and dimensions).</p>	<p>Rationale: n/a for this building.</p>

Design Requirement: Preservation of Architectural Elements	
<p><b>Section 143</b> Architectural elements on registered heritage buildings shall be preserved, such as pilasters, columns, cornices, bays, and parapets.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: Use of Archival Evidence	
<p><b>Section 144</b> Archival evidence shall be used to support the rehabilitation and restoration of character-defining elements on registered heritage buildings, or on registered heritage properties.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: Historic Building Façades	
<p><b>Section 145</b> Historic building façades on registered heritage buildings shall be retained and rehabilitated, or restored using traditional materials.</p>	<p>Rationale: n/a for this building.</p>

Design Requirement: Materials	
<p><b>Section 146</b> Brick or masonry façades shall be maintained and restored on registered heritage buildings. The painting of brick or masonry façades is prohibited.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: Maintenance of Same or Similar Cornice Line Height for New Developments in a Heritage Context	
<p><b>Section 147</b> The podiums or streetwalls of new developments in a heritage context shall maintain the same or similar cornice line height established by abutting registered heritage buildings, except where the maximum streetwall height permitted under the Land Use By-law is lower than the cornice of the registered heritage buildings.</p>	<p>Rationale: n/a for this building.</p>
Design Requirement: Streetwall Stepback for Taller Portions of New Developments in a Heritage Context	
<p><b>Section 148</b> Subject to Subsection 93(4), any portions of new developments in a heritage context that are taller than the cornice line of an existing abutting registered heritage building shall be stepped back from the streetwall (Diagram 14).</p>	<p>Rationale: n/a for this building.</p>

<p>Design Requirement: Side Wall Stepback for Taller Portions of New Detached Buildings in a Heritage Context</p>	
<p><b>Section 149</b> Where a detached building constitutes a new development in a heritage context and where it abuts the same streetline as the registered heritage building, any portions of the new development that are taller than the cornice line of the registered heritage building shall be stepped back 3 metres on the side that abuts the heritage building (Diagram 15).</p>	<p>Rationale: n/a for this building.</p>
<p>Design Requirement: Architectural Elements of Existing Heritage Buildings to be Used as a Reference in the Design of New Development in a Heritage Context</p>	
<p><b>Section 150</b> Architectural elements of existing abutting registered heritage buildings shall be used as a reference in the design of new development in a heritage context, by: (a) Incorporating articulation established by vertical and horizontal architectural elements of the registered heritage buildings (i.e. columns, pilasters, cornice, architectural frieze, datum lines, etc.); (b) Incorporating proportions and vertical spacing of the registered heritage buildings' windows; and (c) Where new development in a heritage context is located at the ground level, maintaining the proportions and transparency of the registered heritage buildings' storefront and façade elements</p>	<p>Rationale: n/a for this building.</p>

Design Requirement: Awnings and Canopies	
<p><b>Section 151</b> (1) If proposed on a registered heritage building, awnings and canopies shall be:</p> <p>(a) Designed to fit within the dominant horizontal structural elements of the lower façade and not obscure significant architectural features; (b) Located between vertical columns or pilasters to accentuate and not to obscure these elements; (c) Designed to complement the fenestration pattern of the registered heritage building; and (d) Constructed using heavy canvas fabric or similar material in either a solid colour or striped. The use of retractable awnings is encouraged. Vinyl and high gloss fabrics and internally-illuminated awnings shall be prohibited.</p> <p>(2) Metal or glass awnings or canopies may be permitted on a registered heritage building, if designed to complement historic architectural elements.</p>	<p>Rationale:</p> <p>n/a for this building.</p>
Design Requirement: Lighting Hardware	
<p><b>Section 152</b> Lighting hardware shall be located so that it does not disfigure or conceal any significant architectural feature of the registered heritage building. Where it is not possible to hide lighting hardware, it shall be compatible with the building's architecture and materials.</p>	<p>Rationale:</p> <p>n/a for this building.</p>

Design Requirement: Directing Lighting to Accentuate or Emphasize Architectural Features or Signage	
<p><b>Section 153</b> Lighting shall be directed to accentuate or emphasize the architectural features of registered heritage buildings or their signage.</p>	<p>Rationale: n/a for this building.</p>
Part VI, Chapter 6: Other Design Requirements	
Design Requirement: General Lighting	
<p><b>Section 154</b> The following features shall be illuminated: (a) common building entrances; (b) walkways; (c) accessible at-grade private open space; (d) parking lots; and (e) off-street loading spaces.</p>	<p>Rationale: general lighting is provided all around building by decorative lighting poles at max. 5m apart.</p>
Design Requirement: Emphasis of View Terminus Sites	
<p><b>Section 155</b> View terminus sites, as shown on Schedule 5, shall be emphasized perpendicular to and visible from a view line, by at least one of the following approaches: (a) subject to Subsection 93(5), extending the height of a portion of the streetwall (Diagram 16); (b) locating a clock tower, bell tower, rooftop cupola, spire, steeple, or minaret on the top of the building (Diagram 16); (c) providing an at-grade private open space (Diagram 17); or (d) locating a public art installation, a landmark element, or a cultural artifact on a portion of the streetwall, or in an at-grade private open space (Diagram 17).</p>	<p>Rationale: a cultural artifact is designed at the corner of Wyse Rd and Pelzant St. as view terminus.</p>

Design Requirement: Parking Areas, Accessory Surface Parking Lots, Off-Street Loading Spaces, and Site Utilities on View Terminus Sites

**Section 156** Parking areas, accessory surface parking lots, off-street loading spaces, or site utilities shall not be visible within a view terminus as shown on Schedule 5.

Rationale:

no parking area and off street parking is visible within the view terminus along Pelzant Street