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Wateridge Village Phase 1B Block 15

Transportation Impact Assessment



Wateridge Village Phase 1B Block 15 Transportation Impact Assessment

Prepared By:

NOVATECH

Suite 200, 240 Michael Cowpland Drive Ottawa, Ontario K2M 1P6

February 4, 2019

Novatech File: 117121 Ref: 2019-035



February 4, 2019

City of Ottawa Planning and Growth Management Department 110 Laurier Ave. W., 4th Floor, Ottawa, Ontario K1P 1J1

Attention: Wally Dubyk

Project Manager, Infrastructure Approvals

Dear Mr. Dubyk:

Reference: Wateridge Village Phase 1B - Block 15

Transportation Impact Assessment Report

Novatech File No. 117121

We are pleased to submit the following Transportation Impact Assessment report in support of a Revised Site Plan Application for Block 15 in Phase 1B of the Wateridge Village at the Rockcliffe Subdivision. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

If you have any questions or comments regarding this report, please feel free to contact Jennifer Luong, or the undersigned.

Yours truly,

NOVATECH

Rochelle Fortier, B.Eng.

E.I.T. | Transportation/Traffic



TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that s/he meets the four criteria listed below.

CERTIFICATION

- 1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
- 2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- 3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
- 4. I am either a licensed¹ or registered² professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☑ or transportation planning □.
- License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

Dated at	Ottawa	this	4 th	_ day of	February	201 <u>9</u> .
	(City)				-	
Name:	_	Je	ennifer	Luong, P.E	ng.	
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Professional 7	Γitle:	Senior	Project	Manager, 7	Transportation/Traffic	
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	Signatur	e of Individua	l certifi	ier that s/he	meets the above four	criteria
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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) report has been prepared in support a Revised Site Plan Application for Block 15 in Phase 1B of the Wateridge Village at the Rockcliffe Subdivision. The Rockcliffe Subdivision is a Canada Lands Corporation (CLC) development, with the subject block developed by Mattamy Homes.

As part of the greater approved Plan of Subdivision, a Community Transportation Study was prepared for the Former Canadian Forces Base (CFB) Rockcliffe Redevelopment in June 2014 and a Transportation Impact Study was prepared for Phase 1B of the Wateridge Village in October 2016. The site traffic generated by Block 15 was included in the overall traffic estimate presented in the June 2014 CTS and the October 2016 CTS.

A Transportation Overview and subsequent Addendum was subsequently prepared for Blocks 15, 22, and 24 in August 2017 and December 2017.

Block 15 is proposed to accommodate 124 stacked townhouse units and 68 back to back townhouse units. This reflects an increase of 67 units compared to the last submission.

The concepts for Block 22 and 24 remain unchanged from the last submission. Block 22 is proposed to accommodate 11 rear lane townhouse units and 40 stacked townhouse units. Block 24 is proposed to accommodate 81 rear lane townhouse units and 44 stacked townhouse units.

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

- The revised development is anticipated to generate 57 vehicle trips during the AM peak hour and 67 vehicle trips during the PM peak hour. This corresponds to an increase of 17 vehicle trips during the AM peak hour and 20 vehicle trips during the PM peak hour compared to the previous submission.
- On-site pedestrian walkways are provided with connections to the north, south, east, and west. Pedestrian connectivity is also provided between the stacked townhouses and the surface parking
- Complete street principles were incorporated into the cross-sections for the boundary roadways. As they have been recently approved by the City and constructed, a review of boundary street MMLOS was not conducted.
- The proposed parking for Block 15 is compliant with the minimum requirements identified in the City of Ottawa's ZBL.
- Block 15 has three private lane connections to the east, south and west on Squadron Crescent. All accesses meet the requirements of the *Private Approach By-law*.
- No mitigation measures are recommended to accommodate the proposed development as none are required.

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1.0 INTRODUCTION

This Transportation Impact Assessment (TIA) report has been prepared in support a Revised Site Plan Application for Block 15 (245 Squadron Crescent) in Phase 1B of the Wateridge Village at the Rockcliffe Subdivision. The Rockcliffe Subdivision is a Canada Lands Corporation (CLC) development, with the subject block developed by Mattamy Homes. The subject site is currently vacant. The subject site is surrounded by the following:

- Mikinak Road and future residential development to the north;
- A large future community park to the west; and
- Future residential and an elementary school site to the east.

The approved Land Use and Phasing Plans for the Rockcliffe Subdivision are shown below in **Figures 1** and **2**.

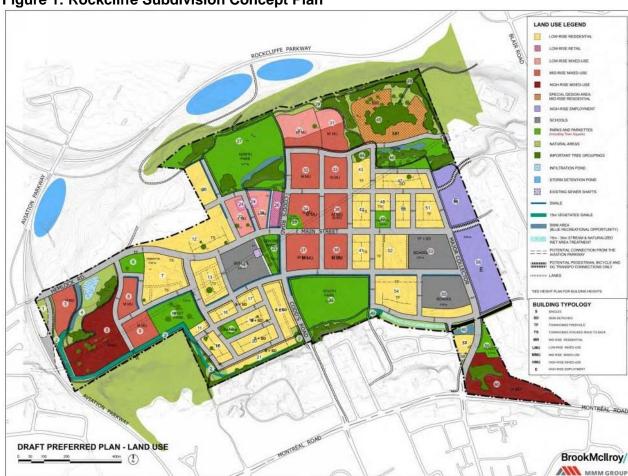


Figure 1: Rockcliffe Subdivision Concept Plan

Phase 1B

Phase 1A

Phase 1A

Phase 1A

Phase 1A

Phase 1A

Figure 2: Overall Phasing Plan

As part of the greater approved Plan of Subdivision, a Community Transportation Study was prepared for the Former Canadian Forces Base (CFB) Rockcliffe Redevelopment in June 2014 and a Transportation Impact Study was prepared for Phase 1B of the Wateridge Village in October 2016. The site traffic generated by Block 15 was included in the overall traffic estimate presented in the June 2014 CTS and the October 2016 CTS.

A Transportation Overview and subsequent Addendum was subsequently prepared for Blocks 15, 22, and 24 in August 2017 and December 2017.

The report layout will follow the City of Ottawa Transportation Impact Assessment Guidelines (June 2017). The required sections of the TIA report that have already been addressed and remain unchanged with the development proposal will reference the approved studies.

2.0 PROPOSED DEVELOPMENT

The revised Site Plan for Block 15 is included in **Appendix A**.

Block 15 is proposed to accommodate 124 stacked townhouse units and 68 back to back townhouse units. This reflects an increase of 67 units compared to the last submission.

The concepts for Block 22 and 24 remain unchanged from the last submission. Block 22 is proposed to accommodate 11 rear lane townhouse units and 40 stacked townhouse units. Block 24 is proposed to accommodate 81 rear lane townhouse units and 44 stacked townhouse units.

Block 15 has three private lane connections to the east, south and west on Squadron Crescent.

3.0 SCREENING

The City's 2017 TIA Guidelines identifies three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form.

The proposed development satisfies the trip generation trigger for completing a TIA. A copy of the TIA screening form is included in **Appendix B**.

4.0 SCOPING

4.1 Existing and Planned Conditions

As identified above, the subject site forms part of the Phase 1B of Wateridge Village in the Rockcliffe Subdivision.

The approved reports were prepared within the last five years and a review of the existing and planned conditions was provided in Section 2 and 4.4 of the 2014 CTS, and in Section 2 and 3.1 of the 2016 Phase 1B TIS. As such, a further review of the existing and planned conditions in the vicinity of the subject site has not been completed as part of this report.

Site access to and from Montreal Road will be provided via Codd's Road and Mikinak Road. A new connection to Montreal Road via Wanaki Road is planned, with construction of Wanaki Road to the Burma Road/Montreal Road intersection beginning in Spring 2019.

4.2 Study Area and Time Periods

The study area will include the boundary streets and the development property. Intersection analysis for a larger study area was previously performed as part of the 2016 TIS for Phase 1B of the Wateridge Village and will be referenced in this report. The chosen time periods for analysis are the weekday AM and PM peak hours as they represent the worst-case scenario of site generated and background traffic.

4.3 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 2**.

Table 1: TIA Exemptions

Module	Element	Exemption Criteria	Exemption Applies
Design Review	Component		
4.1	4.1.2 Circulation and Access	Only required for site plans	Not Exempt
Development Design	4.1.3 New Street Networks	 Only required for plans of subdivision 	Exempt
4.0	4.2.1 Parking Supply	Only required for site plans	Not Exempt
4.2 Parking	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
Network Impac	t Component		
4.5 Transportation Demand Management	All elements	 Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time 	Exempt
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Exempt
4.8 Network Concept	All elements	Only required when the proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Exempt

5.0 FORECASTING

5.1 Development-Generated Traffic

5.1.1 Trip Generation

Consistent with the approved reports, trips generated by the revised development have been estimating using the residential condominium/townhouse land use code (LU 230) identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition.

The revised estimate of peak hour vehicle trips generated by the proposed development is outlined in **Table 1**.

Table 2: ITE Trip Generation

	ITE			AM Peal	(PM Peal	•
Land Use	Code	Units	IN	OUT	TOTAL	IN	OUT	TOTAL
Residential Condominium / Townhouse	230	192	15	72	87	69	34	103

Consistent with the 2017 Transportation Overview and subsequent Addendum, the projected number of vehicle trips based on the ITE rates has been converted to person trips by applying an adjustment factor of 1.3. The projected number of person trips is outlined in the following table.

Table 3: Person Trips

Land Use	Peak Hour	IN (vph¹)	OUT (vph)	TOTAL (vph)	Person Trip Factor	IN (pph²)	OUT (pph)	TOTAL (pph)
Residential	AM Peak	15	72	87	x 1.3	19	94	113
Condominium / Townhouse	PM Peak	69	34	103	\rightarrow	90	44	134

^{1.} vph = vehicles per hour

The updated breakdown of projected person trips by modal share and arrival/departure is shown in **Table 3** below.

Table 4: Site-Generated Person Trips by Modal Share

	Model		AM Peak		PM Peak			
Travel Mode	Modal		AIVI Peak	1		PIVI PEAK	ı	
Traver mode	Share	IN	OUT	TOTAL	IN	OUT	TOTAL	
TOTAL PERSO	ON TRIPS	19	94	113	90	44	134	
Auto Driver	50%	10	47	57	45	22	67	
Auto Passenger	10%	2	9	11	9	4	13	
Transit	30%	5	29	34	27	14	41	
Non-Motorized	10%	2	9	11	9	4	13	

Based on the foregoing, the revised development is anticipated to generate 57 vehicle trips during the AM peak hour and 67 vehicle trips during the PM peak hour. This corresponds to an increase of 17 vehicle trips during the AM peak hour and 20 vehicle trips during the PM peak hour compared to the previous submission.

5.1.2 Trip Distribution

^{2.} pph = persons per hour

The distribution for the proposed development has been assumed to be consistent with the trip distribution as outlined in the 2016 TIS for Phase 1B. The distribution can be described as follows:

- 45% to/from the west via Montreal Road, Rockcliffe Parkway, and Hemlock Road;
- 45% to/from the south via Blair Road, Aviation Parkway, and Bathgate Drive; and
- 10% to/from the east via Montreal Road

5.2 Background Traffic

A review of background traffic and other area developments was provided in Section 3.2 and 3.3 of the 2016 Phase 1B TIS.

A Site Plan application was submitted in October 2018 for a three storey 40-unit apartment building at 745 Mikinak Road. Trip generation for 49 residential units was considered for this block in the 2016 Phase 1B TIS. A Screening form dated July 2018 confirmed that no further TIA assessment was required for the Site Plan Application.

No further review has been completed as part of this report.

6.0 ANALYSIS

6.1 Development Design

6.1.1 Design for Sustainable Modes

A review of the provisions for non-auto modes can be found in Section 5 of the 2017 Transportation Overview and Section 4 of the Addendum.

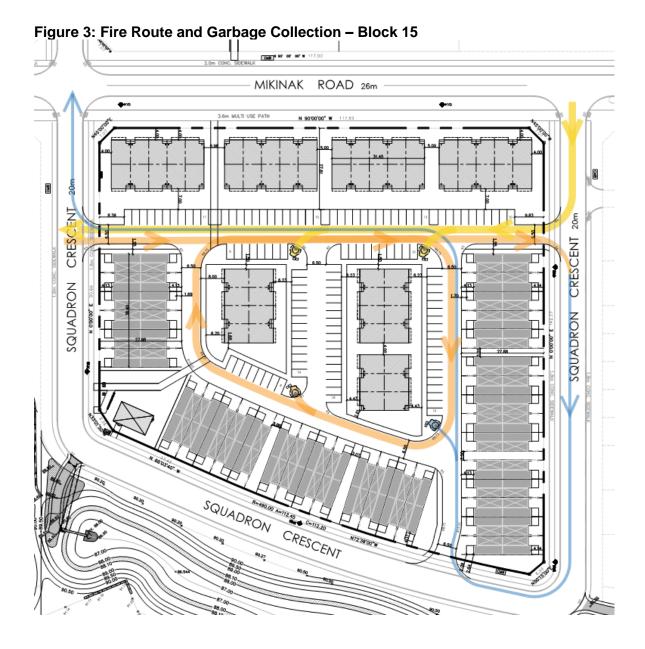
The site plan for Block 15 has changed, but the statements in the Transportation Overview Addendum remain valid: on-site pedestrian walkways are provided with connections to the north, south, east, and west, as shown in the site plan. Pedestrian connectivity is also provided between the stacked townhouses and the surface parking.

6.1.2 Circulation and Access

Side street stop control should be provided at the proposed access connections to the adjacent public roadways, with free flow conditions on the public roadways.

The proposed on-site pavement marking and signage design is reflected on the revised site plan.

The proposed fire route and garbage collection for Block 15 is shown in Figure 3.



6.2 Parking

A review of the minimum parking rates was provided in Section 6.3 of the Transportation Overview and Section 5.2 of the Transportation Overview Addendum.

Based on the revised site plan for Block 15, the City of Ottawa's Zoning By-Law (ZBL) identifies a requirement to provide 51 resident parking spaces for the back-to-back townhouses and 62 resident parking spaces for the stacked townhouses. No visitor parking spaces are required, and 62 bicycle parking spaces are required for the stacked townhouses.

The back-to-back townhouses will have an attached garage and a driveway for a second parking space. A total of 136 parking spaces are proposed for the back-to-back townhouses and 124 parking spaces are proposed for the stacked townhouses. No visitor parking is proposed for Block

15. Bicycle parking will be incorporated for Block 15 and will continue to be refined as the detailed design advances. At minimum bicycle parking will meet the requirements of the ZBL.

The proposed parking for Block 15 is compliant with the minimum requirements identified in the City of Ottawa's ZBL.

6.3 Boundary Street Design

Complete street principles were incorporated into the cross-sections for the boundary roadways. As they have been recently approved by the City and constructed, a review of boundary street MMLOS was not conducted.

The approved cross sections incorporated the following complete streets principles along the boundary roads:

- Buffer (boulevard) between sidewalk and vehicular traffic on north side of Mikinak Road
- Multi-Use Pathway on south side of Mikinak Road

Squadron Crescent will be a local road with a 20m ROW, 8.5m paved surface, and sidewalks on both sides.

6.4 Access Intersection Design

The location of the site accesses is consistent with the previous submissions. Block 15 has three private lane connections to the east, south and west on Squadron Crescent.

All private lane connections exceed the minimum 6m spacing from the nearest intersecting street line, as required by the City's *Private Approach By-law*. The curb-to-curb width of all private approaches is 6.5m at the property line. The location and spacing of the proposed accesses are compliant with the City's *Private Approach By-law*.

6.5 Transit

The nearest OC Transpo bus stops are located at the Mikinak Road/Codd's Road (stop #4995) and Mikinak Road/Du Vedette Way (stop #4994) intersections to the west. Stop #4995 is approximately 390m from Block 15, while stop #4994 is approximately 550m from Block 15. These bus stops serve OC Transpo Routes 17 and 27.

OC Transpo Route 17 travels from Wateridge Village to Parliament. It operates Monday to Friday, with peak period service. OC Transpo Route 27 travels from Wateridge Village to St Laurent Shopping Center. It operates Monday to Friday, with peak period service.

Other nearby OC Transpo bus stops are located at the Montreal/Codd's and Montreal/Burma intersections, a walking distance of approximately 1 km from the site. The Montreal/Codd's bus stops provide service to Routes 12 and 129. The Montreal/Burma bus stops provide service to Route 12. Routes 12 provides frequent all-day service between Blair and downtown; Route 129 provides frequent all-day service between Carson's and the Hurdman Transit Station.

A temporary transit route (Route 129 extension) will be provided when at least 50 units are built and occupied in Phase 1. Route 129 will travel along Codd's Road to Mikinak Road, along Mikinak Road to Wanaki Road, and Wanaki Road back to Montreal Road, with bus stops at the Mikinak/Squadron/Moses Tennisco intersection. The subdivision roads and OC Transpo bus stops will be constructed by CLC.

6.6 Intersection Design

6.6.1 Existing Intersection Operations

A review of existing traffic operations was provided in Section 2.5 of the 2016 Phase 1B TIS. As such, a further review has not been completed as part of this report.

6.6.2 Future Intersection Operations

The Wateridge Village Phase 1B TIS identified the following roadway modifications at the Montreal/Wanaki intersection, at full build-out of Phase 1B:

- an eastbound protected/permitted left-turn phase; and
- a westbound right-turn lane

As indicated in the TIS, the projected increase in vehicle volume at this intersection is mainly related to the future office development (355,000 sq.ft.) located east of Wanaki Road in Phase 1B. The subject site related traffic for the eastbound left and westbound right turn movements is in the order of 25% of the Phase 1B buildout volumes, shown in Figure 8 of the TIS (included in **Appendix C** for reference)

No mitigation measures are recommended to accommodate the proposed development as none are required.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

- The revised development is anticipated to generate 57 vehicle trips during the AM peak hour and 67 vehicle trips during the PM peak hour. This corresponds to an increase of 17 vehicle trips during the AM peak hour and 20 vehicle trips during the PM peak hour compared to the previous submission.
- On-site pedestrian walkways are provided with connections to the north, south, east, and west. Pedestrian connectivity is also provided between the stacked townhouses and the surface parking
- Complete street principles were incorporated into the cross-sections for the boundary roadways. As they have been recently approved by the City and constructed, a review of boundary street MMLOS was not conducted.

- The proposed parking for Block 15 is compliant with the minimum requirements identified in the City of Ottawa's ZBL.
- Block 15 has three private lane connections to the east, south and west on Squadron Crescent. All accesses meet the requirements of the *Private Approach By-law*.
- No mitigation measures are recommended to accommodate the proposed development as none are required.

NOVATECH

Prepared by:

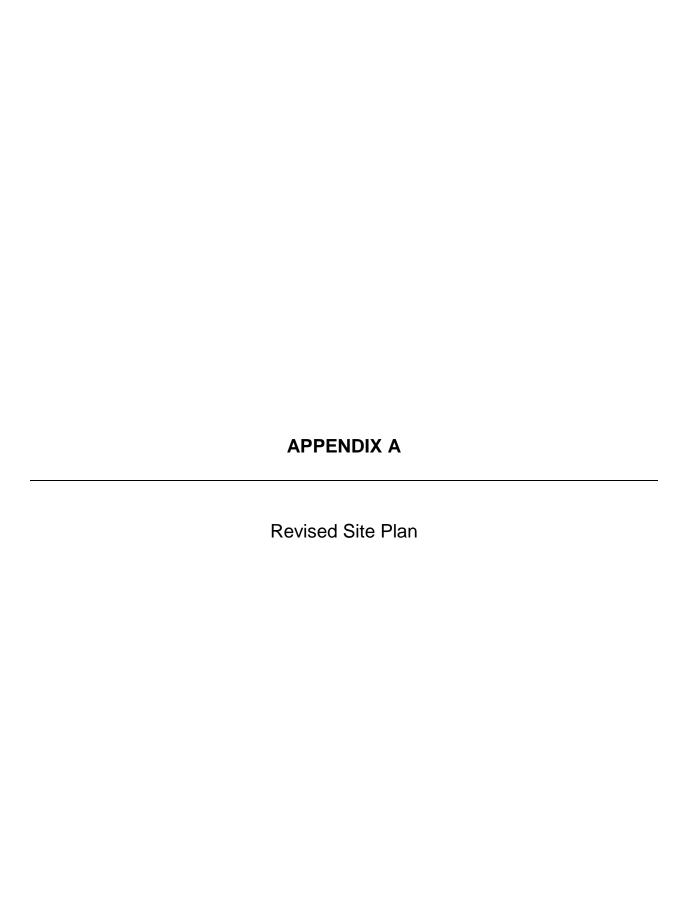
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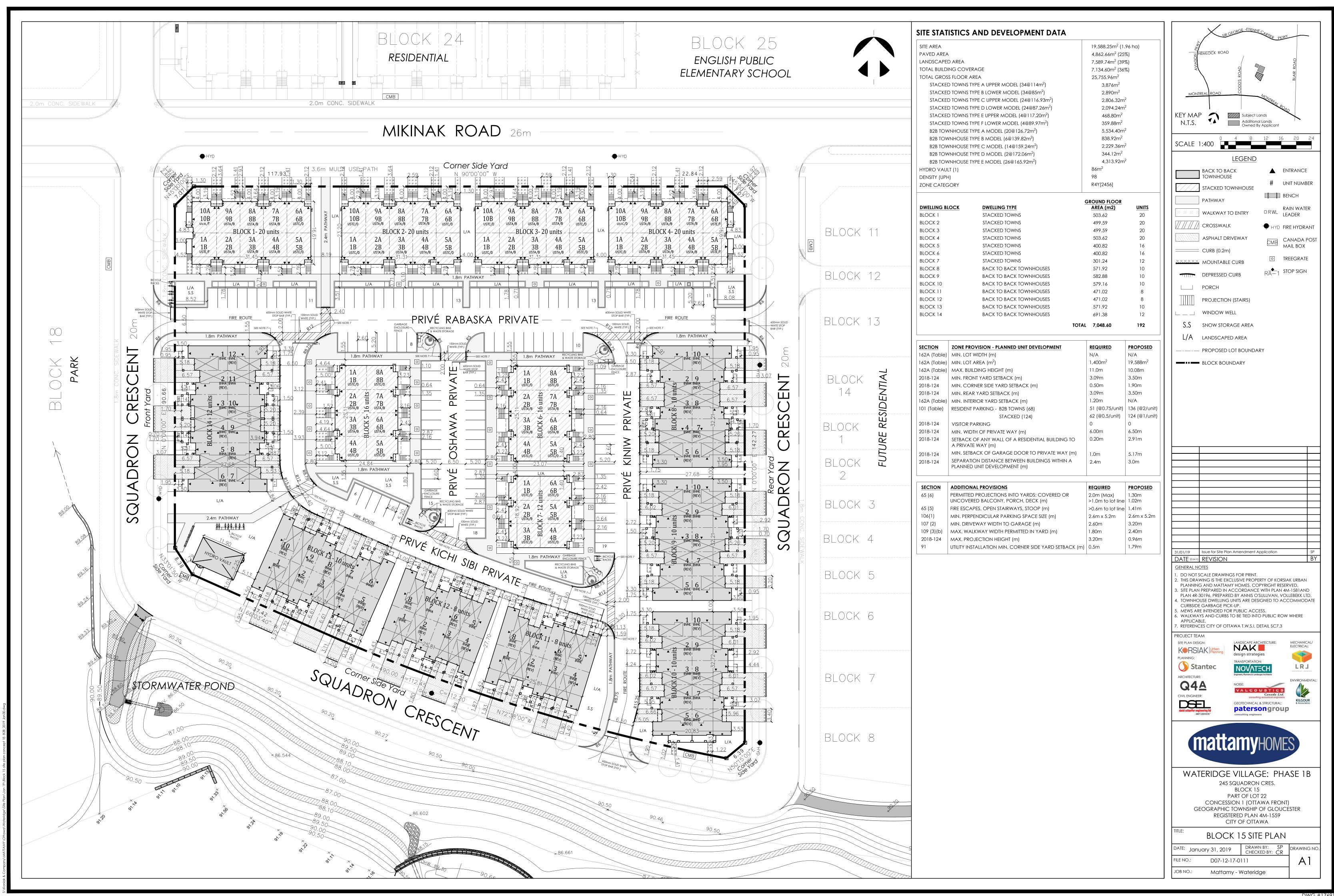
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Reviewed by:

J. LUONG TOURS OF ONTHE

Jennifer Luong, P.Eng. Senior Project Manager | Transportation/Traffic





APPENDIX B TIA Screening Form



City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	245 Squadron Crescent
Description of Location	Wateridge Village Phase 1B – Block 15
Land Use Classification	Residential – townhouses
Development Size (units)	192 units
Development Size (m²)	
Number of Accesses and Locations	Three connections to Squadron Cres
Phase of Development	1
Buildout Year	

If available, <u>please attach a sketch of the development or site plan</u> to this form.

2. Trip Generation Trigger

Considering the Development's Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Land Use Type	Minimum Development Size
Single-family homes	40 units
Townhomes or apartments	90 units
Office	3,500 m ²
Industrial	5,000 m ²
Fast-food restaurant or coffee shop	100 m ²
Destination retail	1,000 m ²
Gas station or convenience market	75 m²

^{*} If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

If the proposed development size is greater than the sizes identified above, <u>the Trip Generation</u> <u>Trigger is satisfied.</u>



Transportation Impact Assessment Screening Form

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks?		X
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?*		X

^{*}DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).

If any of the above questions were answered with 'Yes,' the Location Trigger is satisfied.

4. Safety Triggers

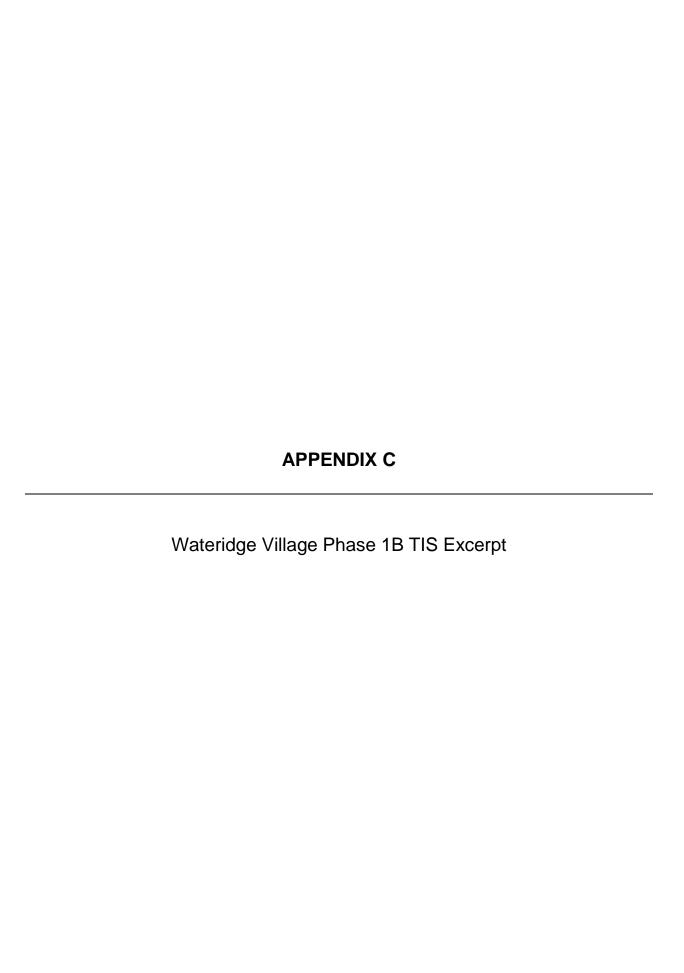
	Yes	No
Are posted speed limits on a boundary street 80 km/hr or greater?		Х
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		Х
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?		x
Is the proposed driveway within auxiliary lanes of an intersection?		X
Does the proposed driveway make use of an existing median break that serves an existing site?		X
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		X
Does the development include a drive-thru facility?		X

If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?	X	
Does the development satisfy the Location Trigger?		Х
Does the development satisfy the Safety Trigger?		Х

If none of the triggers are satisfied, <u>the TIA Study is complete</u>. If one or more of the triggers is satisfied, <u>the TIA Study must continue into the next stage</u> (Screening and Scoping).



PARSONS

3.5 VEHICLE TRAFFIC DISTRIBUTION AND ASSIGNMENT

Traffic distribution was based on the existing volume splits at study area intersections, our knowledge of the surrounding area, and the Phase 1 distribution outlined in the Former CFB Rockcliffe Redevelopment CTS. The proposed access/egress to/from Phase 1B of the development will be provided via Codd's Road and Wanaki Road only. No site access is proposed via Hemlock Road for Phase 1B. As such, the Phase 1B distribution is as follows:

- 45% to/from the west via Montreal Road, Rockcliffe Parkway, and Hemlock Road;
- 45% to/from the south via Blair Road, Aviation Parkway, and Bathgate Drive; and
- 10% to/from the east via Montreal Road.

Based on these distributions, Phase 1B 'new' and 'pass-by' site-generated trips are assigned to study area intersections, which are illustrated as Figure 8.

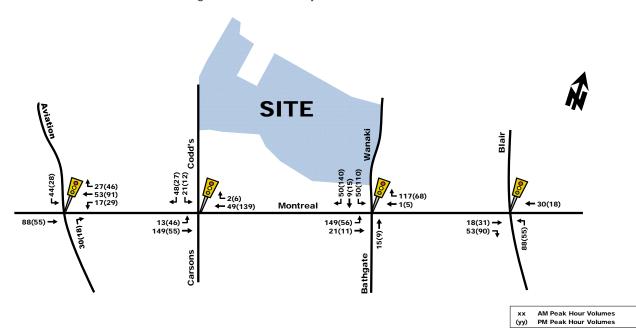


Figure 8: 'New' and 'Pass-by' Site-Generated Traffic Volumes

4. FUTURE TRAFFIC OPERATIONS

4.1 PROJECTED CONDITIONS AT FULL SITE DEVELOPMENT

The total projected volumes associated with the build-out of the proposed redevelopment were derived by superimposing 'new' and 'pass-by' site-generated traffic volumes (Figure 8) onto existing traffic volumes (Figure 4). The resulting total projected traffic volumes are illustrated as Figure 9.