

January 25, 2017

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

Attention: Ms. Melissa Jort-Conway, MCIP, RPP

Planner II

Dear Ms. Jort-Conway:

Reference: Ahlul-Bayt Centre Ottawa

3095 Albion Road North

Transportation Impact Study - Addendum No. 1

Novatech File No.: 113093

A Transportation Impact Study (R-2015-176) dated April 2016 was submitted to the City of Ottawa, in support of a Site Plan Control application for 3095 Albion Road North. Following the submission of the report, comments were received from the City of Ottawa dated April 28, 2016. Verbal comments from Councillor Brockington and Councillor Deans were relayed during a meeting with City staff on May 18, 2016 and further discussed in a teleconference on May 19, 2016.

The purpose of this addendum is to address the transportation comments received from City staff and Councillors, and present the functional design of a proposed sidewalk along the east side of Albion Road North south of Kitchener Avenue.

1.0 INTRODUCTION

The following addendum has been prepared to address City and Councillor comments, and provide a functional design for the proposed sidewalk on the east side of Albion Road south of Kitchener Avenue.

2.0 TRAVEL DEMAND FORECASTING

2.1 Walkley Yard Expansion

An 8-hour traffic count was conducted by Novatech on Wednesday, June 8, 2016 at the intersection of Albion Road North and Kitchener Avenue. The results of the count are included in **Appendix A**. A total of 4 to 5 vehicles were observed accessing the Walkley Yard site over the 8-hour period, translating to a maximum of 2 or 3 vehicles during the a.m., mid-day and p.m. peak hours.

The 2016 Trillium Line Extension Planning and Environmental Study indicates that storage for up to 18 trains will be provided at the expanded Walkley Yard Maintenance and Storage Facility (MSF). The City's current Trillium Line fleet consists of six trains.



City staff have suggested that the Belfast MSF should be considered as a comparable site in terms of future traffic that may be generated by the expanded MSF. Rail Office staff have indicated that the peak time for site generated traffic will be in the early morning (5 to 8 a.m.) and at the end of the day of operation at night. Drivers will report to work early, finish by mid-day and a second shift will finish at shut down after midnight. Maintenance workers will not account for much of the traffic generated and will generally access the site during off-peak hours. Site traffic will generally consist of passenger vehicle with an occasional tractor trailer delivering parts.

Based on this information, if it is conservatively assumed that the traffic generated by the planned Walkley Yard expansion may increase the existing traffic by a factor of three (relative to the number of trains to be stored), then the observed volume of 2 to 3 vehicles during the a.m., p.m. and mid-day peak hours could be expected to increase to 6 to 9 vehicles.

The increased volume of traffic is considered marginal and will have no impact on the results and findings presented in the February 2016 TIS.

3.0 PROVISIONS FOR NON-AUTO MODES

The City has requested that a new sidewalk be constructed along the east side of Albion Road south of Kitchener Avenue to provide a safe and direct pedestrian connection to the site.

A functional design for a proposed sidewalk along the east side of Albion Road is provided in the attached **Figures SW-1**, **SW-2** and **SW-3**. A 2.0m concrete sidewalk is proposed adjacent to the curbed portion of Albion Road south of Kitchener Avenue, transitioning to a 1.8m asphalt sidewalk located at the back of ditch along the rural portion of Albion Road, terminating at the proposed onsite sidewalk connection south of the shared driveway. Re-grading and relocation of the existing ditch closer to the road surface is required. It is anticipated that the proposed relocation of the ditch will be feasible given the shallow depth of the ditch in this area.

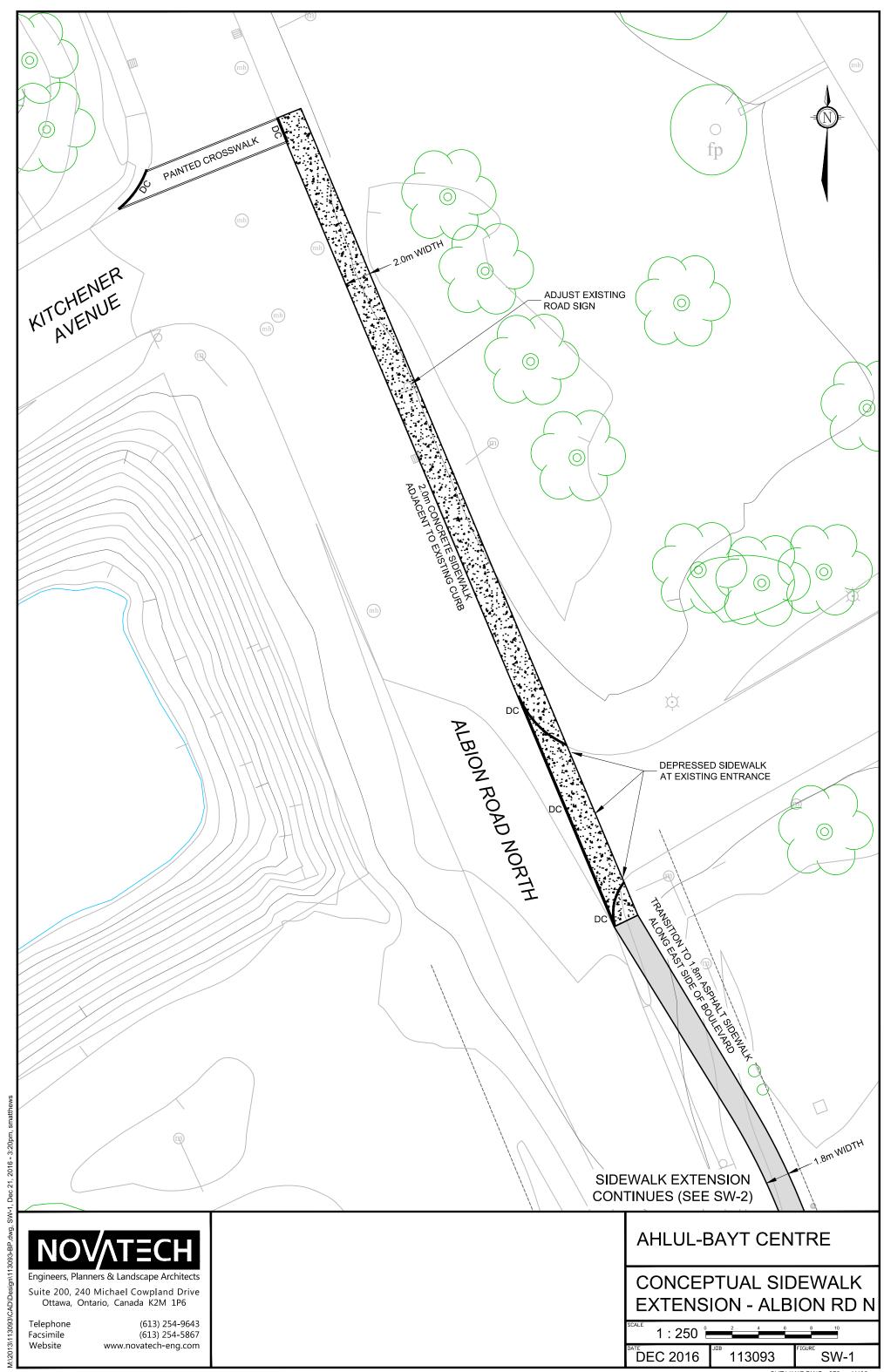
It is proposed that the sidewalk be located behind the hydro pole line along the Twin Equipment frontage, on private property, due to a stormwater management constraint at two existing catch basins north of the shared driveway. A maintenance and liability agreement would be required between the City and Twin Equipment.

As no existing curbs are to be relocated and no new curbs are proposed, Roadway Modification Approval is not required. The sidewalk would be constructed as a condition of Site Plan approval. Detail design will be completed subject to the City's approval of the proposed functional design.

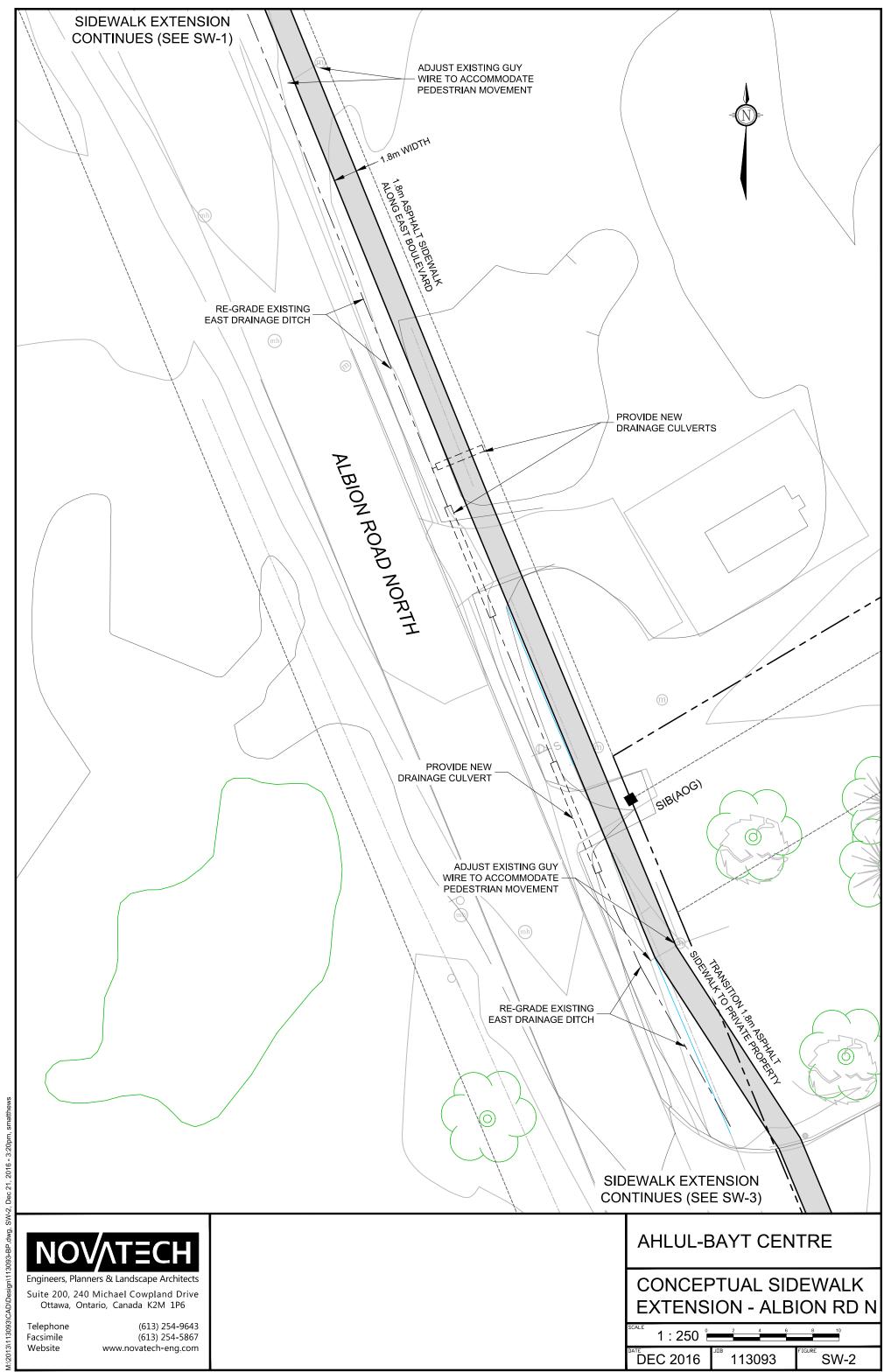
4.0 ON-SITE DESIGN

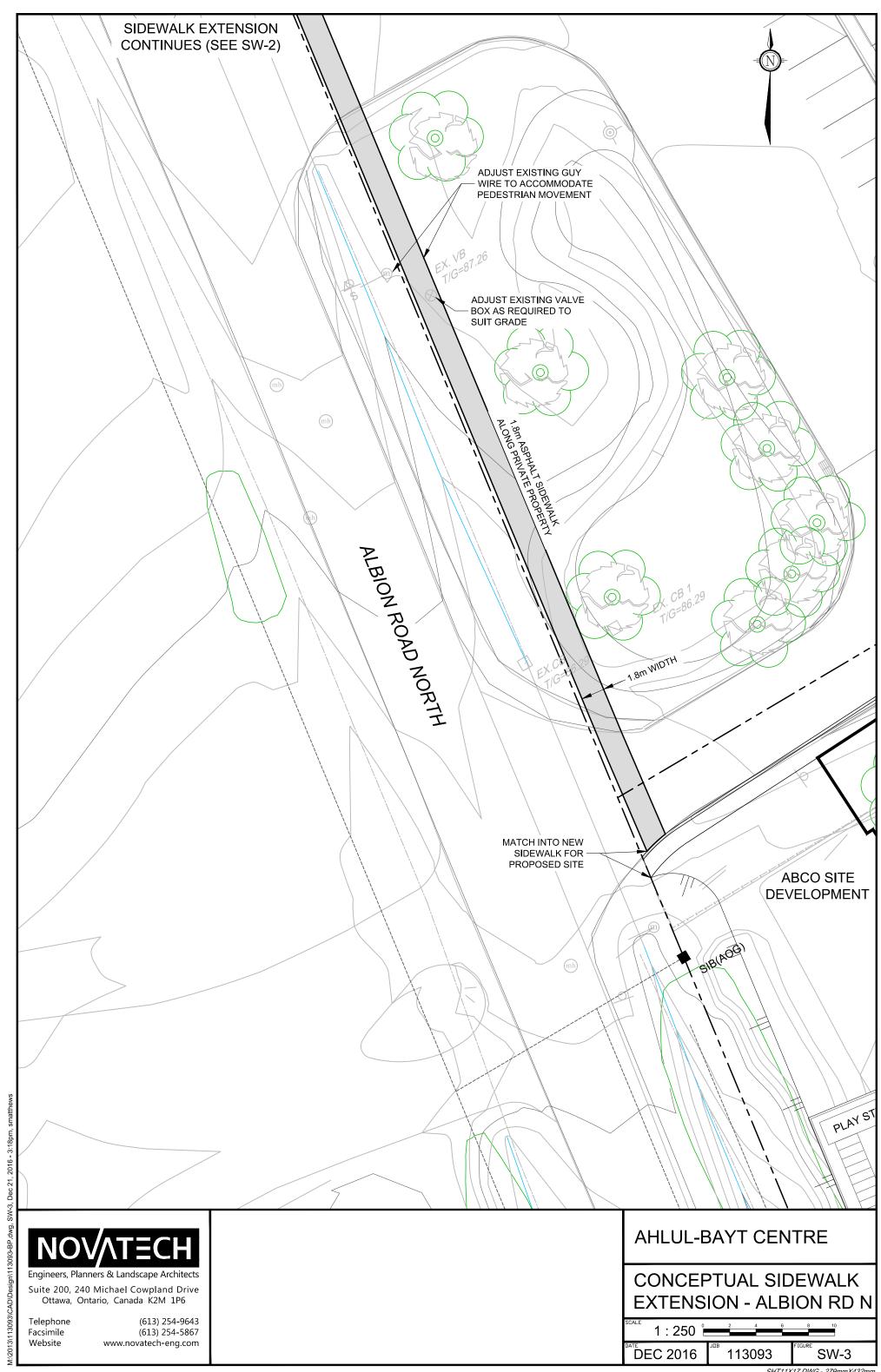
4.1 Proposed Access

As noted in the TIS, traffic counts were completed at the shared access to 3091 Albion/3095 Albion in November 2015. The vehicle classification of the observed site traffic was 85% passenger vehicles and 15% light trucks. Passenger vehicles are generally defined as motorcycles, sedans, coupes, pickup trucks, passenger vans and station wagons. Light trucks are defined as all two axle, four tire vehicles other than passenger cars and generally include delivery vehicles, tow trucks and other vehicles such as campers, motor homes, ambulances and hearses.



SHT11X17.DWG - 279mmX432mm





SHT11X17.DWG - 279mmX432mm



The uses at 3091 Albion include a body shop for heavy vehicles, an MTO Drive Test Centre and various light industrial uses including flooring, roofing, and paint vendors. It should be noted that trucks accessing the body shop are typically on-site for an extended period of time and only access the site on an occasional basis. The bulk of the existing site traffic is generated by the MTO Drive Test Centre and consists of passenger vehicles.

The existing shared access has a width of 7.5m, 12m radii, and a clear throat length of 15m. The existing driveway width will be maintained for a distance of 10m inside the site, to facilitate two-way traffic and the required turning movements. As noted above, the on-site observations indicate that heavy vehicles accessing 3091 Albion are infrequent and occur on an occasional basis. The proposed on-site lay-by along the south side of the shared driveway will be signed for use by the physically disabled only.

Table 2.2.2.3 of the TAC Geometric Design Guide suggests that typical lane widths for urban local roadways with industrial/commercial land uses are 3.5 to 3.7m. Table 3.2.9.1 suggests a typical width of 7.2 to 12.0m for two-way driveways to commercial land uses, with right-turn radii of 4.5 to 12.0m. Minimum widths are normally used with radii at or near the upper end of the range, which is consistent with the design of the existing shared access.

Based on a review of applicable design standards, and the existing and projected conditions, the shared access should be sufficient to accommodate the combined site traffic generated by the two sites.

4.2 Parking

The City has raised concerns regarding potential spill over parking mitigation measures.

The Zoning By-law requires that parking calculations be completed on the basis of all on-site uses occurring at the same time. A total of 282 parking spaces are required for this scenario. However, large events will not be held at the same time as other regular activities. A vehicle occupancy of 3 to 4 persons per vehicle is expected for annual events, resulting in the need for 200 parking spaces or less. It is anticipated that the proposed 284 parking spaces will be sufficient to meet the parking demand of annual events.

Approximately 60 parking spaces are located along the north side of the shared access, on the Twin Equipment site. The owners of the Twin Equipment site have expressed a desire to share parking between the two sites when there are no conflicting uses. It is anticipated that the additional 60 parking spaces would be available for most annual events when uses on the Twin Equipment site are not in operation, and could be used in the event of unforeseen spill over parking.

In the TIS, it was conservatively assumed that as many as 200 persons would be in attendance at Friday mid-day prayers. Assuming a non-auto modal share of 5% and a vehicle occupancy of 1.65, this results in a parking demand of 115 spaces. It was confirmed in the meeting with City staff on May 18, 2016 that an estimate of 20 to 25 vehicles is more realistic as congregating for mid-day prayers will not be emphasized, rather prayers can be undertaken at places of employment, or wherever members may be at that time of day.



Nevertheless, the minimum parking rates identified in the ZBL require the following:

- 24 spaces for the school use
- 99 spaces for the worship area
- 56 spaces for the community centre
- 103 spaces for the assembly space

As large events will not be held in conjunction with other on-site activities, the parking requirement of 103 spaces for assembly space will serve as a contingency for the concurrent daytime uses of mid-day prayers, school, and exercise facility.

5.0 NEIGHBOURHOOD IMPACTS

5.1 Kitchener Avenue

The Councillor has raised concerns regarding traffic impacts to Kitchener Avenue and possible traffic calming measures.

Based on the traffic volumes presented in the TIS, the development is expected to add approximately 130 new vehicle trips to Kitchener during the mid-day peak hour. This amounts to an additional 2 vehicles per minute. The existing mid-day peak hour volume on Kitchener is approximately 220 veh/hr, for a total projected volume of 350 veh/hr. The TAC Geometric Design Guide suggests that urban residential collector roads typically carry approximately 8000 veh/day. Peak hour volumes are commonly estimated at 10% of daily traffic volumes. The total projected mid-day volume of 350 veh/hr is less than half of the typical peak hour volume of 800 veh/hr identified by TAC for an urban residential collector road. While the additional traffic may be noticeable, it is not significant in terms of the operating capacity of the road.

In the event of unforeseen traffic impacts, a number of soft traffic calming measures could be considered, until an ATM is conducted by the City, if warranted. Hard (physical) traffic calming measures, such as curb extensions, require public consultation and are typically considered as part of an ATM. Soft measures could include:

- Temporary traffic calming measures such as speed radar, planters and flex posts
- Delineation of parking lane
- School Speed Zone (30kph) warning signs in proximity of Clifford Bowey PS
- Permanent turn prohibitions at Bank/Kitchener and Albion/Kitchener (ie. remove time restrictions)

5.2 Kitchener/Albion Intersection

Concerns have also been raised by residents about difficulty turning north at the Kitchener/Albion intersection.

City staff have indicated that all-way stop control is required at Kitchener/Albion to allow pedestrians to access the new sidewalk to be provided on the east side of Albion south of Kitchener. All-way stop control will improve operating conditions for motorists on Kitchener turning north on Albion.



The City of Ottawa uses the following criteria for determining when all-way stop control is warranted at local/collector intersections:

Volume:

- Total vehicles on all approaches average more than 200 per hr over weekday 8-hr period (7am-6pm), AND
- Total minor street volume (including pedestrians) average more than 80 per hr over same 8-hr period, OR

Collision:

 Where an average of 3 or more collisions per year (preventable by multi-way stop controls, i.e. right angle) has occurred during 3 yr period, OR

Visibility:

- Where the sight distance from a point 2.7m from the edge of the major street is less than:
 - o 55m to the left
 - o 60m from the right

Based on the City's criteria and the 8-hour traffic count conducted on June 8, 2016, total volumes on Kitchener do not meet the warrant for all-way stop control.

Alternatively, the warrants for a Pedestrian Crossover (PXO) have also been reviewed. Based on an 8-hour two-way total volume of 1460 vehicles and a posted speed of 50 kph, a PXO D could be implemented. A PXO D involves the provision of pavement marking and signage to give pedestrians the right-of-way, as shown in Figure 45 of the *Ontario Traffic Manual Book 15*, and repeated here as **Figure 1**. At the Kitchener/Albion intersection, the PXO would be located on the north leg approach, connecting the existing sidewalk on the west side of Albion to the new sidewalk on the east side.

If violations at an unwarranted all-way stop are a concern, a PXO D could alternatively be considered as a safe legal crossing for pedestrians at the Kitchener/Albion intersection.

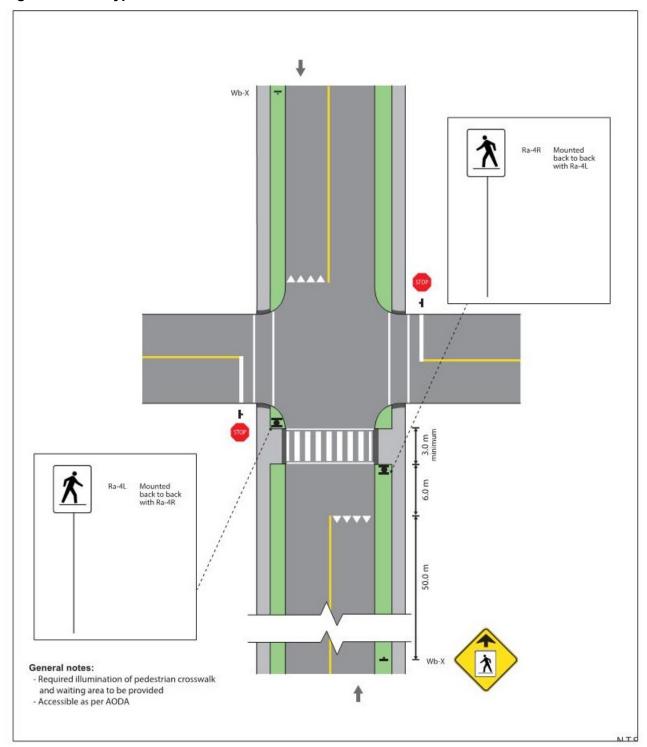
6.0 CONCLUSIONS

The main conclusions and recommendations of this addendum are as follows:

- The increased volume of traffic generated by the planned Walkley Yard Expansion is considered marginal and will have no impact on the results and findings presented in the February 2016 TIS.
- A new sidewalk will be constructed along the east side of Albion Road south of Kitchener Avenue to provide a safe and direct pedestrian connection to the site.
- As no existing curbs are to be relocated and no new curbs are proposed, Roadway Modification Approval is not required. The sidewalk would be constructed as a condition of Site Plan approval. Detail design will be completed subject to the City's approval of the proposed functional design.
- Based on a review of applicable design standards, and the existing and projected conditions, the shared access should be sufficient to accommodate the combined site traffic generated by the Twin Equipment site and the subject site.



Figure 1: PXO Type 'D'





- It is anticipated that the proposed 284 parking spaces will be sufficient to meet the parking demand of annual events. In addition, it is anticipated that 60 shared parking spaces would be available on the Twin Equipment site when uses on that site are not in operation, and could be used in the event of unforeseen spill over parking.
- While the additional traffic on Kitchener Avenue may be noticeable, it is not significant in terms of the operating capacity of the road.
- In the event of unforeseen traffic impacts to Kitchener Avenue, a number of soft traffic calming measures could be considered, until an ATM is conducted by the City, if warranted.
- City staff have indicated that all-way stop control is required at Kitchener/Albion to allow pedestrians to access the new sidewalk to be provided on the east side of Albion south of Kitchener
- Based on the City's criteria and the 8-hour traffic count conducted on June 8, 2016, total volumes on Kitchener do not meet the warrant for all-way stop control.
- If violations at an unwarranted all-way stop are a concern, a PXO D could alternatively be considered as a safe legal crossing for pedestrians at the Kitchener/Albion intersection.

Yours truly,

NOVATECH

Jennifer Luong, P. Eng.

Jeninger Lung

Senior Project Manager | Transportation/Traffic

Appendix A Traffic Count



Weather: Overcast/Rainy File Name: Albion&Kitchener

Serial Number: T12-1612 Site Code : 00113093
Collected By: Matt Donald Start Date : 08/06/2016

Notes: Page No : 1

			Groups	s Printed- F	Passenger	Vehicles	- Light	Trucks - Hea	avy Trucks	;			
	-	Albion Road North				Albion Ro		h					
		From				From				From			
Start Time	Right	Thru	Peds /	App. Total	Thru	Left	Peds	App. Total	Right	Left		App. Total	Int. Total
07:00 AM	4	20	1	25	9	0	0	9	6	5	0	11	45
07:15 AM	6	41	2	49	9	2	0	11	5	5	0	10	70
07:30 AM	13	44	0	57	3	0	0	3	8	4	0	12	72
07:45 AM	15	34	0	49	7	1	0	8	2	3	0	5	62
Total	38	139	3	180	28	3	0	31	21	17	0	38	249
08:00 AM	19	28	0	47	5	0	0	5	7	7	0	14	66
08:15 AM	18	24	0	42	8	0	0	8	4	11	0	15	65
08:30 AM	15	28	0	43	4	1	0	5	0	8	0	8	56
08:45 AM	17	14	0	31	3	0	0	3	1	21	0	22	56
Total	69	94	0	163	20	1	0	21	12	47	0	59	243
09:00 AM	12	17	0	29	8	2	0	10	3	7	0	10	49
09:15 AM	9	6	0	15	7	0	0	7	4	10	0	14	36
09:30 AM	13	7	0	20	4	1	0	5	1	10	0	11	36
09:45 AM	16	12	0	28	4	1	0	5	5	5	0	10	43
Total	50	42	0	92	23	4	0	27	13	32	0	45	164
*** BREAK ***													
11:30 AM	9	5	0	14	17	5	0	22	1	1	0	2	38
11:45 AM	11	4	0	15	12	2	0	14	1	17	0	18	47
Total	20	9	0	29	29	7	0	36	2	18	0	20	85
12:00 PM	16	11	0	27	19	5	0	24	3	5	0	8	59
12:15 PM	13	12	Ö	25	11	2	Ö	13	2	11	Ö	13	51
12:30 PM	20	7	0	27	7	4	Ö	11	5	11	Ö	16	54
12:45 PM	13	8	1	22	11	6	0	17	2	15	0	17	56
Total	62	38	1	101	48	17	0	65	12	42	0	54	220
01:00 PM	15	19	0	34	8	7	0	15	3	11	0	14	63
01:15 PM	13	14	Ö	27	8	1	Ö	9	4	5	Ö	9	45
*** BREAK ***								<u> </u>	· ·				
Total	28	33	0	61	16	8	0	24	7	16	0	23	108
*** BREAK ***													
03:00 PM	13	7	0	20	32	22	0	54	0	17	0	17	91
03:15 PM	17	4	0	21	16	8	Ö	24	Ö	23	0	23	68
03:30 PM	15	4	0	19	18	7	0	25	0	21	0	21	65
03:45 PM	16	4	0	20	18	6	0	24	0	25	0	25	69
Total	61	19	0	80	84	43	0	127	0	86	0	86	293
04:00 PM	18	15	0	33	36	15	0	51	1	23	0	24	108
04:15 PM	13	3	0	16	21	7	Ö	28	0	21	0	21	65
04:30 PM	18	6	0	24	20	7	0	27	1	17	0	18	69
04:45 PM	25	0	0	25	20	3	0	23	1	17	0	18	66
Total	74	24	0	98	97	32	0	129	3	78	0	81	308
05:00 PM	24	1	0	25	47	11	0	58	0	25	0	25	108
05:15 PM	24 17	3	0	20	24	2	0	26	0	25 17	0	17	63
22		-	-			_	-	= 3	-		-	1	



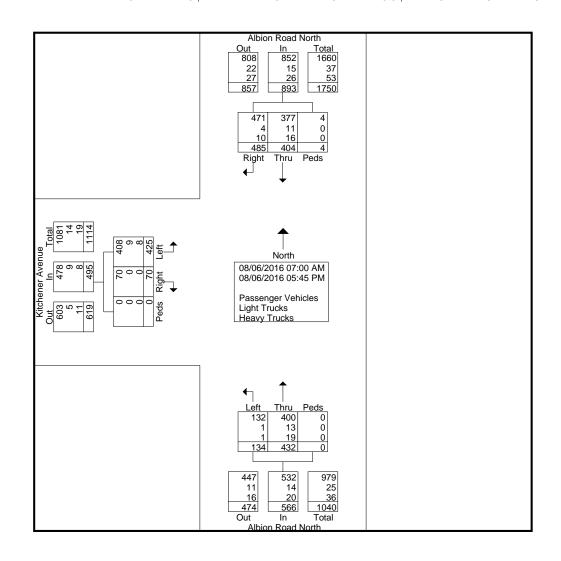
Weather: Overcast/Rainy File Name: Albion&Kitchener

Serial Number: T12-1612 Site Code : 00113093 Collected By: Matt Donald Start Date : 08/06/2016

Notes: Page No : 2

Groups Printed- Passenger Vehicles - Light Trucks - Heavy Trucks

Groups Printed- Passenger Venicles - Light Trucks - Heavy Trucks													
		Albion Ro	ad Nort	h		Albion Ro	oad Nort	h					
		From			From	South							
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds A	App. Total	Int. Total
05:30 PM	17	2	0	19	12	2	0	14	0	23	0	23	56
05:45 PM	25	0	0	25	4	4	0	8	0	24	0	24	57_
Total	83	6	0	89	87	19	0	106	0	89	0	89	284
Grand Total	485	404	4	893	432	134	0	566	70	425	0	495	1954
Apprch %	54.3	45.2	0.4		76.3	23.7	0		14.1	85.9	0		
Total %	24.8	20.7	0.2	45.7	22.1	6.9	0	29	3.6	21.8	0	25.3	
Passenger Vehicles	471	377	4	852	400	132	0	532	70	408	0	478	1862
% Passenger Vehicles	97.1	93.3	100	95.4	92.6	98.5	0	94	100	96	0	96.6	95.3
Light Trucks	4	11	0	15	13	1	0	14	0	9	0	9	38
% Light Trucks	0.8	2.7	0	1.7	3	0.7	0	2.5	0	2.1	0	1.8	1.9
Heavy Trucks	10	16	0	26	19	1	0	20	0	8	0	8	54
% Heavy Trucks	2.1	4	0	2.9	4.4	0.7	0	3.5	0	1.9	0	1.6	2.8





Weather: Overcast/Rainy Serial Number: T12-1612 Collected By: Matt Donald

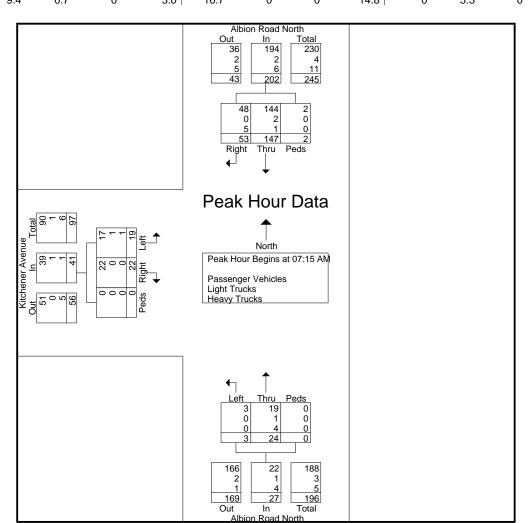
Notes:

File Name: Albion&Kitchener

Site Code : 00113093 Start Date : 08/06/2016

Page No : 3

	-	Albion Ro	ı		Albion Ro	ad North	1						
		From	North		From South From West								
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds A	pp. Total	Int. Total
Peak Hour Analysis	From 07:00	0 AM to 0	9:45 AM	- Peak 1 of 1									
Peak Hour for Entire	e Intersection	on Begins	at 07:15	AM									
07:15 AM	6	41	2	49	9	2	0	11	5	5	0	10	70
07:30 AM	13	44	0	57	3	0	0	3	8	4	0	12	72
07:45 AM	15	34	0	49	7	1	0	8	2	3	0	5	62
MA 00:80	19	28	0	47	5	0	0	5	7	7	0	14	66
Total Volume	53	147	2	202	24	3	0	27	22	19	0	41	270
% App. Total	26.2	72.8	1		88.9	11.1	0		53.7	46.3	0		
PHF	.697	.835	.250	.886	.667	.375	.000	.614	.688	.679	.000	.732	.938
Passenger Vehicles	48	144	2	194	19	3	0	22	22	17	0	39	255
% Passenger Vehicles	90.6	98.0	100	96.0	79.2	100	0	81.5	100	89.5	0	95.1	94.4
Light Trucks	0	2	0	2	1	0	0	1	0	1	0	1	4
% Light Trucks	0	1.4	0	1.0	4.2	0	0	3.7	0	5.3	0	2.4	1.5
Heavy Trucks	5	1	0	6	4	0	0	4	0	1	0	1	11
% Heavy Trucks	9.4	0.7	0	3.0	16.7	0	0	14.8	0	5.3	0	2.4	4.1



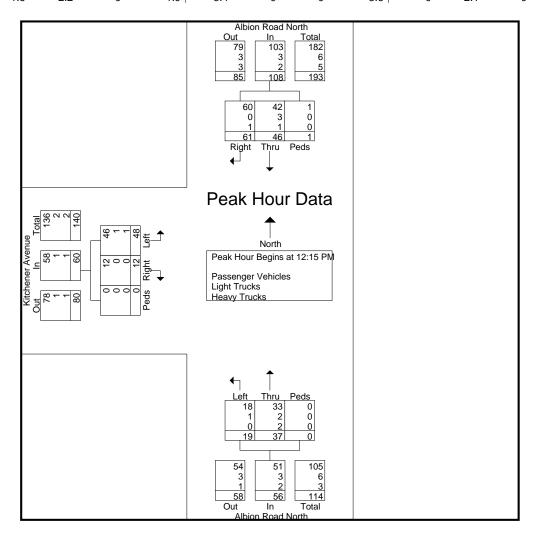


Weather: Overcast/Rainy File Name: Albion&Kitchener Serial Number: T12-1612 Site Code: 00113093

Serial Number: T12-1612 Site Code : 00113093 Collected By: Matt Donald Start Date : 08/06/2016

Notes: Page No : 4

	ı	h	į	Albion Ro	ad Nort	h							
		From I			From	South							
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis									_				
Peak Hour for Entire	e Intersection	on Begins	at 12:15	5 PM									
12:15 PM	13	12	0	25	11	2	0	13	2	11	0	13	51
12:30 PM	20	7	0	27	7	4	0	11	5	11	0	16	54
12:45 PM	13	8	1	22	11	6	0	17	2	15	0	17	56
01:00 PM	15	19	0	34	8	7	0	15	3	11	0	14	63
Total Volume	61	46	1	108	37	19	0	56	12	48	0	60	224
% App. Total	56.5	42.6	0.9		66.1	33.9	0		20	80	0		
PHF	.763	.605	.250	.794	.841	.679	.000	.824	.600	.800	.000	.882	.889
Passenger Vehicles	60	42	1	103	33	18	0	51	12	46	0	58	212
% Passenger Vehicles	98.4	91.3	100	95.4	89.2	94.7	0	91.1	100	95.8	0	96.7	94.6
Light Trucks	0	3	0	3	2	1	0	3	0	1	0	1	7
% Light Trucks	0	6.5	0	2.8	5.4	5.3	0	5.4	0	2.1	0	1.7	3.1
Heavy Trucks	1	1	0	2	2	0	0	2	0	1	0	1	5
% Heavy Trucks	1.6	2.2	0	1.9	5.4	0	0	3.6	0	2.1	0	1.7	2.2





Weather: Overcast/Rainy
File Name: Albion&Kitchener

Serial Number: T12-1612 Site Code : 00113093
Collected By: Matt Donald Start Date : 08/06/2016

Notes: Page No : 5

		Albion Ro	h		Albion Ro	oad Nort	h						
		From	North		From South								
Start Time	Right	Thru		App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis	From 02:0	0 PM to 0	5:45 PM	- Peak 1 of 1					_				
Peak Hour for Entire	e Intersecti	on Begins	at 03:45	PM									
03:45 PM	16	4	0	20	18	6	0	24	0	25	0	25	69
04:00 PM	18	15	0	33	36	15	0	51	1	23	0	24	108
04:15 PM	13	3	0	16	21	7	0	28	0	21	0	21	65
04:30 PM	18	6	0	24	20	7	0	27	1	17	0	18	69
Total Volume	65	28	0	93	95	35	0	130	2	86	0	88	311
% App. Total	69.9	30.1	0		73.1	26.9	0		2.3	97.7	0		
PHF	.903	.467	.000	.705	.660	.583	.000	.637	.500	.860	.000	.880	.720
Passenger Vehicles	64	24	0	88	93	35	0	128	2	83	0	85	301
% Passenger Vehicles	98.5	85.7	0	94.6	97.9	100	0	98.5	100	96.5	0	96.6	96.8
Light Trucks	1	1	0	2	2	0	0	2	0	1	0	1	5
% Light Trucks	1.5	3.6	0	2.2	2.1	0	0	1.5	0	1.2	0	1.1	1.6
Heavy Trucks	0	3	0	3	0	0	0	0	0	2	0	2	5
% Heavy Trucks	0	10.7	0	3.2	0	0	0	0	0	2.3	0	2.3	1.6

