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“By E-mail”

January 21, 2016

File #215108

Karl Thompson & Loukia Georgiou
297 Kingwood Drive
Kitchener, Ontario N2E 1J2

**Ref: Thompson – Georgiou Subdivision, Town of Hanover, Grey County
Traffic Review**

Dear Mr. Thompson and Ms. Georgiou:

Further to your request, we have reviewed the Conceptual Plan Option 3 dated November 18, 2013 and the Terms of Reference for the traffic review dated July 10, 2015 prepared by Darryl M. Robins Consulting Inc. We understand the project is in the preliminary design stages and the purpose of the traffic review is to provide our opinions on the number of entrances required and the number of lots for a one entrance scenario.

Site Location & Access

The site is located on the east side of 8th Avenue, in the Town of Hanover, Grey County as illustrated in Figure 1.

As per the development conceptual plan, the site has two accesses. One site access (Street ‘A’) is provided on 8th Avenue approximately 30 metre north of 18th Street (measured from centreline to centreline). Another site access (Street ‘C’) connects with 8th Avenue at the north end. Full movements are permitted on Street ‘A’.

Proposed Land Use & Phasing

Based on the current concept plan, the development consists of 126 residential units as detailed below:

- 67 single family units
- 59 townhouse units

For the purpose of establishing an appropriate traffic planning horizon, and in consideration of the total number of development units, we have assumed full build out of the subdivision will occur by 2020.

Site Generated Trips

Trip generation rates have been determined from the Institute of Transportation Engineer’s *Trip Generation Manual*. Based on the proposed land uses and applicable ITE land use categories, the following have been employed:

- Single family units – trip rates correspond to “single family detached unit” (ITE land use code 210); and
- Townhouse units – trip rates correspond to “residential condo/townhouse unit” (ITE land use code 230)

The applicable trip rates and corresponding trip estimates for the peak hours of the adjacent road are provided in Table 1. In total, the development is expected to generate 76 trips in the AM peak hour and 98 trips in the PM peak hour (both inbound and outbound trips).

Table 1 – Site Trip Generation Estimates

Land Use	Rate/ Estimate	Unit/ Size	Weekday AM Peak			Weekday PM Peak		
			In	Out	Total	In	Out	Total
Single family detached	rate	unit	0.19	0.56	0.75	0.64	0.37	1.01
	estimate	67	13	37	50	43	25	68
Condo/townhouse	rate	unit	0.07	0.37	0.44	0.35	0.17	0.52
	estimate	59	4	22	26	21	10	31
Total		126	17	59	76	63	35	98

The distribution of the trips to be generated by the proposed development has been developed based on the site location and the urban centres in the area such as downtown Hanover, Walkerton and Durham. The following distribution is assumed:

- 70% to/from the south via 7th Avenue
- 30% to/from the north via 7th Avenue

It is assumed that 20% of the site traffic would use Street ‘C’ to enter or exit the site and rest of the site traffic would use Street ‘A’. The resulting site generated traffic volumes assigned to the road network and the site access points are illustrated in Figure 2.

Existing Road Network

The road network to be addressed by this report consists of 7th Avenue (County Road 10), 18th Street and 8th Avenue. 7th Avenue is under the jurisdiction of Grey County, whereas, 18th Street and 8th Avenue are under the jurisdiction of the Town.

As identified in the Town’s Official Plan, 7th Avenue is an arterial road. Through the study area, 7th Avenue has one lane in each direction. The road has an urban cross-section with mountable curbs on both sides and a paved shoulder/sidewalk on the east side. The alignment of 7th Avenue in the area is relatively straight. However, it has a vertical curve to the north of 18th Street. The road has a posted speed limit of 50 km/h and hence a design speed of 60 km/h has been assumed (speed limit + 10 km/h for lower speed roads).

18th Street is a local street and is approximately 100 m in length. It has one lane in each direction with curbs on both sides and no sidewalks. The alignment of 18th Street is relatively flat and straight. There is no speed limit posted on the road. A speed limit of 50 km/h and a design speed of 60 km/h have been assumed on the road.

8th Avenue is also a local street and is approximately 270 m in length with no exit. It has one lane in each direction with curbs on both sides and no sidewalks. The alignment of the road is relatively flat. However, it has a horizontal curve to the north of Street 'A' and slightly bends at 18th Street. There is no speed limit posted on the road. A speed limit of 50 km/h and a design speed of 60 km/h have been assumed on the road.

There is currently no exclusive left turn lane or right turn lane/taper on 7th Avenue at 18th Street and 18th Street at 8th Avenue. Both intersections are 'T' intersections, stop controlled on 18th Street.

Existing Traffic Volumes

Existing traffic data information was obtained from Grey County for the section of 7th Avenue (County Road 10). The annual average daily traffic (AADT) was reported to be 6750 vehicles in 2011. Assuming 50/50 directional split and that design hour volume is approximately 10% of AADT, design hour volume on each lane is 338 vehicles per hour per lane. To reflect the 2015 traffic volume, a growth factor of 1.04 (i.e. 1.08% per year for 4 years) was applied. The 2015 design hour volume on each lane was therefore projected to be 345 vehicles.

Traffic volumes on 18th Street and on 8th Avenue were estimated based on the existing development level. Currently there is one house/lot having an access on 18th Street and 16 houses/lots having accesses on 8th Avenue.

The existing traffic volumes are illustrated in Figure 3.

Future Traffic Volumes

Future background growth includes future general growth and development specific growth. Based on Grey County's September 2014 draft Transportation Master Plan, future population projections for Grey County from 2011 to 2021 is anticipated to occur at a rate of 1.08% per year and 0.49% thereafter from 2021 to 2031. Therefore, for the purpose of our traffic assessment, annual general background growth rates of 1.08% and 0.49% were used for traffic projections for the periods of 2011 to 2021 and 2021 to 2031 respectively.

Specific developments within the study area were also considered. The development to the south of the site is expected to consist of 30 lots. Full build-out of this development is assumed to occur by 2030. Traffic volumes generated by this development were estimated by using the same methodology as that used for the subject site. In total this residential development is estimated to generate 23 trips during the AM peak hour and 30 trips during the PM peak hour (total inbound and outbound trips).

The estimated subdivision development generated traffic was combined with the future background traffic volumes for the 2020 and 2030 horizon years. The resulting future total volumes are illustrated in Figure 4 (2020) and Figure 5 (2030).

Future Traffic Operations

The capacity, and hence operations, of a road system is effectively dictated by its intersections. As such, the analysis focused on the operation of the intersection of 7th Avenue with 18th Street. The methodology applied was consistent with the 2010 Highway Capacity Manual method for unsignalized and signalized intersections as employed in the software program Synchro 8. The analysis is based on

the 2020 and 2030 future total traffic volumes, the existing intersection configurations and control.

Table 2 summarizes the results of the analysis showing the level of service (LOS), estimated delays (measured in seconds) and the volume to capacity (v/c) ratio for each of the intersections. Level of service A, corresponding to minimal delays, is the best whereas level of service F, corresponding to high delays, is generally considered a poor condition. When volume is less than capacity, v/c ratio is less than 1. Otherwise, v/c ratio equals to 1 or more than 1, which means volume reaches capacity or is more than capacity.

Table 2 – Intersection Operations – Future Total Traffic Volumes

Year	Intersection		Control	Weekday AM Peak			Weekday PM Peak		
				Delay	LOS	v/c	Delay	LOS	v/c
2020	7 th Avenue & 18 th Street	WB	stop	16.3	C	0.19	16.2	C	0.13
2030	7 th Avenue & 18 th Street	WB	stop	18.0	C	0.26	18.1	C	0.17

For unsignalized intersections, the level of service corresponds to the minor street lane groups given that the major street movements proceed relatively unimpeded. For signalized intersections, the results pertain to the average intersection delay and assume optimal signal timing and phasing to achieve the most efficient overall network operations through signal coordination.

As per the analysis, an acceptable level of service C occurs at the intersection in both 2020 and 2030 horizons and thus no improvements related to intersection operations are required on the basis of the intersection operation analysis.

The intersections of 18th Street at 8th Avenue and Street ‘A’ at 8th Avenue were not specifically analysed. Given the limited traffic volumes at both intersections, an acceptable (good) level of service is expected at both intersections.

Turn Lane Requirements

The need for a left turn lane at the intersection of 7th Avenue with 18th Street was reviewed. Based on MTO left turn lane warrant criteria, a southbound left turn lane on 7th Avenue at 18th Street is not warranted in both 2020 and 2030 horizons.

With respect to the need for a right turn lane, MTO criteria indicate that they should be considered when the turning volume exceeds 60 vehicles per hour at an unsignalized intersection. Although the projected northbound right turn volume is 66 vehicles on 7th Avenue at 18th Street during the PM peak hour in the 2030 horizon, a northbound right turn lane has not been recommended at the intersection given that the northbound through volume is not high and that it is a “T” intersection (i.e. no northbound left turn movements).

Second Entrance to 7th Avenue

As per the Town’s Official Plan, a future arterial road is located north of the site from 7th Avenue at the previous railway location and along the old railway location to the northeast corner of the site and parallel to the hydro line to Grey Road 28. Although not currently indicated in the OP Transportation Plan, the extension of 8th Avenue to this future arterial road would improve traffic operations by

providing an alternative (and second) connection point for local traffic. However, the timing for the future arterial road is unknown. Thus, all site traffic as well as traffic to be generated by the development south of the site and the existing traffic on 8th Avenue and 18th Street will access 7th Avenue (County Road 10) via 18th Street to reach their travel destinations. Based on our future traffic projections and intersection operational analysis, a single access connection via 18th Street to 7th Avenue (County Road 10) is acceptable and will accommodate the proposed 126 unit development.

Street Lighting

There is currently one street light at the intersection of 7th Avenue with 18th Street and at the intersection of 18th Street with 8th Avenue. Street lights are also provided on the east side of 8th Avenue and 7th Avenue. As street lighting requirements are based on road class (i.e. local, minor collector, major collector, arterial etc.) and area classification (i.e. commercial, intermediate, residential), the current street lighting appears to be sufficient. However, should the Town or County initiate a program to rehabilitate/reconstruct the local road network, the current lighting levels and need for upgrades to meet current standards should be considered.

With regard to the proposed subdivision development, provisions for partial illumination at each new intersection (i.e. Street A/8th Ave and Street C/8th Ave), should be considered in conjunction with the design of a municipal street lighting system for the new internal subdivision roads, in accordance with current Town engineering and development standards.

Summary

Our traffic review has considered the potential traffic impacts associated with the proposed residential development. Based on the current development plan, it is estimated the site will generate 76 trips and 98 trips (both inbound and outbound trips) during the AM and PM peak hour respectively.

To assess potential impacts of the proposed development on the area road network, peak hour operations of the intersection of 7th Avenue with 18th Street were reviewed for the 2020 and 2030 horizons. Based on our assessment, the intersection will operate acceptably at a level of service C during the AM and PM peak hour in the 2020 and 2030 horizons.

The need for a dedicated left turn lane/right turn lane at the intersection of 7th Avenue with 18th Street was reviewed. No left turn lanes are warranted and no right turn lanes are required. As such, the current intersection configuration and side road (i.e. 18th Street) stop control can be maintained.

We note it is desirable to have a second connection point to accommodate the development traffic as well as the existing residential homes on 8th Avenue in the event the 7th Avenue/ 18th Street intersection is blocked due to an accident. However, based on the current development plan, improvements to the existing road network, including a second connection to 7th Avenue is not warranted. Furthermore, the single access connection to 7th Avenue (County Road 10) from 18th Street will be adequate to accommodate the full (i.e. 126 units) development of this site.

It is recommended that partial illumination of future intersection connections to 8th Avenue be considered in conjunction with the design of municipal street lighting within the proposed subdivision, as prescribed by the Town's engineering and development standards.

We trust the foregoing report on future traffic conditions and the suitability of a single intersection

connection to 7th Avenue (County Road 10) for the planned 126 unit residential development is satisfactory. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

AINLEY & ASSOCIATES LIMITED

Reported by:



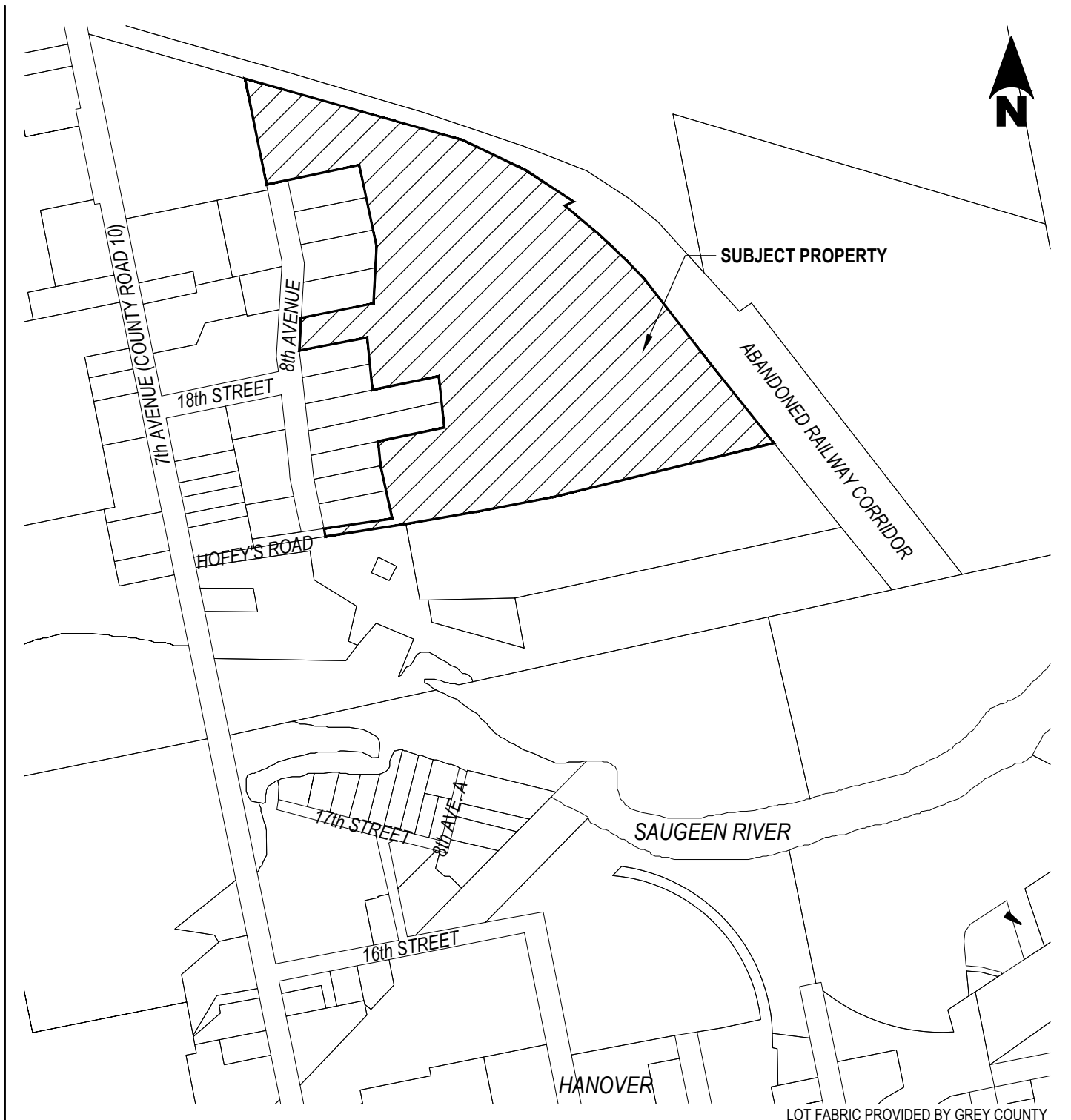
**Lilly Chen, P. Eng.
Senior Transportation Engineer**

Reviewed by:



**Brad Kalus, C.E.T., LEL
Transportation Manager**

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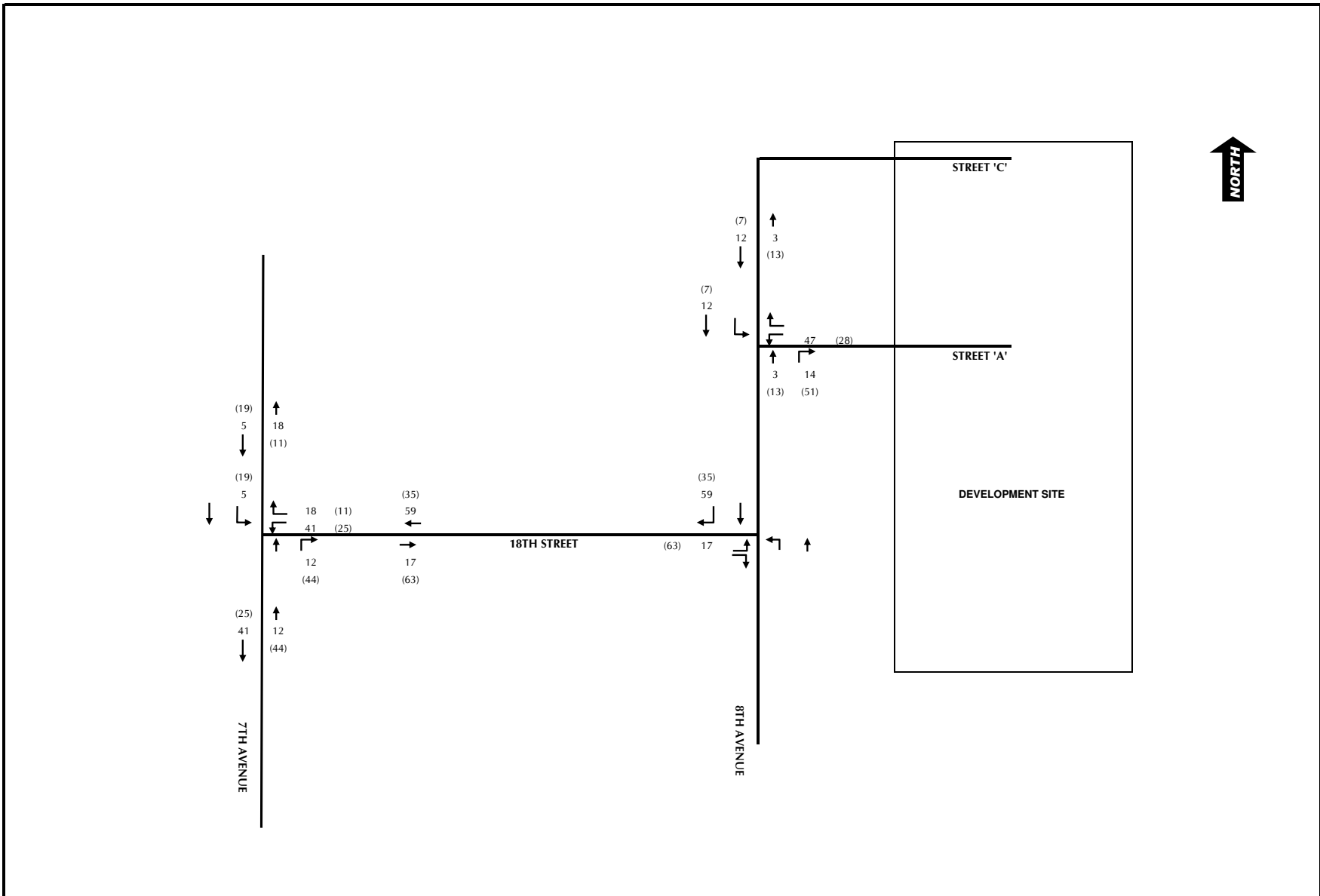


**LOCATION PLAN
THOMPSON / GEORGIU
PART OF LOT 18, JUDGE'S PLAN NO. 55,
TOWN OF HANOVER**

CLIENT: THOMPSON / GEORGIU

DARRYL M. ROBINS CONSULTING INC.
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 Miller Lake, Ontario N0H 1Z0 www.dmrconsulting.ca
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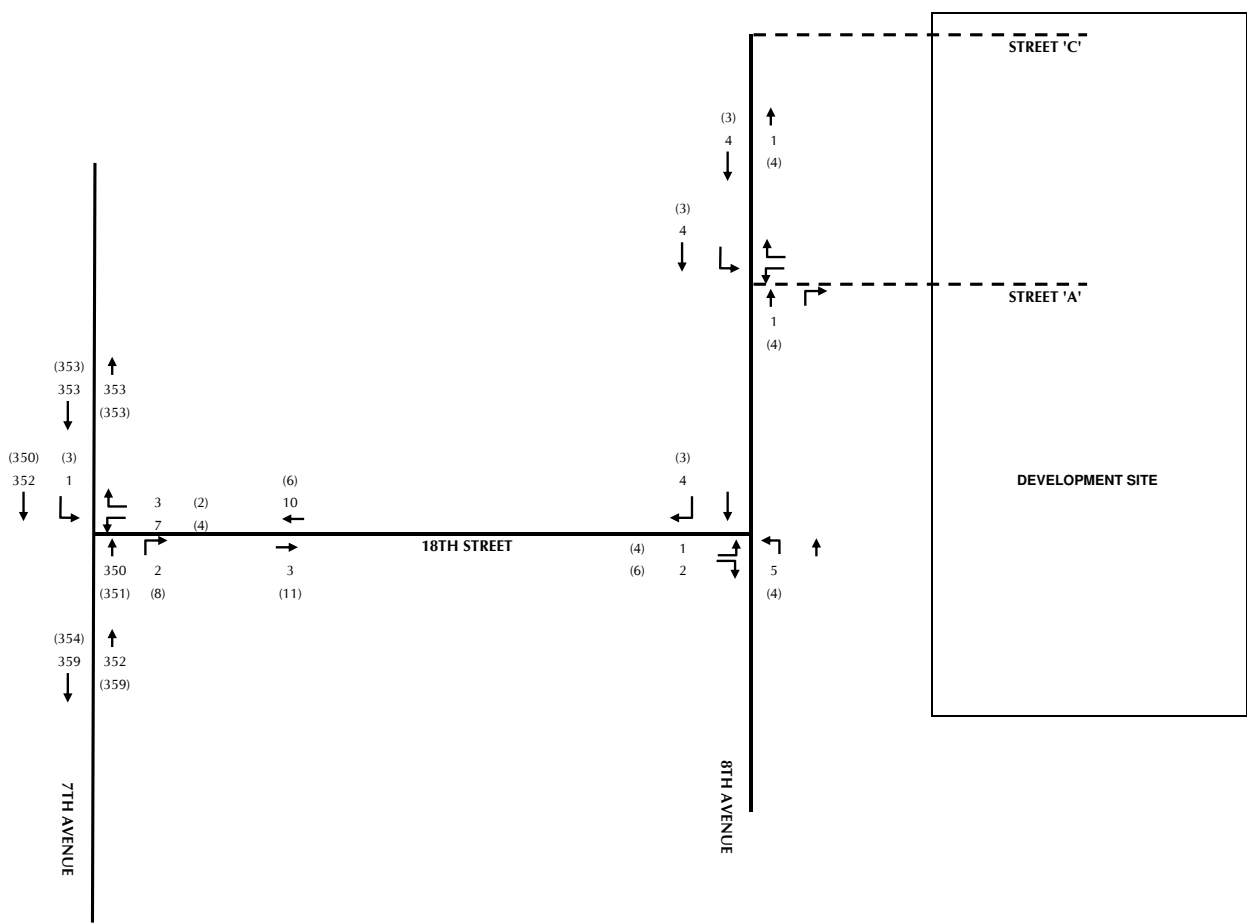
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PROJECT No.:	M13033
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100 (100) PM (Sunday) Peak Hour

Figure 2
 Site Generated Traffic Volumes
 Thompson - Georgiou Subdivision Traffic Impact Study
 Town of Hanover, Grey County

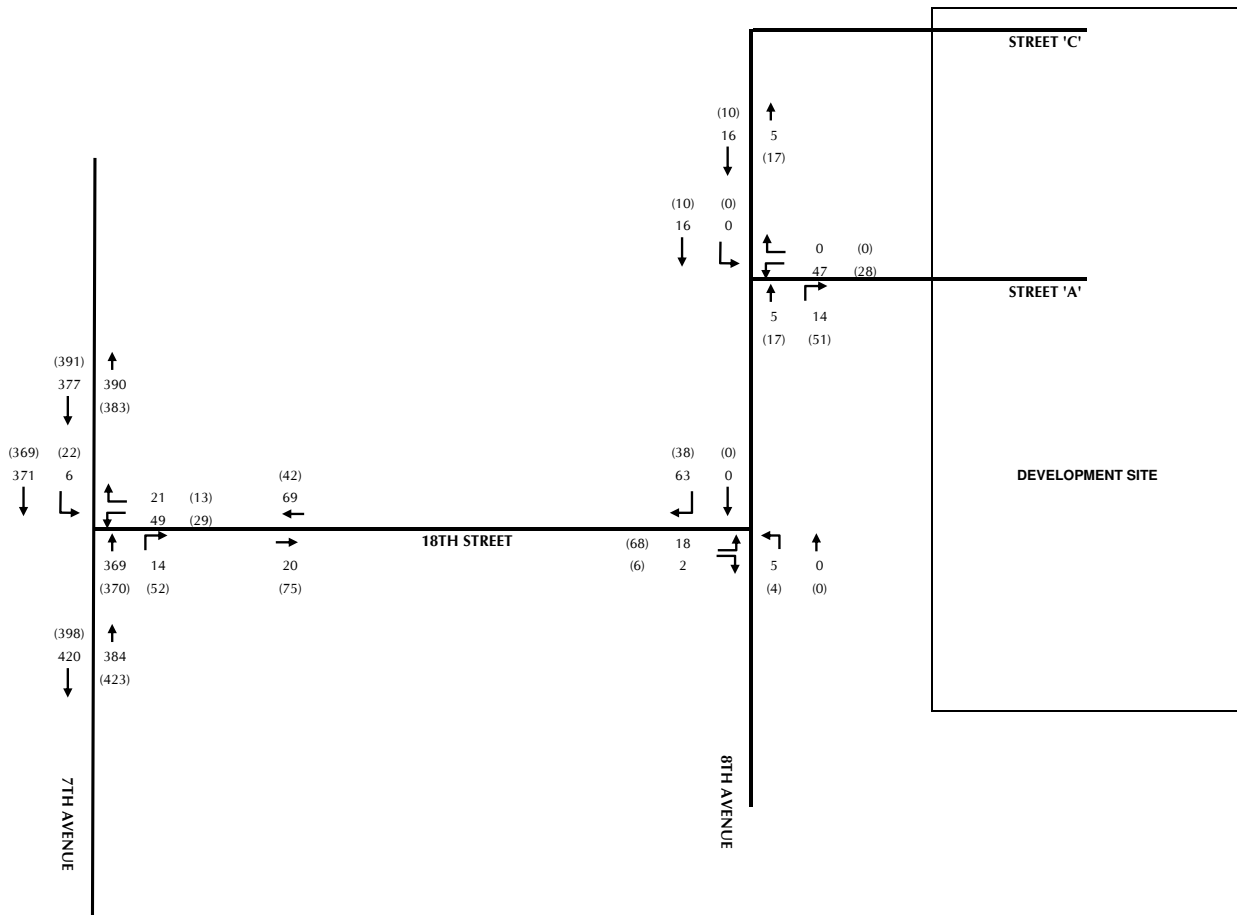




100 (100) AM (PM) Peak Hour

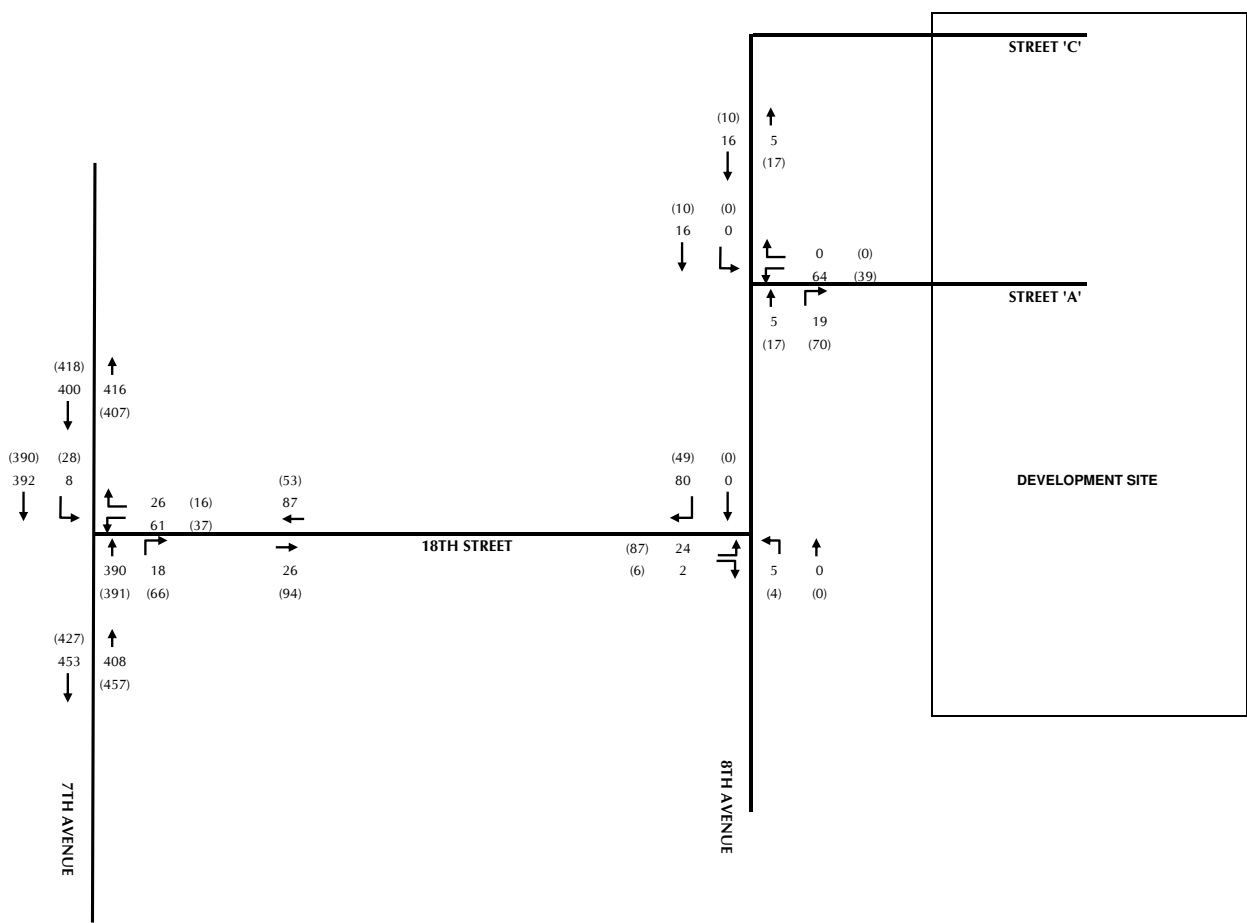
Figure 3
 Existing 2015 Traffic Volumes
 Thompson - Georgiou Subdivision Traffic Impact Study
 Town of Hanover, Grey County





100 (100) PM (Sunday) Peak Hour

Figure 4
2020 Total Traffic Volumes
 Thompson - Georgiou Subdivision Traffic Impact Study
 Town of Hanover, Grey County



100 (100) PM (Sunday) Peak Hour

Figure 5
2030 Total Traffic Volumes
 Thompson - Georgiou Subdivision Traffic Impact Study
 Town of Hanover, Grey County



Appendix A
Operational Analysis

LEVEL OF SERVICE



CAPACITY ANALYSIS AT UNSIGNALIZED INTERSECTIONS

Highway Capacity Manual Methodology

The level of service (LOS) for a Two-Way Stop-Controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined on the basis of control delay for each minor-street movement (or shared movement) as well as major-street left turns by using criteria given in the following Table.

The level-of-service (LOS) criteria for All-Way Stop-Controlled (AWSC) intersections are the same as in the following Table. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The above methods of analysis are taken from Chapters 19 and 20 of the Highway Capacity Manual 2010 respectively, by the Transportation Research Board, December 2010.

Level of Service by Volume-to-Capacity Ratio ^{1,2}		Control Delay 'd' (s/vehicle)
v/c < or = 1	v/c > 1	
A	F	0 < d ≤ 10
B	F	10 < d ≤ 15
C	F	15 < d ≤ 25
D	F	25 < d ≤ 35
E	F	35 < d ≤ 50
F	F	d > 50

¹ For TWSC intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street, LOS is not calculated for major-street approaches or for the intersection as a whole.

² For AWSC intersections, for approaches and intersectionwide assessment, LOS is defined solely by control delay.

LOS F is assigned if the volume-to-capacity ratio for a movement/lane exceeds 1.0, regardless of the control delay.

LEVEL OF SERVICE



CAPACITY ANALYSIS AT SIGNALIZED INTERSECTIONS Highway Capacity Manual Methodology

The capacity of signalized intersections has been determined in terms of delay taken from Chapter 18 of the Highway Capacity Manual 2010, by the Transportation Research Board, December 2010.

To assist in clarifying the arithmetic analysis associated with traffic engineering, it is often useful to refer to “Level of Service”. Control delay and volume-to-capacity ratio are used to characterize Level of Service (LOS) for a lane group. For approach-based and intersectionwide assessment, LOS for automobile mode at a signalized intersection is defined solely by control delay. The following table describes in detail the characteristics of each level:

Level of Service	Features	Control Delay ‘d’ (s/veh)
A	Describes operations with a control delay of 10 seconds/vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favourable or the cycle length is very short. If it is due to favourable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.	$d \leq 10$
B	Describes operations with control delay between 10 and 20 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favourable or cycle length is short. More vehicles stop than with LOS A.	$10 < d \leq 20$
C	Describes operations with control delay between 20 and 35 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favourable or the cycle length is moderate. Individual <i>cycle failures</i> (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.	$20 < d \leq 35$
D	Describes operations with control delay between 35 and 55 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop, and individual cycle failures become noticeable.	$35 < d \leq 55$
E	Describes operations with control delay between 55 and 80 seconds/vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavourable, and the cycle length is long. Individual cycle failures are frequent.	$55 < d \leq 80$
F	LOS F describes operations with control delay exceeding 80 seconds/vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.	$d > 80$

A lane group can incur a delay less than 80s/veh when the v/c exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favourable, or both. As a result, both the delay and v/c are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective.

Intersection

Int Delay, s/veh 1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	49	21	369	14	6	371
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	23	401	15	7	403

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	825	409	0
Stage 1	409	-	-
Stage 2	416	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	342	642	1143
Stage 1	671	-	-
Stage 2	666	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	339	642	1143
Mov Cap-2 Maneuver	339	-	-
Stage 1	671	-	-
Stage 2	661	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	395	1143
HCM Lane V/C Ratio	-	-	0.193	0.006
HCM Control Delay (s)	-	-	16.3	8.2
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.7	0

Intersection

Int Delay, s/veh 1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	29	13	370	52	22	369
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	14	402	57	24	401

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	879	430	0
Stage 1	430	-	-
Stage 2	449	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	318	625	1102
Stage 1	656	-	-
Stage 2	643	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	309	625	1102
Mov Cap-2 Maneuver	309	-	-
Stage 1	656	-	-
Stage 2	625	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	366	1102	-
HCM Lane V/C Ratio	-	-	0.125	0.022	-
HCM Control Delay (s)	-	-	16.2	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection

Int Delay, s/veh 1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	61	29	390	18	8	392
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	32	424	20	9	426

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	877	434	443
Stage 1	434	-	-
Stage 2	443	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	319	622	1117
Stage 1	653	-	-
Stage 2	647	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	315	622	1117
Mov Cap-2 Maneuver	315	-	-
Stage 1	653	-	-
Stage 2	640	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	375	1117	-
HCM Lane V/C Ratio	-	-	0.261	0.008	-
HCM Control Delay (s)	-	-	18	8.2	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0	-

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Vol, veh/h	37	16	391	66	28	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	17	425	72	30	424

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	946	461	0
Stage 1	461	-	-
Stage 2	485	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	290	600	1067
Stage 1	635	-	-
Stage 2	619	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	279	600	1067
Mov Cap-2 Maneuver	279	-	-
Stage 1	635	-	-
Stage 2	596	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18.1	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	333	1067	-
HCM Lane V/C Ratio	-	-	0.173	0.029	-
HCM Control Delay (s)	-	-	18.1	8.5	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-