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June 7, 2019

Mr. Justin Harrow
County of Hastings
235 Pinnacle Street, PO Box 4400
Belleville, Ontario
K8N 349

Dear Mr. Harrow:

RE: Freymond Quarry – Traffic Analysis
OUR FILE 1515B

Further to your email of May 8, 2019, attached is empirical data from Tranplan Associates relative to existing conditions and post development impacts of the Freymond Quarry at the intersection of Highway 62 and Highway 28.

Tranplan utilized 2018 AM and PM peak hour traffic volumes from the Friday of the Labour Day weekend to assess a worst case scenario. The analysis concludes:

- Freymond Quarry represents a small % of overall traffic at this intersection;
- During peak conditions the additional truck traffic from the Freymond Quarry will have little impact on delays at the intersection and only increase the maximum queue length by less than 1 vehicle;
- During typical conditions, the Freymond Quarry will have even less impact at this intersection; and
- Based on current accepted traffic engineering measures it is clear that the volume of traffic from the Freymond Quarry will have little impact on future traffic operations within the Town of Bancroft.

From a planning perspective, the use of Highway 62 and Highway 28 is appropriate and preferred. Within the northern portion of the County of Hastings, Highway 62 and Highway 28 are the only highways and have a planned function to carry high volumes of traffic, including truck traffic. These highways are the main north/south and east/west transportation routes and go through Bancroft which is the only urban center in the northern portion of the County of Hastings. This urban area permits new residential, commercial and industrial uses and essentially any new economic development within and surrounding Bancroft will likely increase traffic at this intersection and the Freymond Quarry represents a small volume of overall traffic.

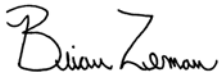
As you are aware, the County peer reviewed the traffic impact assessment prepared by Tranplan and did not identify any outstanding concerns.

It is also important to note that in addition to the taxes that the Freymond Quarry will contribute to the County, over the life of the quarry, the Freymond's will be required to pay the County of Hastings an aggregate levy totalling over $450,000.

If you have any questions, please do not hesitate to contact me.

Yours truly,

MHBC



Brian Zeman, BES, MCIP, RPP
President

cc. *Bill Copeland, Tranplan Associates*
Lou Freymond, Freymond Lumber Ltd.
Dan Freymond, Freymond Lumber Ltd.
James Gordon, Fowler Construction Company Ltd.

Freymond Aggregates Quarry

Mill Street/Bridge Street Intersection Impact Assessment

Town of Bancroft

Technical Addendum

Prepared by:
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Lakefield, ON
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Prepared for:
Fowler Construction
Per MHBC Planning
June, 2019

June 1, 2019

MHBC Planning, Urban Design & Landscape Architects
113 Collier Street
Barrie, ON L4M 1H2

Attn: Brian Zeman, BES, MCIP, RPP - President

Dear Sir:

RE: *Technical Addendum – Freymond Aggregates Quarry Traffic Impacts on the Highway 28/62 Intersection Bancroft, Ontario*

1.0 Background

Tranplan Associates is pleased to submit the following *Technical Addendum* in support of our letter of February 4, 2019. This letter was prepared to address three specific traffic comments provided by the Town of Bancroft. The Town has subsequently requested additional analytical information on the potential impact of future *Freymond Aggregates Quarry* truck traffic on the Highway 62 (Mill Street)/Highway 28 (Bridge Street) intersection in the Town of Bancroft. This *Technical Addendum* addresses that request. It provides peak hour volume data and intersection capacity analysis based on 2018 summer Friday peak period conditions. The findings of these analyses confirms the conclusions contained in the February 4th letter. Future *Freymond Aggregates Quarry* traffic will have no real impact on the operations of the Highway 28/62 intersection.

2.0 Traffic Analyses

The traffic analyses was comprised of two components;

- A review of summer 2018 Friday peak hour volumes at the study intersection and the change in these volumes with the addition of the Freymond Aggregates Quarry traffic.
- An assessment of current study intersection operations and potential impacts with the addition of the Quarry traffic. This assessment was done applying *Highway Capacity Manual* (HCM) criteria for such intersection analyses.

Current 2018 summer intersection volumes for the Highway 28/62 intersection were available in Tranplan Associates files. These volumes were collected on Friday August 31, 2018 (Labour Day weekend) and as such represent a worst case scenario. The AM and PM peak hour volumes were extracted from these counts. These volumes are summarized in *Exhibit 1* (following report text). *Exhibit 2* illustrates the revised volumes for the same peak hour periods that include the addition of the *Freymond Aggregates Quarry* traffic.

In reviewing *Exhibit 2* it will be noted that:

- The Exhibit identifies the Quarry traffic in each of the 7 affected intersection movements.
- There is no site traffic in the remaining 5 intersection movements.
- The largest Quarry traffic component during the AM peak hour is 6 vehicles in the westbound left turn movement. On the average this is one additional vehicle every 10 minutes.
- During the PM peak hour the largest Quarry traffic component is 5 vehicles per hour in the northbound right turn. On average, this is one additional vehicle every 12 minutes.
- Daily traffic volumes are not constant. They often vary +/- 10% per day. The site traffic components illustrated in *Exhibit 2* represent about 2-3% of a given intersection movement. This is less than the daily variation in these intersection volumes.

Intersection capacity analyses were carried out for the 2018 AM and PM peak hour periods applying the volumes illustrated in *Exhibits 1 & 2*. The analyses were done based on current Highway Capacity Manual criteria using Trafficware's Synchro 9 intersection capacity analyses software. The results of the capacity analyses are summarized in *Exhibit 3*. The exhibit contains the 3 measures of effectiveness (moe) that are considered to define the operation of a particular intersection movement. They include Level of Service[1] (LoS) as measured by average delay, volume to capacity (v/c) ratio and 95th percentile maximum queue. In the case of a STOP-controlled intersection, queue length is measured in terms of vehicles.

In reviewing *Exhibit 3* and in the context of the 2018 Labour Day weekend intersection volumes, the analyses represent a worst case scenario. It will be noted that:

- During the Friday AM peak hour period, future Quarry traffic will have little impact on intersection operations. The forecast maximum increase in movement delay (northbound left turn) is less than 2.5 seconds. Increased delay at all other intersection movements will be less. The predicted increase in 95th percentile maximum queue length will be less than 1 vehicle.
- During the PM peak hour, with the exception of the northbound left turn movement, the addition of new Quarry traffic will increase average delay in the intersection movements by less than 1 second. There will be no change in 95th percentile maximum queues.
- During this PM period the northbound left turn movement is operating at LoS "F". This is an existing condition. While this is a poor LoS, the volume to capacity (v/c) is less than 1.0 indicating that there is some residual capacity in this movement.

[1] See the Technical Appendix – *Intersection Capacity Analyses* for detailed definitions of Levels of Service

- With the addition of Quarry traffic during the Labour Day Friday PM peak hour, average delay in the northbound left turn lane is forecast to increase by about 14 seconds.
- Overall average Intersection Delay is forecast to increase by 0.3 seconds during the AM peak hour and 1.4 seconds during the PM peak hour under Labour Day peak hour conditions.

3.0 Comments

Tranplan Associates staff had the opportunity to visit the study intersection while working on another traffic project in the Bancroft area. Two site visits were carried out on Friday May 24, 2019. The first from 3:40 PM until 4:00 PM and the second from 5:35 PM until 6:00 PM. While no traffic volumes were counted, observations on intersection operations and queue lengths were recorded for the northbound Hwy 62 (Mill Street South) approach. No approach queues were observed to exceed 3 vehicles. On occasion there were no queued vehicles on the northbound approach. The "stopped delay" was minimal. The traffic streams at the intersection were noted to contain a range of trucks carrying aggregate. This range included tandem axle straight trucks to trucks towing "pup" trailers.

Based on the observed northbound queues and delays, it is reasonable to conclude that the 2018 Labour Day weekend volumes used in the study analyses were greater than those observed on May 24, 2019. The 2019 volumes are more likely representative of traffic conditions at this intersection for most other times of the year.

Given the location of the Highway 28/62 intersection within the Town of Bancroft, any new development in the immediate area of the Town itself will likely contribute some traffic to this intersection.

4.0 Conclusions

Conclusions that can be derived from the traffic analyses completed for the *Technical Addendum* include:

- Future *Freymond Aggregate Quarry* traffic will increase individual turning movement volumes at the Highway 28/62 intersection by 2 – 3% (see *Exhibit 2*). Since daily traffic volumes can vary by +/- 10% this means that the future Quarry traffic will be essentially random "noise" in the daily traffic variation that occurs at this intersection.
- The future Quarry traffic will add, on the average, an additional vehicle about once every 10 to 12 minutes to individual intersection movements at the intersection (see *Exhibit 2*).

- The capacity analyses of the existing and total volumes clearly show that the Quarry traffic has no effective impact on overall intersection operations. The forecast increase in delay for the intersection as a whole is only 0.3 – 1.4 seconds (see *Exhibit 3*).
- While there will likely be some additional delay to the northbound left turn movement during the PM peak hour, based on the study volumes and field observations, this will likely occur during high volume summer holiday weekends.
- Based on the May 24, 2019 site observations, it is reasonable to assume that there is more residual capacity in the study intersection than is available under Labour Day weekend conditions. With such available residual capacity, *Freymond Aggregates Quarry* traffic will have even less impact on the Highway 28/62 intersection than during the peak summer weekend conditions applied to the study capacity analyses.

In summary, based on currently accepted traffic engineering measures, it is clear that the volume of future *Freymond Aggregates Quarry* traffic, will have little impact on future traffic operations within the Town of Bancroft. The two principal road approval agencies namely the County and the Township have found the *Freymond Aggregates Quarry* traffic study reporting to be acceptable. As described in the reporting presented above, the volumes of future *Freymond Aggregates Quarry* traffic will have no effective operational impact on the Highway 28/62 intersection.

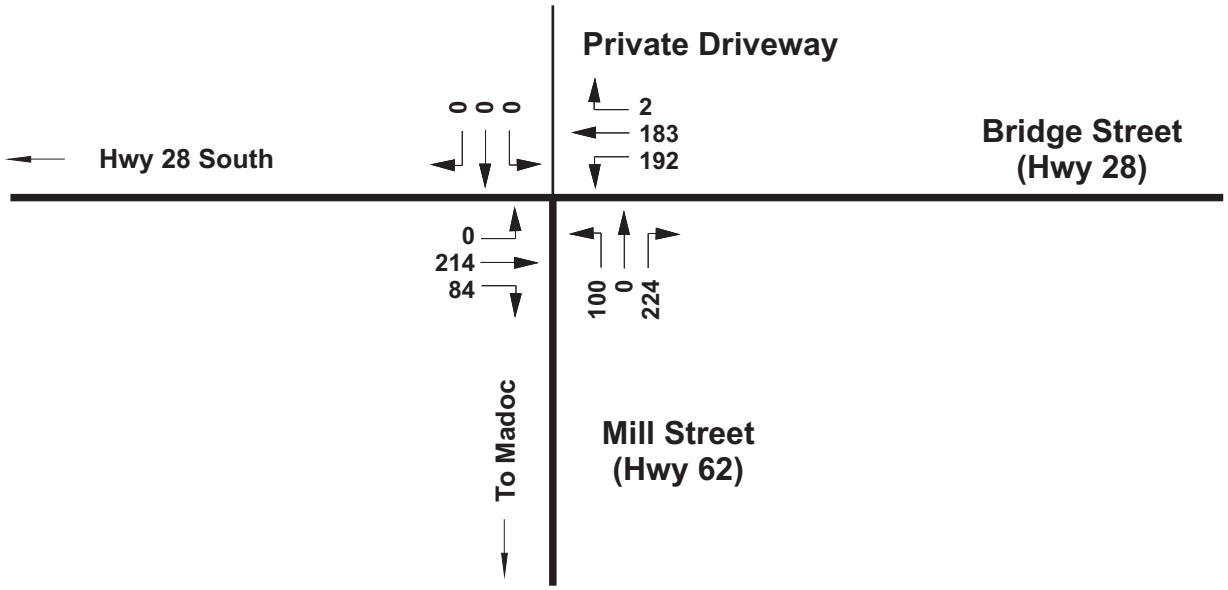
Yours truly,

William Copeland, P.Eng.
Principal,
Tranplan Associates

REPORT EXHIBITS

Exhibit 1
2018 Summer Observed Peak Hr Volumes

Friday AM Peak Hr



Friday PM Peak Hr

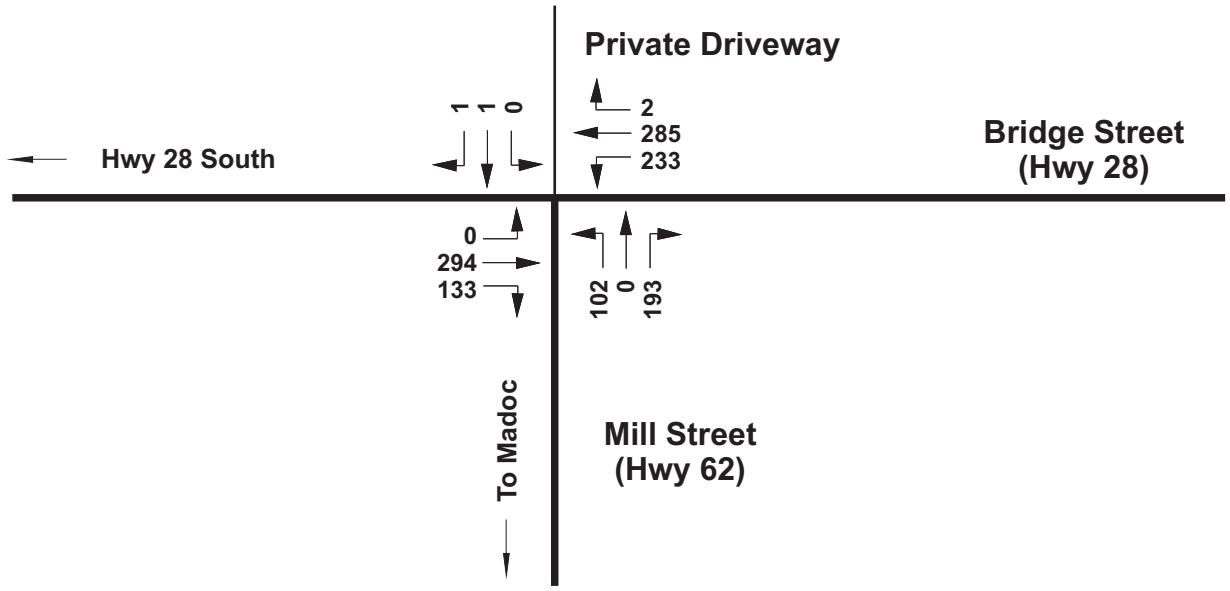
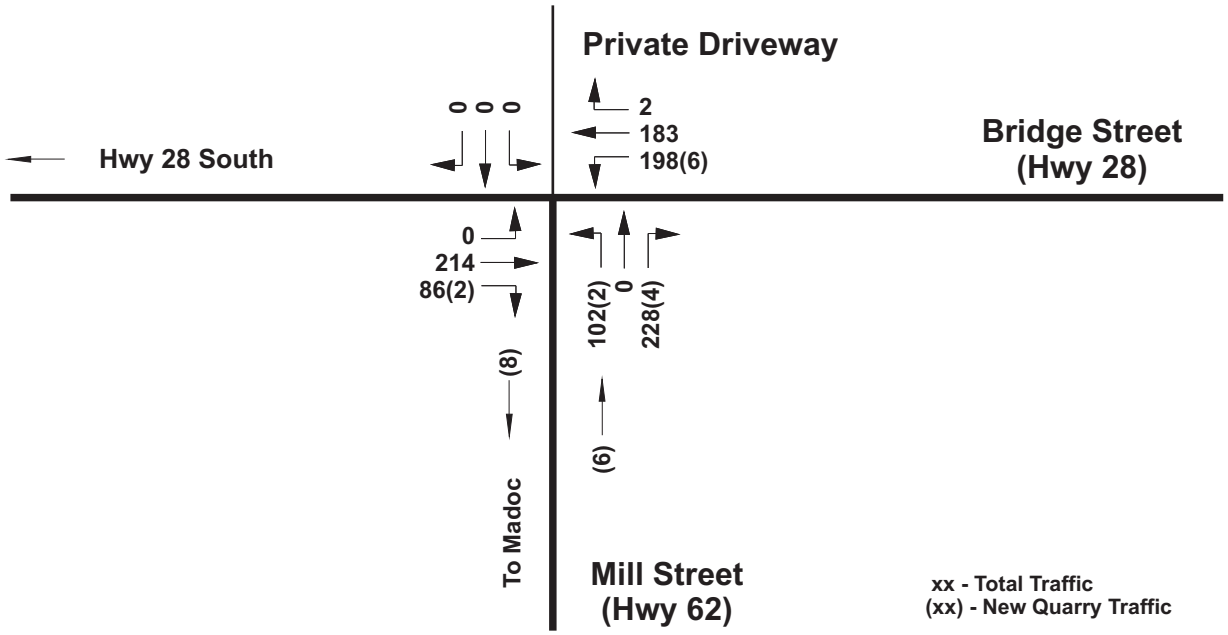


Exhibit 2
2018 Background + Quarry Peak Hr Volumes

Friday AM Peak Hr



Friday PM Peak Hr

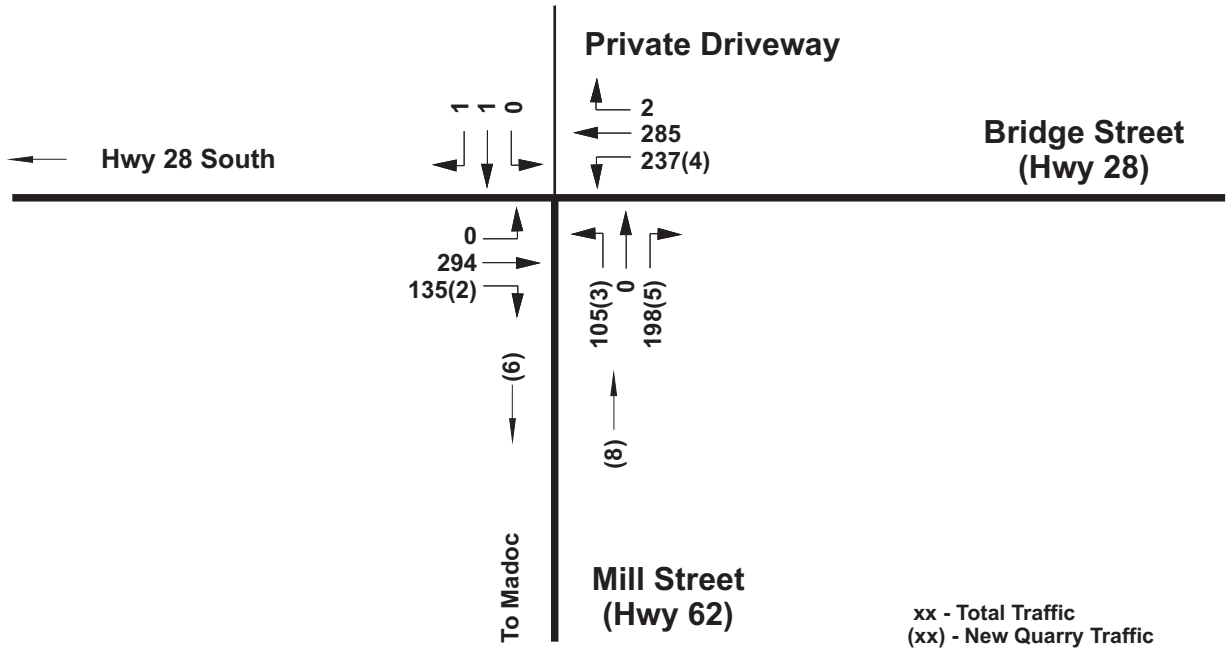


Exhibit 3
Intersection Capacity Analyses
Summary of 2018 Summer Peak Hour Periods

	Eastbound Left/Thru/Right				Westbound Left Turn				
Analysis Scenario	**LOS**	**Delay (sec)**	**95th Queue**	**vol/cap**	**LOS**	**Delay (sec)**	**95th Queue**	**vol/cap**	**Int Delay (sec)**
Existing 2018 AM Peak Hour	A	0.0	0 veh	NA	A	8.5	0.6 veh	0.17	7.9
18 Bckgrd + Quarry AM Pk Hr	A	0.0	0 veh	NA	A	8.5	0.6 veh	0.17	8.2
Existing 2018 PM Peak Hour	A	0.0	0 veh	NA	A/B	9.3	0.9 veh	0.23	13.8
18 Bckgrd + Quarry PM Pk Hr	A	0.0	0 veh	NA	A/B	9.3	0.9 veh	0.24	15.2

	Northbound Left Turn				Northbound Thru/Right Turn			
Analysis Scenario	**LOS**	**Delay (sec)**	**95th Queue**	**v/c**	**LOS**	**Delay (sec)**	**95th Queue**	**v/c**
Existing 2018 AM Peak Hour	E	35.6	2.4 veh	0.49	B	12.0	1.4 veh	0.32
18 Bckgrd + Quarry AM Pk Hr	E	38.0	2.6 veh	0.51	B	12.0	1.4 veh	0.33
Existing 2018 PM Peak Hour	F	120.9	5.7 veh	0.89	B	13.0	1.4 veh	0.32
18 Bckgrd + Quarry PM Pk Hr	F	135.1	6.1 veh	0.94	B	13.2	1.4 veh	0.33

Note: Definitions of Levels of Service are contained in
The Technical Appendix - Intersection Capacity Analsyes

TECHNICAL APPENDIX

Intersection Capacity Analyses

DEFINITION OF LEVELS OF SERVICE
Automobile Mode

UNSIGNALIZED INTERSECTIONS

Analysis of the Level of Service for unsignalized intersections is based on the ***Highway Capacity Manual*** *(HCM 2010)* procedures using current software for unsignalized intersections. The Level of Service for intersections is based on *Control Delay*. At two way stop controlled intersections (TWSC), *Control Delay* is the total elapsed time from a vehicle joining the queue until its departure from the stopped position at the head of the queue. The *Control Delay* also includes the time required to decelerate from a stop and to accelerate to the free-flow speed.

The analysis of individual movements at TWSC intersections can also include the estimate of the ratio of volume or demand to available capacity for the movements. This is commonly know as the (v/c) ratio. The v/c ratio provides some indication of how well these individual intersection movements will function during peak hour periods.

Level of Service definitions for unsignalized intersections as defined by the ***Highway Capacity Manual*** are summarized in the table below.

Definition of Level of Service for Unsignalized Intersections
(see Exhibit 19-1, Highway Capacity Manual 2010)

Level of Service	Average Delay (seconds)
A	0 - 10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	More than 50s and/or v/c > 1

Level of Service (LoS) for a TWSC intersection is determined by the computed or measured *Control Delay* and is defined for each minor movement at the intersection. LoS is not defined for the major street approaches or the intersection as a whole. LoS “F” is considered to be undesirable for design or planning purposes. However, many individual turning movements at TWSC intersections and commercial entrances along urban arterial corridors operate at LoS “F” during peak hour periods.

Intersection	
Int Delay, s/veh	7.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	214	84	192	183	2	100	0	224	0	0	0
Future Vol, veh/h	0	214	84	192	183	2	100	0	224	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	650	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	233	91	209	199	2	109	0	243	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	324	0	0	897	898	279	1018	942	200
Stage 1	-	-	-	-	-	-	279	279	-	618	618	-
Stage 2	-	-	-	-	-	-	618	619	-	400	324	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1371	-	-	1236	-	-	261	279	760	216	263	841
Stage 1	-	-	-	-	-	-	728	680	-	477	481	-
Stage 2	-	-	-	-	-	-	477	480	-	626	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1371	-	-	1236	-	-	223	226	760	125	213	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	226	-	125	213	-
Stage 1	-	-	-	-	-	-	728	680	-	477	390	-
Stage 2	-	-	-	-	-	-	386	389	-	425	650	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.3	19.3	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	760	1371	-	-	1236	-	-	-
HCM Lane V/C Ratio	0.487	0.32	-	-	-	0.169	-	-	-
HCM Control Delay (s)	35.6	12	0	-	-	8.5	0	-	0
HCM Lane LOS	E	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	2.4	1.4	0	-	-	0.6	-	-	-

Intersection	
Int Delay, s/veh	13.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↰	↱			↕	
Traffic Vol, veh/h	0	294	133	233	285	2	102	0	193	1	1	0
Future Vol, veh/h	0	294	133	233	285	2	102	0	193	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	650	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	320	145	253	310	2	111	0	210	1	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	312	0	0	465	0	0	1211	1211	393	1315	1282	311
Stage 1	-	-	-	-	-	-	393	393	-	817	817	-
Stage 2	-	-	-	-	-	-	818	818	-	498	465	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1248	-	-	1096	-	-	159	182	656	135	165	729
Stage 1	-	-	-	-	-	-	632	606	-	370	390	-
Stage 2	-	-	-	-	-	-	370	390	-	554	563	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1096	-	-	124	131	656	72	119	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	131	-	72	119	-
Stage 1	-	-	-	-	-	-	632	606	-	370	281	-
Stage 2	-	-	-	-	-	-	266	281	-	377	563	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.2	50.3	46
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	124	656	1248	-	-	1096	-	-	90
HCM Lane V/C Ratio	0.894	0.32	-	-	-	0.231	-	-	0.024
HCM Control Delay (s)	120.9	13	0	-	-	9.3	0	-	46
HCM Lane LOS	F	B	A	-	-	A	A	-	E
HCM 95th %tile Q(veh)	5.7	1.4	0	-	-	0.9	-	-	0.1

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	214	86	198	183	2	102	0	228	0	0	0
Future Vol, veh/h	0	214	86	198	183	2	102	0	228	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	650	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	233	93	215	199	2	111	0	248	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	201	0	0	326	0	0	910	911	280	1034	956	200
Stage 1	-	-	-	-	-	-	280	280	-	630	630	-
Stage 2	-	-	-	-	-	-	630	631	-	404	326	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1371	-	-	1234	-	-	255	274	759	210	258	841
Stage 1	-	-	-	-	-	-	727	679	-	470	475	-
Stage 2	-	-	-	-	-	-	470	474	-	623	648	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1371	-	-	1234	-	-	216	220	759	120	207	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	220	-	120	207	-
Stage 1	-	-	-	-	-	-	727	679	-	470	382	-
Stage 2	-	-	-	-	-	-	378	381	-	420	648	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.4	20	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	216	759	1371	-	-	1234	-	-	-
HCM Lane V/C Ratio	0.513	0.327	-	-	-	0.174	-	-	-
HCM Control Delay (s)	38	12	0	-	-	8.5	0	-	0
HCM Lane LOS	E	B	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	2.6	1.4	0	-	-	0.6	-	-	-

Intersection	
Int Delay, s/veh	15.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	294	135	237	285	2	105	0	198	1	1	0
Future Vol, veh/h	0	294	135	237	285	2	105	0	198	1	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	650	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	320	147	258	310	2	114	0	215	1	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	312	0	0	467	0	0	1222	1222	394	1328	1294	311
Stage 1	-	-	-	-	-	-	394	394	-	827	827	-
Stage 2	-	-	-	-	-	-	828	828	-	501	467	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1248	-	-	1094	-	-	156	180	655	132	163	729
Stage 1	-	-	-	-	-	-	631	605	-	366	386	-
Stage 2	-	-	-	-	-	-	365	386	-	552	562	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1094	-	-	121	129	655	69	117	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	129	-	69	117	-
Stage 1	-	-	-	-	-	-	631	605	-	366	276	-
Stage 2	-	-	-	-	-	-	260	276	-	371	562	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	4.2	55.4	47.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	121	655	1248	-	-	1094	-	-	87
HCM Lane V/C Ratio	0.943	0.329	-	-	-	0.235	-	-	0.025
HCM Control Delay (s)	135.1	13.2	0	-	-	9.3	0	-	47.4
HCM Lane LOS	F	B	A	-	-	A	A	-	E
HCM 95th %tile Q(veh)	6.1	1.4	0	-	-	0.9	-	-	0.1