

NOVEMBER 22, 2024

REFER TO FILE: 2694-7142

SENT VIA: EMAIL C/O

MCOOPER@MORGANPLANNING.CA

Town of The Blue Mountains
32 Mill Street, Box 310
Thornbury, Ontario N0H 2P0

Attention: Brian Worsley, P. Eng., MSc., MICE, PMP
Manager, Development Engineering

RE: TRAFFIC OPINION LETTER
SPY CIDER & DISTILLERY MULTIPURPOSE BUILDING
808108 SIDEROAD 24, THE BLUE MOUNTAINS, GREY COUNTY

Dear Brian,

This letter has been prepared to assess the transportation impacts related to the addition of a multipurpose facility at the existing cidery located at 808108 Sideroad 24 in Clarksburg, Town of The Blue Mountains.

A traffic impact assessment was conducted to review the development plan from a transportation engineering perspective. The main aspects reviewed in this letter are:

- Existing Conditions
- Boundary Road Network
- Development Proposal
- Traffic Data
- Existing Traffic Operations
- Trip Generation and Distribution
- Future Total Operations
- Conclusions

1 EXISTING CONDITIONS

The subject property is an approximate 31.299 ha (77.34 ac) lot located at 808108 Sideroad 24 in Clarksburg, Town of The Blue Mountains (TOTBM) and currently consists of one distillery/drinking establishment building with 14 parking spaces. The subject property is designated as Special Agricultural (SA) within the Town of The Blue Mountains Zoning Map. It is bounded by Sideroad 24 to the north, a gravel private road to the east and agricultural lands to the west and south. The location of the subject lands is illustrated in the Site Location Plan included as Figure 1.

2 BOUNDARY ROAD NETWORK

The following study intersections were selected and confirmed with the Town through the Terms of Reference:

- Grey Road 2 & Sideroad 24/Summit View Court
- Grey Road 13 & 10th Line
- 10th Line & Sideroad 24
- Spy Cider Distillery Site Access & Sideroad 24

Table 1 describes the features of the study roadways.

Table 1: Study Roadways

Feature	Roadways				
	Sideroad 24	Grey Road 2	Grey Road 13	10 th Line	Summit View Court
Direction	Two-way (East-West)	Two-way (North-South)	Two-way (East-West and North-South)	Two-way (North-South)	Two-way (North-South and East-West)
Classification	Local (Rural)	County Road	County Road	Local (Rural)	Local (Rural)
Jurisdiction	Town of The Blue Mountains	Grey County	Grey County	Town of The Blue Mountains	Town of The Blue Mountains
Speed Limit	50 km/h ¹	80 km/h	80 km/h	50 km/h ¹	50 km/h ¹
Number of travel lanes	Two	Two	Two	Two	Two
Median type	None	None	None	None	None
Active Transportation	None	1.5m Paved Shoulder (Both sides)	1.5m Paved Shoulder (Both sides)	None	None

Note 1: A jurisdictional speed limit of 50 km/h is assumed on the roadways with no posted speed limit.

The scope of the TOL was confirmed with the Town and Attachment A includes relevant correspondence. It is noted that all study intersections are stop controlled on the minor approaches. Attachment B contains relevant excerpts from the TOTBM Transportation Master Plan (Stantec, December 2022).

3 DEVELOPMENT PROPOSAL

The development proposes the addition of a multipurpose building to the existing cider house and distillery. The building will support a wide range of uses which include the support of existing agricultural farming operations (including storage and production), and provide further opportunities related to on-farm diversified uses (such as events and celebrations). The elements envisioned are:

- Main building (390 m² GFA)
- Covered Porch
- Parking (50 spaces)
- Amenities
- Septic Area

The change in land use will require additional parking demand. The development proposes the addition of 50 total parking spaces.

The building is planned to have a maximum occupancy of 165 people. An access to Sideroad 24 currently exists which will also serve the proposed building. Development details are summarized in the Concept Plan (Morgan Planning & Development, September 25th, 2024), which has been included as Figure 2.

4 TRAFFIC DATA

Turning movement counts for the study intersections were undertaken by Spectrum Traffic Data Inc. staff from 3 p.m. to 7 p.m. on Friday, August 16th, 2024, and 12 p.m. to 8 p.m. on Saturday, August 17th, 2024.

The traffic count data is summarized in Attachment C. Figure 3 illustrates the 2024 existing traffic volumes.

The peak hour factors (PHF) associated with the Friday and Saturday peak hours were calculated for the study intersections based on the existing traffic volumes. Table 2 outlines the PHF as calculated and applied to the model for the study intersections.

Table 2: Peak Hour Factor

Intersection	Peak Hour	Peak Hour Factor
Grey County Road 13 and 10 th Line	Friday Afternoon (4:00-5:00 p.m.)	0.88
	Saturday Afternoon (2:15-3:15 p.m.)	0.89
Sideroad 24 and 10 th Line	Friday Afternoon (4:00-5:00 p.m.)	0.81
	Saturday Afternoon (2:15-3:15 p.m.)	0.75
Grey Road 2 and Sideroad 24/ Summit View Court	Friday Afternoon (4:15-5:15 p.m.)	0.91
	Saturday Afternoon (2:00-3:00 p.m.)	0.78
Spy Cider Distillery Site Access and Sideroad 24	Friday Afternoon (4:00-5:00 p.m.)	0.64
	Saturday Afternoon (2:45-3:45 p.m.)	0.63

5 EXISTING TRAFFIC OPERATIONS

The operations of the study intersection were analyzed based on the traffic volumes illustrated in Figure 3.

Table 3 summarizes the 2024 existing traffic Levels of Service. The operations of the study intersection were analyzed using Synchro 11 Software. The collected traffic data is included in Attachment C. At 10th Line, Grey Road 13 transitions from a north-south roadway to an east-west roadway. For the purpose of the Synchro analysis, Grey Road 13 has been given an east-west orientation, and 10th Line has been given a north-south orientation.

Attachment D contains the detailed Capacity Analysis Worksheets.

Table 3: Existing Levels of Service

Intersection	Performance Metrics						
	Movement	LOS ¹		Delay (s)		v/c ratio ²	
		PM	SAT	PM	SAT	PM	SAT
Grey County Road 13 and 10 th Line	Overall	A	A	8.8	8.7	0.04	0.03
	EBTR	-	-	0.0	0.0	-	-
	WBLT	-	-	3.2	2.9	0.03	0.02
	NBLR	A	A	8.8	8.7	0.04	0.03
10 th Line and Sideroad 24	Overall	A	A	8.5	8.6	0.01	0.01
	WBLR	A	A	8.5	8.6	0.01	0.01
	NBTR	-	-	0.0	0.0	-	-
	SBLT	-	-	0.9	1.4	0.00	0.01
Grey County Road 2 and Sideroad 24/Summit View Court	Overall	B	B	10.1	10.2	0.02	0.03
	EBLTR	B	B	10.1	10.2	0.02	0.03
	WBLTR	A	A	9.4	9.0	0.01	0.00
	NBLTR	-	-	0.2	0.2	0.00	0.00
	SBLTR	-	-	0.1	0.2	0.00	0.00
Spy Cider House & Distillery and Sideroad 24	Overall	A	A	8.4	8.5	0.01	0.02
	EBTR	-	-	0.0	0.0	-	-
	WBLT	-	-	1.0	5.7	0.00	0.01
	NBLR	A	A	8.4	8.5	0.01	0.02

Note 1: The overall Level of Service of a two-way stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2010).

As summarized above, the study intersections are operating well with minimal delay and excess capacity during weekday p.m. and Saturday peak hours. These metrics indicate that the study intersections can accommodate increased traffic volumes.

6 TRIP GENERATION AND DISTRIBUTION

To determine the effects of the proposed development, the trip generation was forecast for future conditions.

As noted in Section 3, the proposed development will consist of a multipurpose building with a maximum occupancy of 165 people. Carpooling to the venue is anticipated, and trips originating from the venue are typically expected to depart sporadically throughout the evening. The unique land use proposed for the site does not conform to a specific land use category described in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition.

The proposed multi-purpose building is anticipated to be used for events (corporate, weddings, fairs, etc.). Moreover, the building is located outside of the nearest settlement area, and therefore carpooling is likely. Accordingly, an average vehicle occupancy rate of two-persons was applied to the maximum venue occupancy of 165 people. It was assumed that all inbound trips would occur during the afternoon peak period of the adjacent roadway. Depending on the type of event, it is likely that for weddings or other similar events, outbound trips would occur sporadically in the evening, after the roadway peak hour. To be conservative, the inbound trips were reflected as outbound trips so as to assess both inbound and outbound in the same peak hour. This results in a total of 166 inbound and outbound trips. It is highlighted, and discussed later in this report, that the study road network operates well, therefore minor changes to these assumptions are not anticipated to impact the intersection operations.

The forecasted trips are tabulated in Table 4.

Table 4: Proposed Development Trip Generation

Use	Peak Hour of Generator	Number of Trips		
		Inbound	Outbound	Total
Wedding/Event Venue	Weekday PM and Saturday	83	83	166

The trips generated by the development were distributed to the boundary road network based on the proximity of nearby urban areas. It is assumed that areas to the east such as Collingwood, Blue Mountain Village, Stayner, and Wasaga Beach are primary origins. Additionally, County Road 124, Airport Road, and Highway 400 are located to the east, which provide connectivity south towards the GTA. Guests may also travel from areas to the north such as Thornbury and Meaford, to the west from Owen Sound, and to the south from Kimberly and Flesherton.

The trips generated by the proposed development were assigned to the boundary road network per the distributions in Figure 4, with the resulting trip assignment illustrated in Figure 5.

- 30% to/from the north on Grey Road 2
- 30% to/from the south on Grey Road 2
- 30% to/from the East (North) on Grey Road 13
- 10% to/from the West on Grey Road 13

7 FUTURE TOTAL OPERATIONS

The total traffic volumes combine the existing traffic volumes with the traffic volumes generated by the subject development. Figure 6 illustrates the future total traffic volumes. The total traffic volumes are summarized in Table 5.

Table 5: Future Total Levels of Service

Intersection	Performance Metrics						
	Movement	LOS ¹		Delay (s)		v/c ratio ²	
		PM	SAT	PM	SAT	PM	SAT
Grey County Road 13 and 10 th Line	Overall	A	A	9.2	9.1	0.08	0.07
	EBTR	-	-	0.0	0.0	-	-
	WBLT	-	-	4.2	4.0	0.05	0.04
	NBLR	A	A	9.2	9.1	0.08	0.07
10 TH Line and Sideroad 24	Overall	A	A	8.6	8.7	0.05	0.06
	WBLR	A	A	8.6	8.7	0.05	0.06
	NBTR	-	-	0.0	0.0	-	-
	SBLT	-	-	3.8	4.4	0.03	0.03
Grey County Road 2 and Sideroad 24/Summit View Court	Overall	B	B	10.5	11.0	0.09	0.25
	EBLTR	B	B	10.5	11.0	0.09	0.12
	WBLTR	A	A	9.4	9.0	0.01	0.00
	NBLTR	-	-	1.3	1.4	0.02	0.25
	SBLTR	-	-	0.2	0.2	0.00	0.00
Spy Cider House & Distillery and Sideroad 24	Overall	A	A	9.6	9.9	0.15	0.17
	EBTR	-	-	0.0	0.0	-	-
	WBLT	-	-	6.7	7.1	0.05	0.06
	NBLR	A	A	9.6	9.9	0.15	0.17

Note 1: The overall Level of Service of a two-way stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM 2010).

The addition of site generated traffic to the study road network is anticipated to have a minimal impact on the intersection operations. Therefore, the study intersections have sufficient capacity to accommodate future growth.

As discussed previously, the multipurpose building is planned to host a variety of events, including weddings, corporate events and fairs, which could result in trips outside of the studied hours. The operations described in Table 5 indicate the study intersections are operating quite well with minimal delay. We therefore do not anticipate that changes to the trip distribution or assumed peak hour timings would have a notable impact on the intersections.

8 SITE ACCESS

The existing site access was reviewed from a geometrics perspective. Table 8.9.1 in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR) provides the standards for site access dimensions. See Attachment E for relevant TAC excerpts. On a two-way commercial access, the minimum width of the access should be between 7.2 m and 12.0 m. Table 8.9.1 also provides standards for the right turn radius which ranges between 4.5 m and 12.0 m for commercial site accesses.

9 CONCLUSIONS

The existing Spy Cider site entrance and surrounding public road intersections are currently operating well with low delay and excess capacity to accommodate future growth.

The proposed multipurpose building is planned to have a maximum capacity of 165 guests. A vehicle occupancy of two persons per vehicle was assumed, to be conservative the inbound trips were reflected into the outbound trips resulting in 166 trips to and from the site. Trips were assumed

to arrive and depart during the weekday p.m. and Saturday peak hours so as to provide a conservative assessment.

The addition of the site generated traffic is anticipated to have a minimal impact on the operations of the study intersections. Accordingly, the study road network can accommodate the proposed development.

Based on the above, the proposed development can be supported from a transportation perspective. Any minor changes to the plan will not affect the conclusions in this Letter. Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.



Madeleine Ferguson, P.Eng.
Manager of Transportation

MF/df

C.F. CROZIER & ASSOCIATES INC.



Damian Flis,
Engineering Intern, Transportation

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Enc.

Figure 1 – Site Location Plan

Figure 2 – Concept Plan

Figure 3 – 2024 Existing Traffic Volumes

Figure 4 – Trip Distribution

Figure 5 – Trip Assignment

Figure 6 – Future Total Traffic Volumes

Attachment A – Terms of Reference

Attachment B – TOTBM Transportation Master Plan

Attachment C– Traffic Data

Attachment D– Detailed Capacity Analysis Worksheets

Attachment E- TAC Excerpts

Attachment A

Terms of Reference

Diego Bustamante

To: Diego Bustamante
Subject: RE: Terms of Reference - Spy Cider House and Distillery

From: Brian Worsley <bworsley@thebluemountains.ca>
Sent: Wednesday, July 17, 2024 1:22 PM
To: Diego Bustamante <dbustamante@cfcrozier.ca>
Subject: RE: Terms of Reference - Spy Cider House and Distillery

I agree that AM peak is unlikely to coincide with operation of the proposed venue.

Thanks

From: Diego Bustamante <dbustamante@cfcrozier.ca>
Sent: Wednesday, July 17, 2024 11:02 AM
To: Brian Worsley <bworsley@thebluemountains.ca>
Cc: Madeleine Ferguson <mferguson@cfcrozier.ca>; Curtis Scobie <cscobie@cfcrozier.ca>
Subject: RE: Terms of Reference - Spy Cider House and Distillery

Hi Brian,

Thank you for your feedback on the Terms of Reference below.

In terms of the weekday peak period, we have accounted for the Friday p.m. peak hour to capture the anticipated wedding operations.

We believe the morning peak not necessary as the distillery does not open until 12 p.m. and wedding traffic would not occur on a weekday morning.

Let me know if you have any questions.

Kind regards,

Diego Bustamante, EIT
Engineering Intern, Transportation
Office: 705.434.3421
Collingwood | Milton | Toronto | Bradford | Guelph

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From: Brian Worsley <bworsley@thebluemountains.ca>
Sent: Wednesday, July 17, 2024 8:59 AM

To: Diego Bustamante <dbustamante@cfcrozier.ca>
Cc: Madeleine Ferguson <mferguson@cfcrozier.ca>
Subject: RE: Terms of Reference - Spy Cider House and Distillery

Please expand the TOR to include:

- Weekday peak periods on the surrounding road network;
- The Grey #13 / 10th line, and Side Rd 24 intersection

Thanks
Brian

From: Diego Bustamante <dbustamante@cfcrozier.ca>
Sent: Thursday, June 20, 2024 1:21:50 PM
To: Brian Worsley <bworsley@thebluemountains.ca>
Cc: Madeleine Ferguson <mferguson@cfcrozier.ca>
Subject: Terms of Reference - Spy Cider House and Distillery

Hi Brian,

I hope you are doing well. C.F. Crozier & Associates has been retained to prepare a Transportation Opinion Letter (TOL) in support of the Site Plan Application and Zoning By-Law Amendment for the proposed development located at 808108 20th Sideroad, Town of the Blue Mountains (currently the Spy Cider House and Distillery). The elements envisioned for this development include the addition of an event venue building, an amenity area and supplemental parking spaces.

See attached Concept Plan prepared by Morgan Planning & Development (February 11, 2024). Be advised that the Concept Plan is subject change based on further revisions/updates.

Please advise if the Terms of Reference (TOR) outlined below are acceptable. If you are not the correct person for this correspondence, we would appreciate it if you could direct us to the appropriate contact.

The TOL includes the following key tasks:

- Analysis of the weekday evening and Saturday peak periods will suffice reflecting the typical peak periods of a wedding/event venue.
- Assessment of traffic operations at the 20th Sideroad/Grey Road 2 intersection and existing site access will be undertaken.
- Trip generation will be forecast using first principles methodology based on the proposed use (i.e. venue occupancy).
- Review of access geometry and configuration and compare to the standards set out in the Transportation Association of Canada (TAC).
- Review the minimum vehicle parking requirements for the proposed development per the Town's Zoning By-Law and compare with the proposed supply.

Please let us know if you have any questions or concerns with the proposed TOR.

Regards,

Diego Bustamante, EIT
Engineering Intern, Transportation
Office: 705.434.3421

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Attachment B

TOTBM Transportation Master Plan

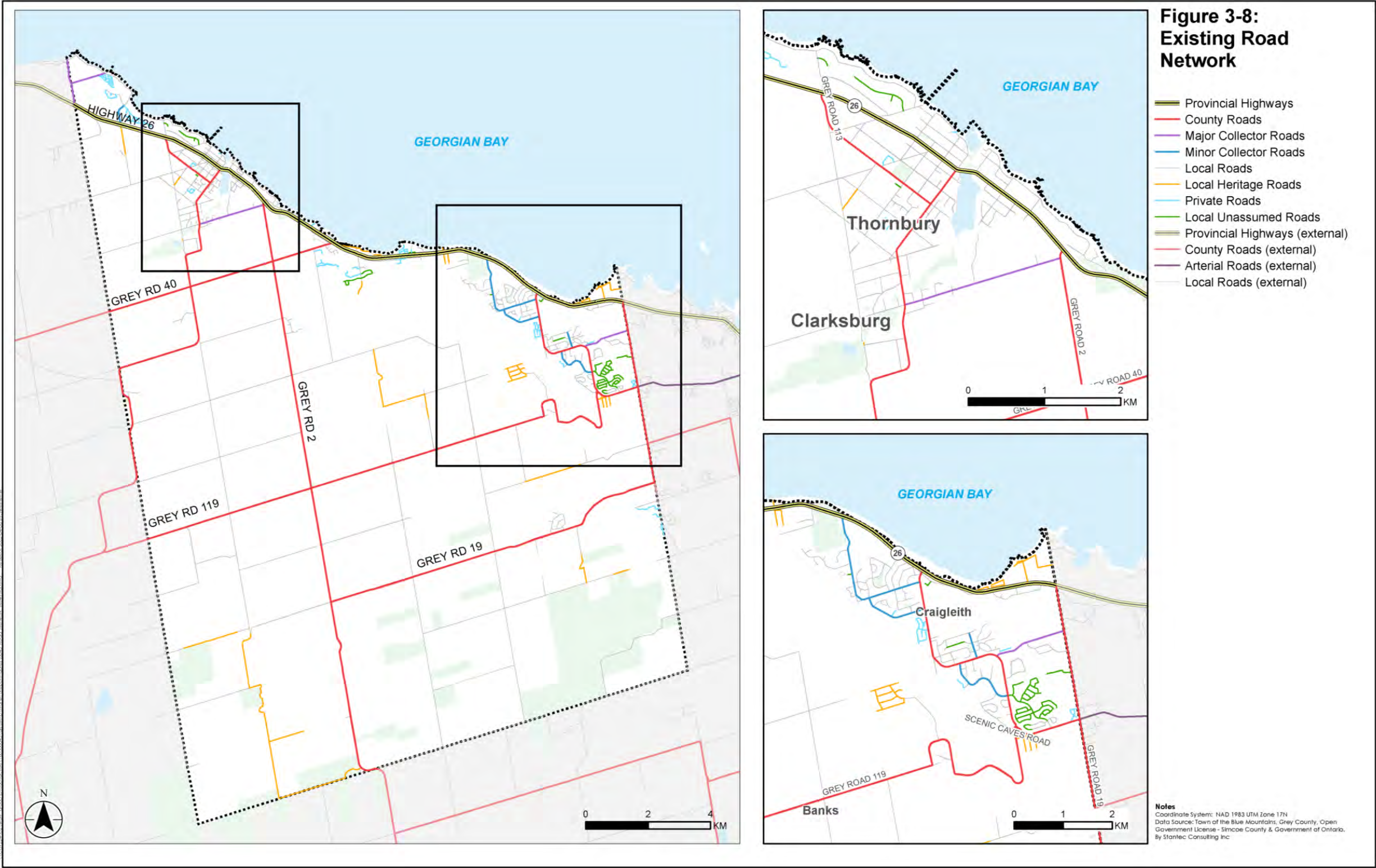


Figure 3-8: Existing Road Classification in the Town

Attachment C

Traffic Data



Turning Movement Count (1 . 10TH LINE & SIDEROAD 24)

Start Time	N Approach 10TH LINE						E Approach SIDEROAD 24						S Approach 10TH LINE						W Approach SIDEROAD 24						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
15:00:00	0	6	2	0	0	8	3	0	1	0	0	4	0	12	0	0	0	12	0	0	0	0	0	0	24	
15:15:00	0	8	2	0	0	10	4	0	1	0	0	5	1	5	0	0	0	6	0	0	0	0	0	0	21	
15:30:00	0	3	2	0	0	5	1	0	0	0	0	1	0	9	0	0	0	9	0	0	0	0	0	0	15	
15:45:00	0	1	0	0	0	1	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	6	66
16:00:00	0	12	1	0	0	13	1	0	0	0	0	1	0	8	0	0	0	8	0	0	0	0	0	0	22	64
16:15:00	0	7	1	0	0	8	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	14	57
16:30:00	0	7	2	0	0	9	2	0	0	0	0	2	0	5	0	0	0	5	0	0	0	0	0	0	16	58
16:45:00	0	9	1	0	0	10	2	0	0	0	0	2	1	6	0	0	0	7	0	0	0	0	0	0	19	71
17:00:00	0	12	0	0	0	12	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	18	67
17:15:00	0	7	2	0	0	9	0	0	1	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	13	66
17:30:00	0	3	0	0	0	3	2	0	1	0	0	3	1	6	0	0	0	7	0	0	0	0	0	0	13	63
17:45:00	0	8	0	0	0	8	2	0	1	0	0	3	0	5	0	0	0	5	0	0	0	0	0	0	16	60
18:00:00	0	6	1	0	0	7	2	0	0	0	0	2	0	3	0	0	0	3	0	0	0	0	0	0	12	54
18:15:00	0	4	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	5	46
18:30:00	0	4	0	0	0	4	1	0	0	0	0	1	0	3	0	0	0	3	0	0	0	0	0	0	8	41
18:45:00	0	2	1	0	0	3	2	0	0	0	0	2	0	4	0	0	0	4	0	0	0	0	0	0	9	34
Grand Total	0	99	15	0	0	114	22	0	5	0	0	27	3	87	0	0	0	90	0	0	0	0	0	0	231	-
Approach%	0%	86.8%	13.2%	0%		-	81.5%	0%	18.5%	0%		-	3.3%	96.7%	0%	0%		-	0%	0%	0%	0%		-	-	-
Totals %	0%	42.9%	6.5%	0%		49.4%	9.5%	0%	2.2%	0%		11.7%	1.3%	37.7%	0%	0%		39%	0%	0%	0%	0%		0%	-	-
Heavy	0	5	0	0		-	0	0	0	0		-	0	2	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	5.1%	0%	0%		-	0%	0%	0%	0%		-	0%	2.3%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-



Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)

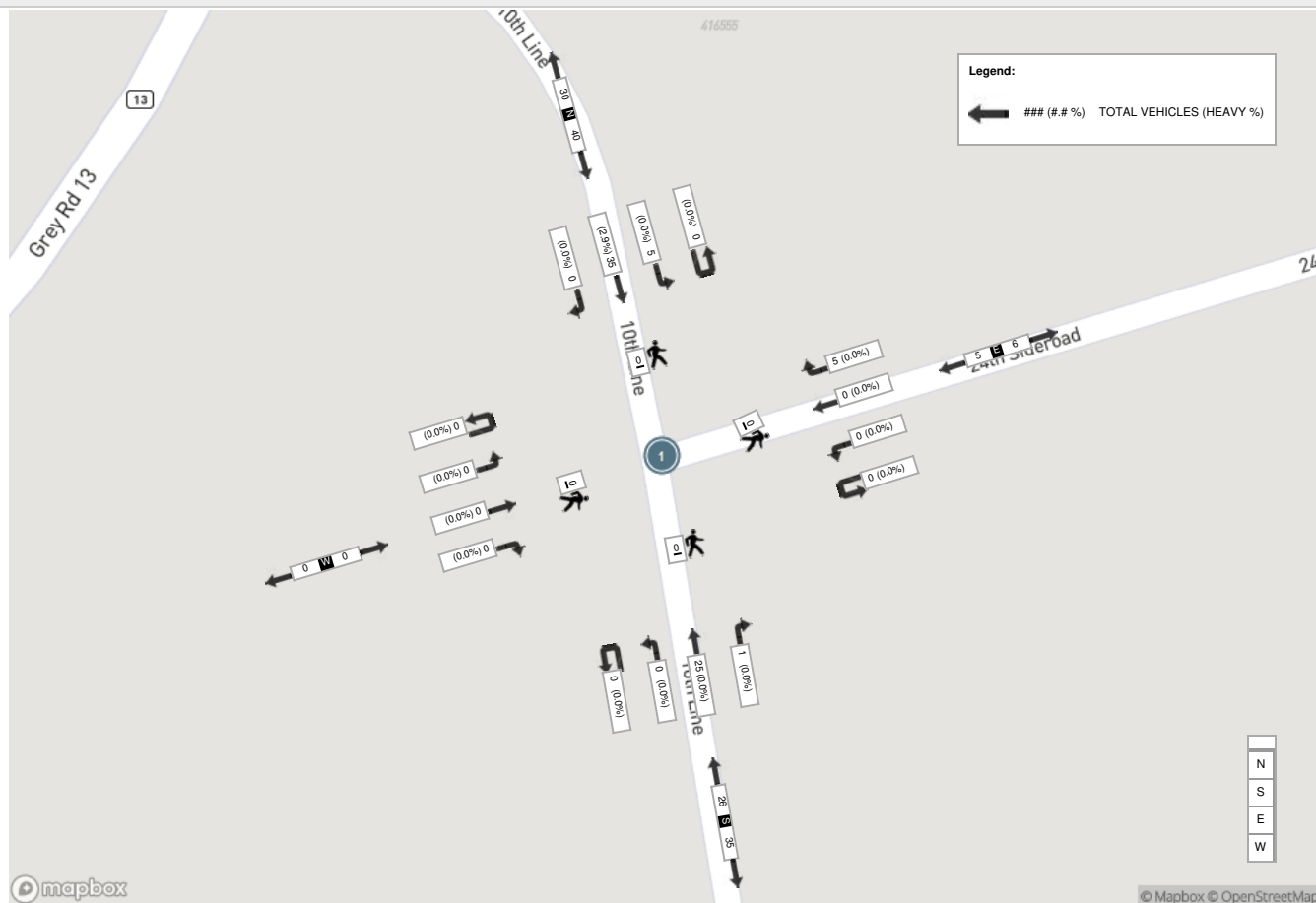
Start Time	N Approach 10TH LINE						E Approach SIDEROAD 24						S Approach 10TH LINE						W Approach SIDEROAD 24						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	0	12	1	0	0	13	1	0	0	0	0	1	0	8	0	0	0	8	0	0	0	0	0	0	22
16:15:00	0	7	1	0	0	8	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	14
16:30:00	0	7	2	0	0	9	2	0	0	0	0	2	0	5	0	0	0	5	0	0	0	0	0	0	16
16:45:00	0	9	1	0	0	10	2	0	0	0	0	2	1	6	0	0	0	7	0	0	0	0	0	0	19
Grand Total	0	35	5	0	0	40	5	0	0	0	0	5	1	25	0	0	0	26	0	0	0	0	0	0	71
Approach%	0%	87.5%	12.5%	0%		-	100%	0%	0%	0%		-	3.8%	96.2%	0%	0%		-	0%	0%	0%	0%		-	-
Totals %	0%	49.3%	7%	0%		56.3%	7%	0%	0%	0%		7%	1.4%	35.2%	0%	0%		36.6%	0%	0%	0%	0%		0%	-
PHF	0	0.73	0.63	0		0.77	0.63	0	0	0		0.63	0.25	0.78	0	0		0.81	0	0	0	0		0	-
Heavy	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Heavy %	0%	2.9%	0%	0%		2.5%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Lights	0	32	5	0		37	5	0	0	0		5	0	25	0	0		25	0	0	0	0		0	-
Lights %	0%	91.4%	100%	0%		92.5%	100%	0%	0%	0%		100%	0%	100%	0%	0%		96.2%	0%	0%	0%	0%		0%	-
Single-Unit Trucks	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Single-Unit Trucks %	0%	2.9%	0%	0%		2.5%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Bicycles on Road	0	2	0	0		2	0	0	0	0		0	1	0	0	0		1	0	0	0	0		0	-
Bicycles on Road %	0%	5.7%	0%	0%		5%	0%	0%	0%	0%		0%	100%	0%	0%	0%		3.8%	0%	0%	0%	0%		0%	-



Turning Movement Count
Location Name: 10TH LINE & SIDEROAD 24
Date: Fri, Aug 16, 2024 Deployment Lead: Constantinos Kotassidis

Crozier & Associates
Suite 100 2800 HIGH POINT
DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)





Turning Movement Count (1 . 10TH LINE & SIDEROAD 24)

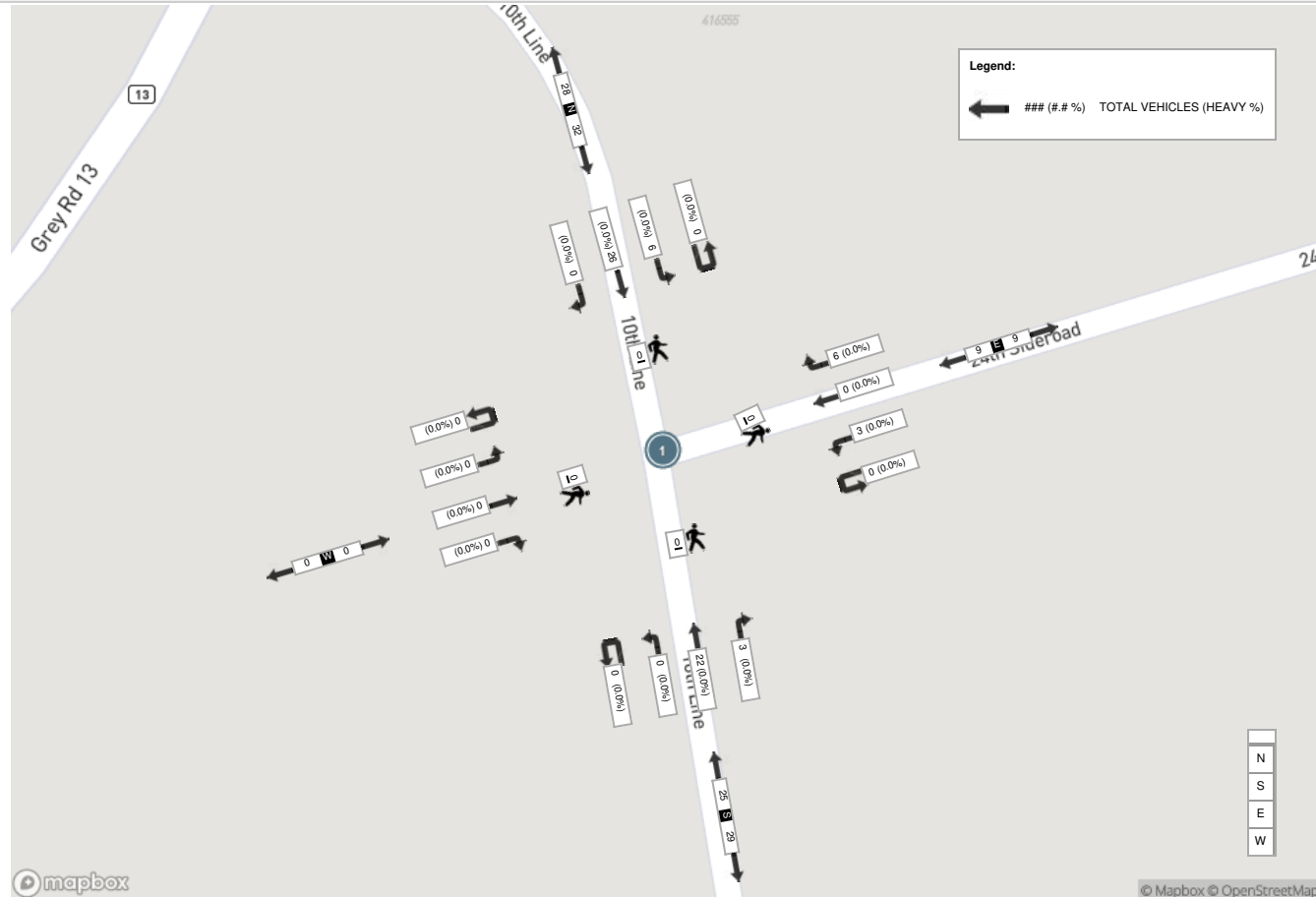
Start Time	N Approach 10TH LINE						E Approach SIDEROAD 24						S Approach 10TH LINE						W Approach SIDEROAD 24						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
12:00:00	0	4	2	0	0	6	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	12	
12:15:00	0	5	1	0	0	6	1	0	1	0	0	2	1	5	0	0	0	6	0	0	0	0	0	0	14	
12:30:00	0	6	7	0	0	13	1	0	0	0	0	1	0	6	0	0	0	6	0	0	0	0	0	0	20	
12:45:00	0	5	0	0	0	5	3	0	0	0	0	3	0	3	0	0	0	3	0	0	0	0	0	0	11	57
13:00:00	0	5	0	0	0	5	1	0	0	0	0	1	0	7	0	0	0	7	0	0	0	0	0	0	13	58
13:15:00	0	6	4	0	0	10	2	0	0	0	0	2	1	2	0	0	0	3	0	0	0	0	0	0	15	59
13:30:00	0	0	1	0	0	1	2	0	0	0	0	2	0	4	0	0	0	4	0	0	0	0	0	0	7	46
13:45:00	0	9	0	0	0	9	1	0	1	0	0	2	0	4	0	0	0	4	0	0	0	0	0	0	15	50
14:00:00	0	10	1	0	0	11	2	0	0	0	0	2	1	1	0	0	0	2	0	0	0	0	0	0	15	52
14:15:00	0	4	2	0	0	6	1	0	3	0	0	4	1	3	0	0	0	4	0	0	0	0	0	0	14	51
14:30:00	0	5	1	0	0	6	0	0	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	13	57
14:45:00	0	11	1	0	0	12	3	0	0	0	0	3	2	5	0	0	0	7	0	0	0	0	0	0	22	64
15:00:00	0	6	2	0	0	8	2	0	0	0	0	2	0	7	0	0	0	7	0	0	0	0	0	0	17	66
15:15:00	0	3	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	57
15:30:00	0	11	3	0	0	14	1	0	0	0	0	1	1	4	0	0	0	5	0	0	0	0	0	0	20	64
15:45:00	0	5	1	0	0	6	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	9	51
16:00:00	0	8	3	0	0	11	2	0	0	0	0	2	1	6	0	0	0	7	0	0	0	0	0	0	20	54
16:15:00	0	7	0	0	0	7	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	11	60
16:30:00	0	6	3	0	0	9	1	0	0	0	0	1	1	4	0	0	0	5	0	0	0	0	0	0	15	55
16:45:00	0	5	3	0	0	8	2	0	0	0	0	2	0	2	0	0	0	2	0	0	0	0	0	0	12	58
17:00:00	0	5	0	0	0	5	1	0	0	0	0	1	1	2	0	0	0	3	0	0	0	0	0	0	9	47
17:15:00	0	2	1	0	0	3	4	0	1	0	0	5	0	3	0	0	0	3	0	0	0	0	0	0	11	47
17:30:00	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	4	36
17:45:00	0	3	0	0	0	3	1	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	5	29
18:00:00	0	1	0	0	0	1	1	0	2	0	0	3	1	2	0	0	0	3	0	0	0	0	0	0	7	27
18:15:00	0	1	0	0	0	1	2	0	0	0	0	2	0	3	0	0	0	3	0	0	0	0	0	0	6	22
18:30:00	0	3	0	0	0	3	0	0	1	0	0	1	0	4	0	0	0	4	0	0	0	0	0	0	8	26
18:45:00	0	1	0	0	0	1	1	0	0	0	0	1	1	5	0	0	0	6	0	0	0	0	0	0	8	29
19:00:00	0	4	0	1	0	5	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	7	29
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	4	27
19:30:00	0	3	1	0	0	4	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	5	24
19:45:00	0	2	1	0	0	3	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	7	23
Grand Total	0	147	38	1	0	186	35	0	10	0	0	45	13	117	0	0	0	130	0	0	0	0	0	0	361	-
Approach%	0%	79%	20.4%	0.5%		-	77.8%	0%	22.2%	0%		-	10%	90%	0%	0%		-	0%	0%	0%	0%		-	-	-
Totals %	0%	40.7%	10.5%	0.3%		51.5%	9.7%	0%	2.8%	0%		12.5%	3.6%	32.4%	0%	0%		36%	0%	0%	0%	0%		0%	-	-
Heavy	0	2	0	0		-	0	0	0	0		-	0	1	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	1.4%	0%	0%		-	0%	0%	0%	0%		-	0%	0.9%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-



Peak Hour: 02:15 PM - 03:15 PM Weather: Light Rain (21.93 °C)

Start Time	N Approach 10TH LINE						E Approach SIDEROAD 24						S Approach 10TH LINE						W Approach SIDEROAD 24						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:15:00	0	4	2	0	0	6	1	0	3	0	0	4	1	3	0	0	0	4	0	0	0	0	0	0	14
14:30:00	0	5	1	0	0	6	0	0	0	0	0	0	0	7	0	0	0	7	0	0	0	0	0	0	13
14:45:00	0	11	1	0	0	12	3	0	0	0	0	3	2	5	0	0	0	7	0	0	0	0	0	0	22
15:00:00	0	6	2	0	0	8	2	0	0	0	0	2	0	7	0	0	0	7	0	0	0	0	0	0	17
Grand Total	0	26	6	0	0	32	6	0	3	0	0	9	3	22	0	0	0	25	0	0	0	0	0	0	66
Approach%	0%	81.3%	18.8%	0%		-	66.7%	0%	33.3%	0%		-	12%	88%	0%	0%		-	0%	0%	0%	0%		-	-
Totals %	0%	39.4%	9.1%	0%		48.5%	9.1%	0%	4.5%	0%		13.6%	4.5%	33.3%	0%	0%		37.9%	0%	0%	0%	0%		0%	-
PHF	0	0.59	0.75	0		0.67	0.5	0	0.25	0		0.56	0.38	0.79	0	0		0.89	0	0	0	0		0	-
Heavy	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Heavy %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Lights	0	22	6	0		28	6	0	3	0		9	3	22	0	0		25	0	0	0	0		0	-
Lights %	0%	84.6%	100%	0%		87.5%	100%	0%	100%	0%		100%	100%	100%	0%	0%		100%	0%	0%	0%	0%		0%	-
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Bicycles on Road	0	4	0	0		4	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Bicycles on Road %	0%	15.4%	0%	0%		12.5%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-

Peak Hour: 02:15 PM - 03:15 PM Weather: Light Rain (21.93 °C)





Turning Movement Count (3 . GREY ROAD 2 & SIDEROAD 24)

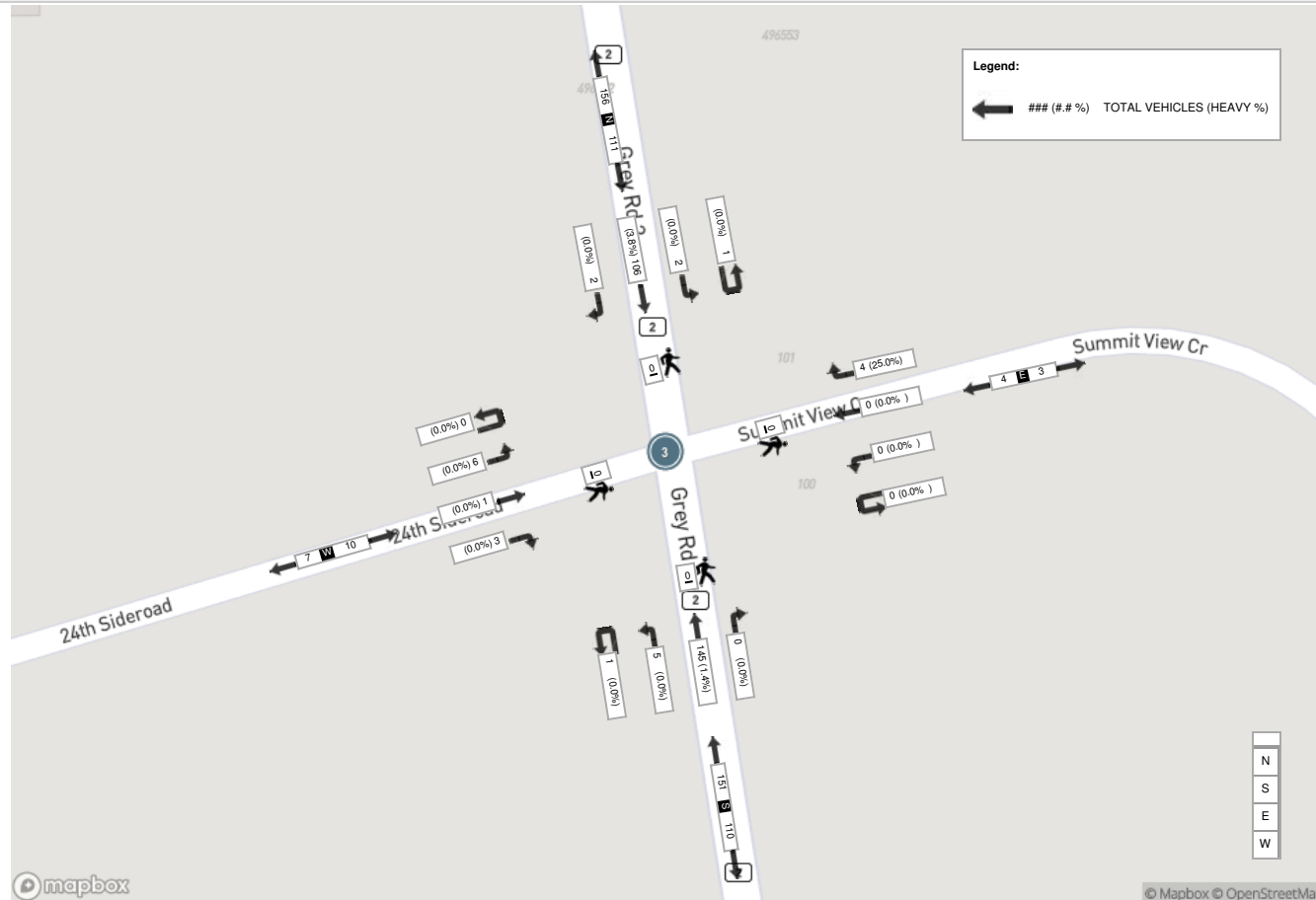
Start Time	N Approach GREY ROAD 2						E Approach SIDEROAD 24						S Approach GREY ROAD 2						W Approach SIDEROAD 24						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
15:00:00	2	20	2	0	0	24	0	1	1	0	0	2	1	45	0	0	0	46	0	0	1	0	0	1	73	
15:15:00	1	34	0	0	0	35	2	0	0	0	0	2	0	31	0	0	0	31	1	0	2	0	0	3	71	
15:30:00	2	26	1	0	0	29	0	0	0	0	0	0	0	32	0	0	0	32	0	1	0	0	0	1	62	
15:45:00	0	31	2	0	0	33	1	0	0	0	0	1	0	33	0	0	0	33	1	0	0	0	0	1	68	274
16:00:00	0	23	0	0	0	23	2	0	1	0	0	3	0	27	2	0	0	29	1	0	0	0	0	1	56	257
16:15:00	1	32	0	0	0	33	2	0	0	0	0	2	0	34	0	0	0	34	1	1	2	0	0	4	73	259
16:30:00	1	28	0	0	0	29	1	0	0	0	0	1	0	40	4	0	0	44	1	0	1	0	0	2	76	273
16:45:00	0	27	2	1	0	30	0	0	0	0	0	0	0	33	1	1	0	35	1	0	2	0	0	3	68	273
17:00:00	0	19	0	0	0	19	1	0	0	0	0	1	0	38	0	0	0	38	0	0	1	0	0	1	59	276
17:15:00	1	19	1	0	0	21	1	0	0	0	0	1	0	34	0	0	0	34	0	0	0	0	0	0	56	259
17:30:00	2	23	2	0	0	27	1	0	0	0	0	1	1	26	0	0	0	27	0	0	0	0	0	0	55	238
17:45:00	1	20	1	0	0	22	2	0	0	0	0	2	0	26	1	0	0	27	0	0	2	0	0	2	53	223
18:00:00	0	13	1	0	0	14	2	0	0	0	0	2	0	25	0	0	0	25	0	0	3	0	0	3	44	208
18:15:00	1	14	0	0	0	15	0	0	0	0	0	0	0	28	0	0	0	28	0	0	0	0	0	0	43	195
18:30:00	0	7	0	0	0	7	1	0	0	0	0	1	0	27	0	0	0	27	0	0	0	0	0	0	35	175
18:45:00	0	11	0	0	0	11	1	0	0	0	0	1	0	23	2	0	0	25	0	0	1	0	0	1	38	160
Grand Total	12	347	12	1	0	372	17	1	2	0	0	20	2	502	10	1	0	515	6	2	15	0	0	23	930	-
Approach%	3.2%	93.3%	3.2%	0.3%		-	85%	5%	10%	0%		-	0.4%	97.5%	1.9%	0.2%		-	26.1%	8.7%	65.2%	0%		-	-	-
Totals %	1.3%	37.3%	1.3%	0.1%		40%	1.8%	0.1%	0.2%	0%		2.2%	0.2%	54%	1.1%	0.1%		55.4%	0.6%	0.2%	1.6%	0%		2.5%	-	-
Heavy	0	14	0	0		-	1	0	0	0		-	0	9	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	4%	0%	0%		-	5.9%	0%	0%	0%		-	0%	1.8%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-



Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (23.6 °C)

Start Time	N Approach GREY ROAD 2						E Approach SIDEROAD 24						S Approach GREY ROAD 2						W Approach SIDEROAD 24						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:15:00	1	32	0	0	0	33	2	0	0	0	0	2	0	34	0	0	0	34	1	1	2	0	0	4	73
16:30:00	1	28	0	0	0	29	1	0	0	0	0	1	0	40	4	0	0	44	1	0	1	0	0	2	76
16:45:00	0	27	2	1	0	30	0	0	0	0	0	0	0	33	1	1	0	35	1	0	2	0	0	3	68
17:00:00	0	19	0	0	0	19	1	0	0	0	0	1	0	38	0	0	0	38	0	0	1	0	0	1	59
Grand Total	2	106	2	1	0	111	4	0	0	0	0	4	0	145	5	1	0	151	3	1	6	0	0	10	276
Approach%	1.8%	95.5%	1.8%	0.9%		-	100%	0%	0%	0%		-	0%	96%	3.3%	0.7%		-	30%	10%	60%	0%		-	-
Totals %	0.7%	38.4%	0.7%	0.4%		40.2%	1.4%	0%	0%	0%		1.4%	0%	52.5%	1.8%	0.4%		54.7%	1.1%	0.4%	2.2%	0%		3.6%	-
PHF	0.5	0.83	0.25	0.25		0.84	0.5	0	0	0		0.5	0	0.91	0.31	0.25		0.86	0.75	0.25	0.75	0		0.63	-
Heavy	0	4	0	0		4	1	0	0	0		1	0	2	0	0		2	0	0	0	0		0	-
Heavy %	0%	3.8%	0%	0%		3.6%	25%	0%	0%	0%		25%	0%	1.4%	0%	0%		1.3%	0%	0%	0%	0%		0%	-
Lights	2	102	2	1		107	3	0	0	0		3	0	141	5	1		147	3	1	5	0		9	-
Lights %	100%	96.2%	100%	100%		96.4%	75%	0%	0%	0%		75%	0%	97.2%	100%	100%		97.4%	100%	100%	83.3%	0%		90%	-
Single-Unit Trucks	0	3	0	0		3	1	0	0	0		1	0	1	0	0		1	0	0	0	0		0	-
Single-Unit Trucks %	0%	2.8%	0%	0%		2.7%	25%	0%	0%	0%		25%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	-
Articulated Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	0%	0.9%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.7%	0%	0%	0%	0%		0%	-
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	1	0		1	-
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.3%	0%	0%	16.7%	0%		10%	-

Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (23.6 °C)





Turning Movement Count (3 . GREY ROAD 2 & SIDEROAD 24)

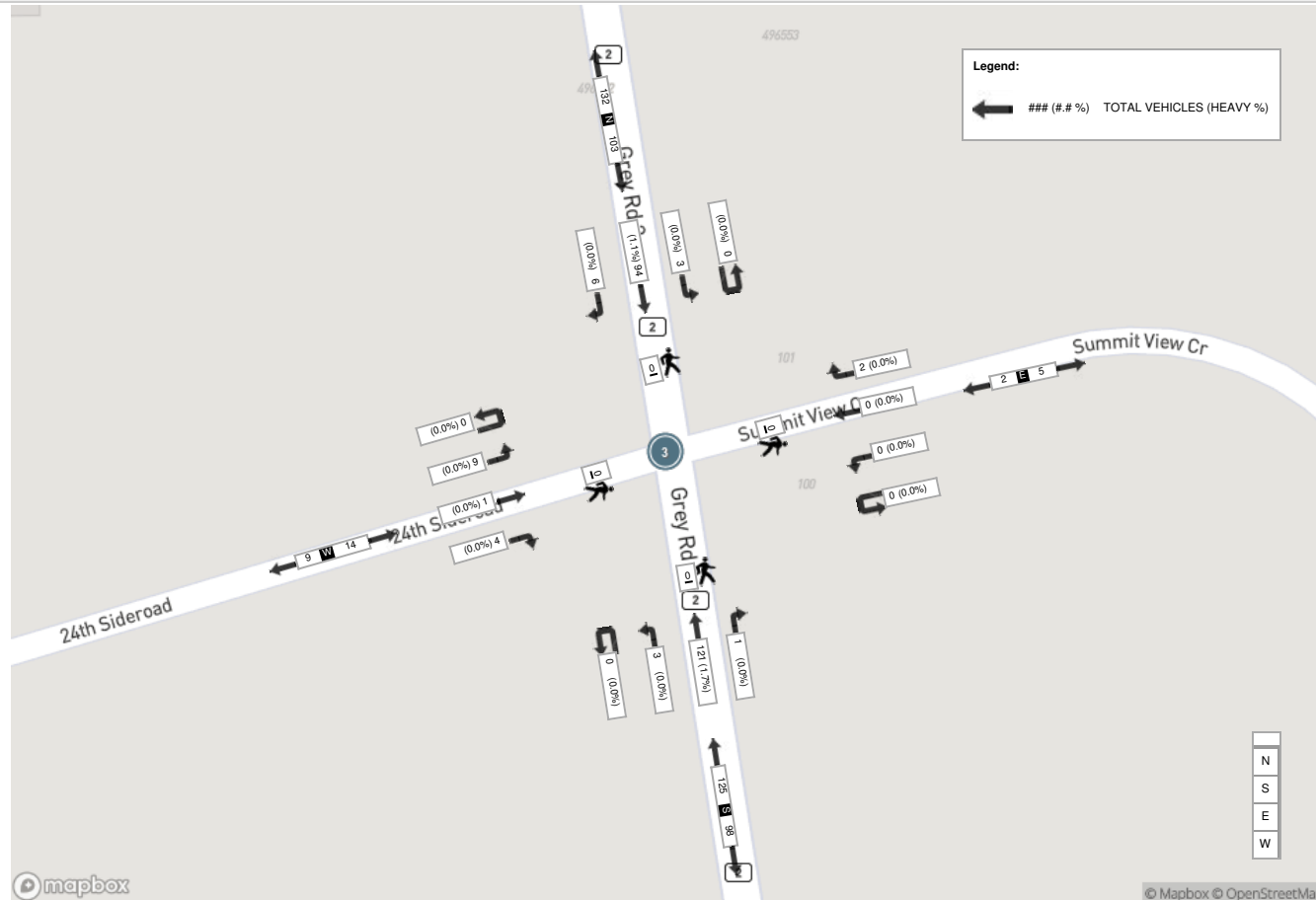
Start Time	N Approach GREY ROAD 2						E Approach SIDEROAD 24						S Approach GREY ROAD 2						W Approach SIDEROAD 24						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
12:00:00	0	25	2	0	0	27	0	0	0	0	0	0	0	25	1	0	0	26	3	0	0	0	0	3	56	
12:15:00	0	29	2	0	0	31	0	0	1	0	0	1	0	24	1	0	0	25	1	0	1	0	0	2	59	
12:30:00	0	24	0	0	0	24	1	0	0	0	0	1	0	36	3	0	0	39	2	0	0	0	0	2	66	
12:45:00	0	21	1	0	0	22	1	0	0	0	0	1	1	30	2	0	0	33	0	0	0	0	0	0	56	237
13:00:00	2	18	1	0	0	21	1	0	0	0	0	1	0	25	1	0	0	26	0	0	0	0	0	0	48	229
13:15:00	0	36	0	0	0	36	1	0	0	0	0	1	1	19	0	0	0	20	1	1	0	0	0	2	59	229
13:30:00	3	23	2	0	0	28	0	0	0	0	0	0	0	22	1	0	0	23	1	1	1	0	0	3	54	217
13:45:00	3	18	0	0	0	21	1	1	0	0	0	2	0	24	1	0	0	25	0	0	0	0	0	0	48	209
14:00:00	2	30	0	0	0	32	0	0	0	0	0	0	1	39	1	0	0	41	0	1	4	0	0	5	78	239
14:15:00	0	21	1	0	0	22	1	0	0	0	0	1	0	23	0	0	0	23	1	0	1	0	0	2	48	228
14:30:00	3	23	1	0	0	27	1	0	0	0	0	1	0	22	1	0	0	23	0	0	1	0	0	1	52	226
14:45:00	1	20	1	0	0	22	0	0	0	0	0	0	0	37	1	0	0	38	3	0	3	0	0	6	66	244
15:00:00	2	20	2	0	0	24	1	1	0	0	0	2	0	25	1	0	0	26	2	0	0	0	0	2	54	220
15:15:00	0	20	2	0	0	22	1	0	0	0	0	1	0	12	1	0	0	13	1	0	0	0	0	1	37	209
15:30:00	4	21	0	0	0	25	0	0	1	0	0	1	0	36	1	0	0	37	1	1	3	0	0	5	68	225
15:45:00	1	20	0	0	0	21	1	0	0	0	0	1	0	11	0	0	0	11	0	0	1	0	0	1	34	193
16:00:00	1	19	0	0	0	20	1	0	0	0	0	1	0	24	1	0	0	25	0	1	6	0	0	7	53	192
16:15:00	0	14	2	0	0	16	0	0	0	0	0	0	0	24	0	0	0	24	0	0	2	0	0	2	42	197
16:30:00	1	9	1	0	0	11	1	0	0	0	0	1	1	14	1	0	0	16	0	1	3	0	0	4	32	161
16:45:00	0	11	0	0	0	11	1	0	0	0	0	1	0	18	2	0	0	20	1	1	2	0	0	4	36	163
17:00:00	3	7	0	0	0	10	0	0	1	0	0	1	0	14	1	0	0	15	1	0	5	0	0	6	32	142
17:15:00	2	16	1	0	0	19	1	0	0	0	0	1	0	13	0	0	0	13	1	0	0	0	0	1	34	134
17:30:00	0	10	1	0	0	11	0	0	1	0	0	1	0	10	0	0	0	10	0	0	0	0	0	0	22	124
17:45:00	1	12	1	0	0	14	0	0	0	0	0	0	0	24	0	0	0	24	0	0	3	0	0	3	41	129
18:00:00	0	8	0	0	0	8	2	0	0	0	0	2	0	14	0	0	0	14	0	0	0	0	0	0	24	121
18:15:00	2	5	0	0	0	7	1	0	0	0	0	1	0	14	0	0	0	14	0	1	2	0	0	3	25	112
18:30:00	0	11	0	0	0	11	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	20	110
18:45:00	0	8	2	0	0	10	1	0	0	0	0	1	0	10	1	0	0	11	0	0	0	0	0	0	22	91
19:00:00	0	3	0	0	0	3	1	0	0	0	0	1	0	16	0	0	0	16	0	0	0	0	0	0	20	87
19:15:00	0	7	0	0	0	7	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	15	77
19:30:00	0	10	1	0	0	11	0	0	0	0	0	0	0	5	0	0	0	5	0	1	1	0	0	2	18	75
19:45:00	0	6	1	0	0	7	0	0	0	0	0	0	0	13	0	0	0	13	0	0	1	0	0	1	21	74
Grand Total	31	525	25	0	0	581	19	2	4	0	0	25	4	640	22	0	0	666	19	9	40	0	0	68	1340	-
Approach%	5.3%	90.4%	4.3%	0%		-	76%	8%	16%	0%		-	0.6%	96.1%	3.3%	0%		-	27.9%	13.2%	58.8%	0%		-	-	-
Totals %	2.3%	39.2%	1.9%	0%		43.4%	1.4%	0.1%	0.3%	0%		1.9%	0.3%	47.8%	1.6%	0%		49.7%	1.4%	0.7%	3%	0%		5.1%	-	-
Heavy	0	6	0	0		-	0	0	0	0		-	0	8	0	0		-	0	0	0	0		-	-	-
Heavy %	0%	1.1%	0%	0%		-	0%	0%	0%	0%		-	0%	1.3%	0%	0%		-	0%	0%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-



Peak Hour: 02:00 PM - 03:00 PM Weather: Light Rain (21.93 °C)

Start Time	N Approach GREY ROAD 2						E Approach SIDEROAD 24						S Approach GREY ROAD 2						W Approach SIDEROAD 24						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
14:00:00	2	30	0	0	0	32	0	0	0	0	0	0	1	39	1	0	0	41	0	1	4	0	0	5	78
14:15:00	0	21	1	0	0	22	1	0	0	0	0	1	0	23	0	0	0	23	1	0	1	0	0	2	48
14:30:00	3	23	1	0	0	27	1	0	0	0	0	1	0	22	1	0	0	23	0	0	1	0	0	1	52
14:45:00	1	20	1	0	0	22	0	0	0	0	0	0	0	37	1	0	0	38	3	0	3	0	0	6	66
Grand Total	6	94	3	0	0	103	2	0	0	0	0	2	1	121	3	0	0	125	4	1	9	0	0	14	244
Approach%	5.8%	91.3%	2.9%	0%		-	100%	0%	0%	0%		-	0.8%	96.8%	2.4%	0%		-	28.6%	7.1%	64.3%	0%		-	-
Totals %	2.5%	38.5%	1.2%	0%		42.2%	0.8%	0%	0%	0%		0.8%	0.4%	49.6%	1.2%	0%		51.2%	1.6%	0.4%	3.7%	0%		5.7%	-
PHF	0.5	0.78	0.75	0		0.8	0.5	0	0	0		0.5	0.25	0.78	0.75	0		0.76	0.33	0.25	0.56	0		0.58	-
Heavy	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	-
Heavy %	0%	1.1%	0%	0%		1%	0%	0%	0%	0%		0%	0%	1.7%	0%	0%		1.6%	0%	0%	0%	0%		0%	-
Lights	6	93	3	0		102	2	0	0	0		2	1	119	3	0		123	4	1	9	0		14	-
Lights %	100%	98.9%	100%	0%		99%	100%	0%	0%	0%		100%	100%	98.3%	100%	0%		98.4%	100%	100%	100%	0%		100%	-
Single-Unit Trucks	0	1	0	0		1	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	-
Single-Unit Trucks %	0%	1.1%	0%	0%		1%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	-
Buses	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Buses %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	-
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	-
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-

Peak Hour: 02:00 PM - 03:00 PM Weather: Light Rain (21.93 °C)





Turning Movement Count (2 . GREY ROAD 13 & 10TH LINE)

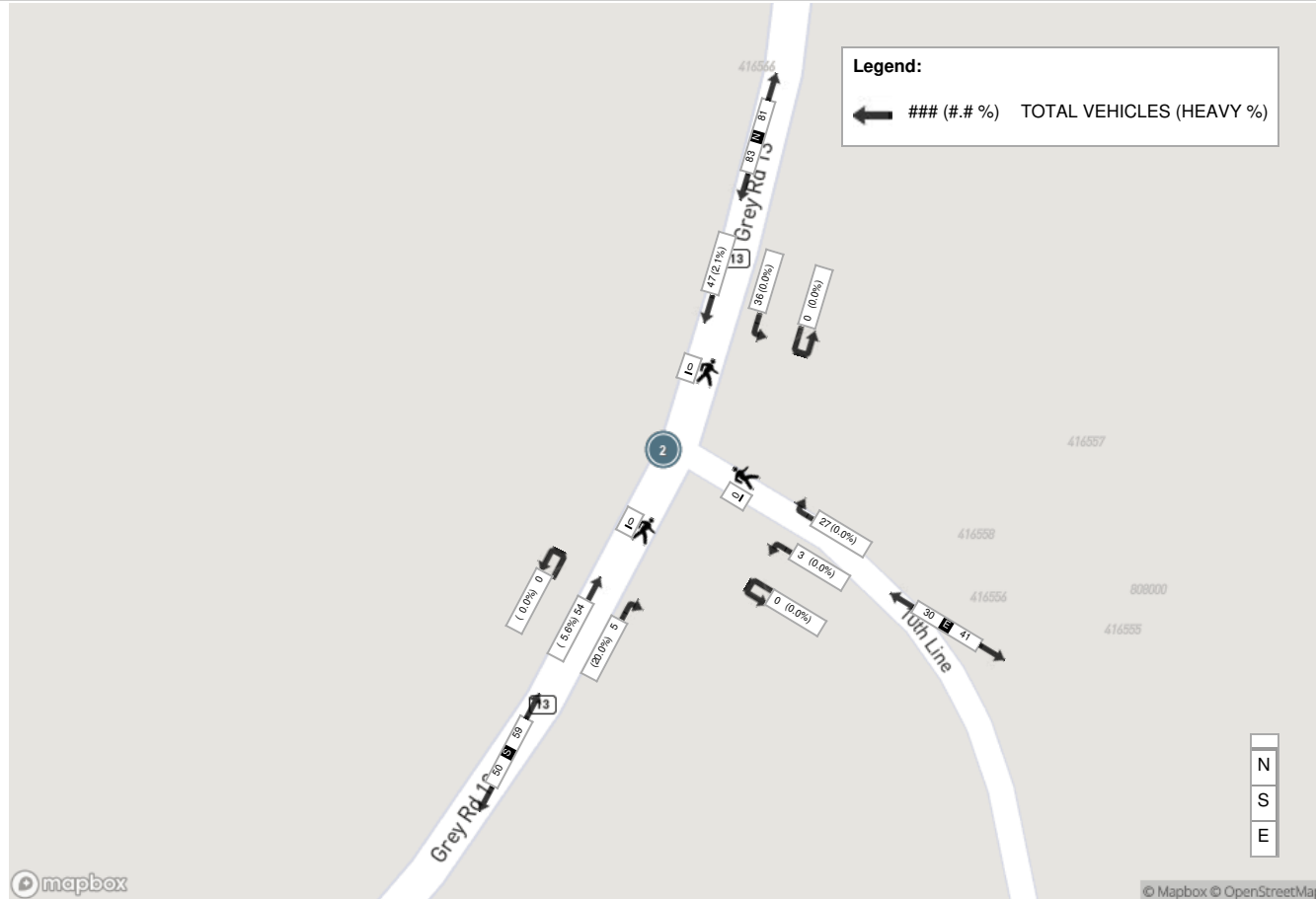
Start Time	N Approach GREY ROAD 13					E Approach 10TH LINE					S Approach GREY ROAD 13					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
15:00:00	9	8	0	0	17	13	1	0	0	14	0	12	0	0	12	43	
15:15:00	15	11	0	0	26	9	0	0	0	9	0	7	0	0	7	42	
15:30:00	10	5	0	0	15	10	0	0	0	10	0	20	0	0	20	45	
15:45:00	12	1	0	0	13	5	0	0	0	5	0	13	0	0	13	31	161
16:00:00	14	12	0	0	26	8	1	0	0	9	1	13	0	0	14	49	167
16:15:00	10	7	0	0	17	6	0	0	0	6	1	16	0	0	17	40	165
16:30:00	8	8	0	0	16	7	0	0	0	7	1	14	0	0	15	38	158
16:45:00	15	9	0	0	24	6	2	0	0	8	2	11	0	0	13	45	172
17:00:00	14	10	0	0	24	6	0	0	0	6	0	7	0	0	7	37	160
17:15:00	14	9	0	0	23	3	0	0	0	3	1	9	0	0	10	36	156
17:30:00	13	2	0	0	15	6	2	0	0	8	0	15	0	0	15	38	156
17:45:00	7	8	0	0	15	6	1	0	0	7	0	12	0	0	12	34	145
18:00:00	4	6	0	0	10	4	1	0	0	5	1	5	0	0	6	21	129
18:15:00	6	4	0	0	10	1	0	0	0	1	0	6	0	0	6	17	110
18:30:00	11	4	0	0	15	3	1	0	0	4	0	9	0	0	9	28	100
18:45:00	4	3	0	0	7	4	2	0	0	6	0	3	0	0	3	16	82
Grand Total	166	107	0	0	273	97	11	0	0	108	7	172	0	0	179	560	-
Approach%	60.8%	39.2%	0%		-	89.8%	10.2%	0%		-	3.9%	96.1%	0%		-	-	-
Totals %	29.6%	19.1%	0%		48.8%	17.3%	2%	0%		19.3%	1.3%	30.7%	0%		32%	-	-
Heavy	3	2	0		-	2	0	0		-	1	5	0		-	-	-
Heavy %	1.8%	1.9%	0%		-	2.1%	0%	0%		-	14.3%	2.9%	0%		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)

Start Time	N Approach GREY ROAD 13					E Approach 10TH LINE					S Approach GREY ROAD 13					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	14	12	0	0	26	8	1	0	0	9	1	13	0	0	14	49
16:15:00	10	7	0	0	17	6	0	0	0	6	1	16	0	0	17	40
16:30:00	8	8	0	0	16	7	0	0	0	7	1	14	0	0	15	38
16:45:00	15	9	0	0	24	6	2	0	0	8	2	11	0	0	13	45
Grand Total	47	36	0	0	83	27	3	0	0	30	5	54	0	0	59	172
Approach%	56.6%	43.4%	0%		-	90%	10%	0%		-	8.5%	91.5%	0%		-	-
Totals %	27.3%	20.9%	0%		48.3%	15.7%	1.7%	0%		17.4%	2.9%	31.4%	0%		34.3%	-
PHF	0.78	0.75	0		0.8	0.84	0.38	0		0.83	0.63	0.84	0		0.87	-
Heavy	1	0	0		1	0	0	0		0	1	3	0		4	-
Heavy %	2.1%	0%	0%		1.2%	0%	0%	0%		0%	20%	5.6%	0%		6.8%	-
Lights	46	35	0		81	27	3	0		30	3	51	0		54	-
Lights %	97.9%	97.2%	0%		97.6%	100%	100%	0%		100%	60%	94.4%	0%		91.5%	-
Single-Unit Trucks	1	0	0		1	0	0	0		0	1	2	0		3	-
Single-Unit Trucks %	2.1%	0%	0%		1.2%	0%	0%	0%		0%	20%	3.7%	0%		5.1%	-
Buses	0	0	0		0	0	0	0		0	0	1	0		1	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	1.9%	0%		1.7%	-
Bicycles on Road	0	1	0		1	0	0	0		0	1	0	0		1	-
Bicycles on Road %	0%	2.8%	0%		1.2%	0%	0%	0%		0%	20%	0%	0%		1.7%	-

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)





Turning Movement Count (2 . GREY ROAD 13 & 10TH LINE)

Start Time	N Approach GREY ROAD 13					E Approach 10TH LINE					S Approach GREY ROAD 13					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
12:00:00	15	8	0	0	23	6	0	0	0	6	1	22	0	0	23	52	
12:15:00	9	4	0	0	13	6	1	0	0	7	0	11	0	0	11	31	
12:30:00	15	11	0	0	26	6	0	0	0	6	1	11	0	0	12	44	
12:45:00	13	5	0	0	18	6	1	0	0	7	0	11	0	0	11	36	163
13:00:00	11	5	0	0	16	8	0	0	0	8	0	13	0	0	13	37	148
13:15:00	8	10	1	0	19	2	1	0	0	3	0	11	0	0	11	33	150
13:30:00	13	0	0	0	13	5	1	0	0	6	1	11	0	0	12	31	137
13:45:00	12	8	0	0	20	5	0	0	0	5	1	12	0	0	13	38	139
14:00:00	15	11	0	0	26	2	2	0	0	4	0	17	0	0	17	47	149
14:15:00	13	6	0	0	19	4	0	0	0	4	0	13	0	0	13	36	152
14:30:00	14	6	0	0	20	7	0	0	0	7	1	15	0	0	16	43	164
14:45:00	5	11	0	0	16	7	0	0	0	7	0	21	0	0	21	44	170
15:00:00	17	8	0	0	25	10	0	0	0	10	0	13	0	0	13	48	171
15:15:00	16	3	0	0	19	2	0	0	0	2	0	11	0	0	11	32	167
15:30:00	6	13	0	0	19	4	1	0	0	5	1	9	0	0	10	34	158
15:45:00	8	4	0	0	12	3	0	0	0	3	2	10	0	0	12	27	141
16:00:00	9	10	0	0	19	6	0	0	0	6	1	10	0	0	11	36	129
16:15:00	12	7	0	0	19	6	0	0	0	6	0	5	0	0	5	30	127
16:30:00	6	7	0	0	13	5	0	0	0	5	2	7	0	0	9	27	120
16:45:00	9	8	0	0	17	2	2	0	0	4	0	11	0	0	11	32	125
17:00:00	10	5	0	0	15	3	0	0	0	3	0	7	0	0	7	25	114
17:15:00	13	3	0	0	16	6	1	0	0	7	0	9	0	0	9	32	116
17:30:00	7	0	0	0	7	3	0	0	0	3	1	1	0	0	2	12	101
17:45:00	6	2	0	0	8	0	1	0	0	1	1	7	0	0	8	17	86
18:00:00	6	1	0	0	7	2	0	0	0	2	0	11	0	0	11	20	81
18:15:00	7	1	0	0	8	5	1	0	0	6	0	5	0	0	5	19	68
18:30:00	4	3	0	0	7	4	0	0	0	4	0	10	0	0	10	21	77
18:45:00	7	2	0	0	9	6	0	0	0	6	0	11	0	0	11	26	86
19:00:00	1	3	0	0	4	3	0	0	0	3	1	3	0	0	4	11	77
19:15:00	9	0	0	0	9	3	0	0	0	3	0	3	0	0	3	15	73
19:30:00	6	3	0	0	9	0	0	0	0	0	1	5	0	0	6	15	67
19:45:00	5	2	0	0	7	3	1	0	0	4	1	5	0	0	6	17	58
Grand Total	307	170	1	0	478	140	13	0	0	153	16	321	0	0	337	968	-



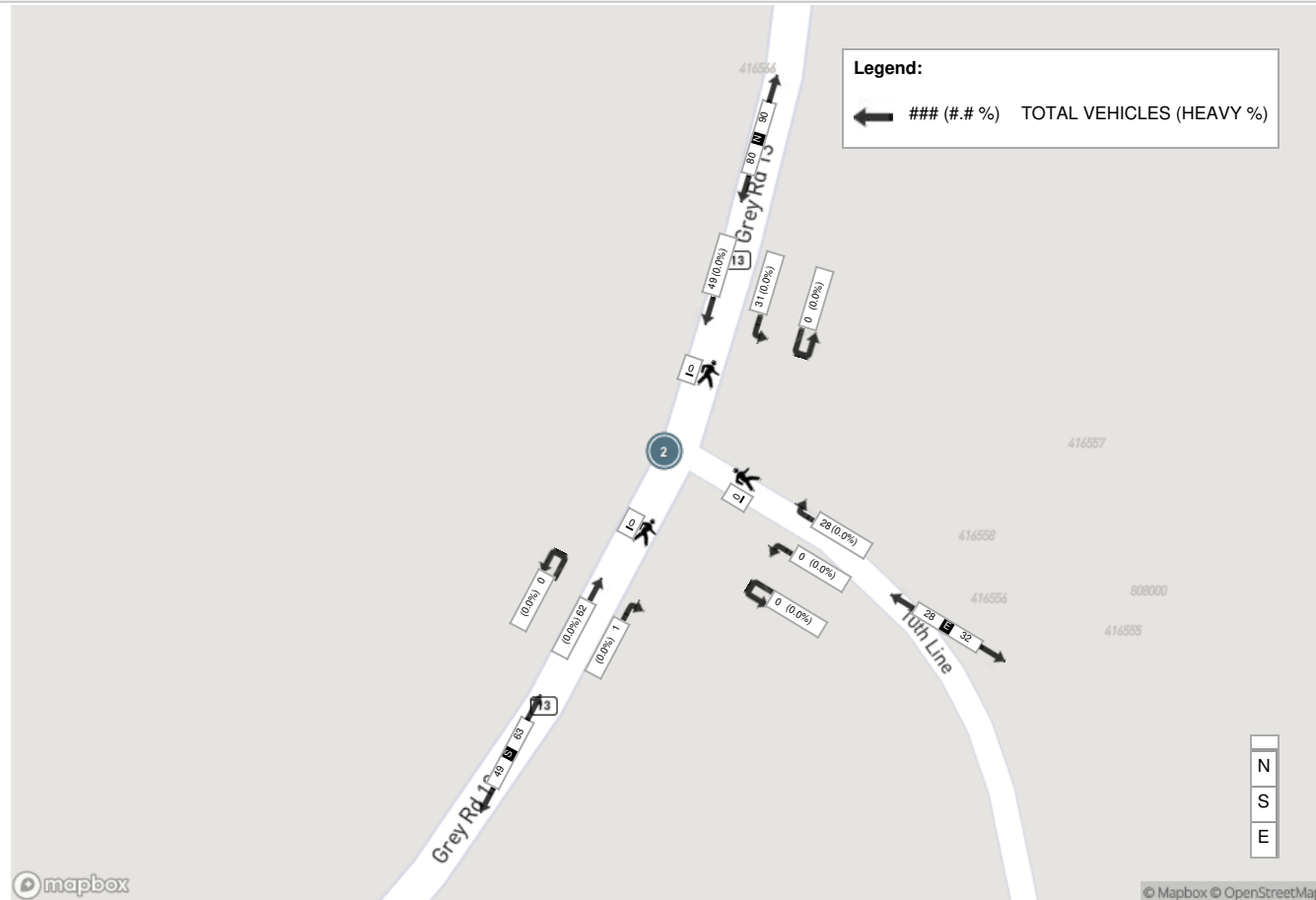
Approach%	64.2%	35.6%	0.2%	-	91.5%	8.5%	0%	-	4.7%	95.3%	0%	-	-	-
Totals %	31.7%	17.6%	0.1%	49.4%	14.5%	1.3%	0%	15.8%	1.7%	33.2%	0%	34.8%	-	-
Heavy	0	2	0	-	2	0	0	-	0	0	0	-	-	-
Heavy %	0%	1.2%	0%	-	1.4%	0%	0%	-	0%	0%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 02:15 PM - 03:15 PM Weather: Light Rain (21.93 °C)

Start Time	N Approach GREY ROAD 13					E Approach 10TH LINE					S Approach GREY ROAD 13					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
14:15:00	13	6	0	0	19	4	0	0	0	4	0	13	0	0	13	36
14:30:00	14	6	0	0	20	7	0	0	0	7	1	15	0	0	16	43
14:45:00	5	11	0	0	16	7	0	0	0	7	0	21	0	0	21	44
15:00:00	17	8	0	0	25	10	0	0	0	10	0	13	0	0	13	48
Grand Total	49	31	0	0	80	28	0	0	0	28	1	62	0	0	63	171
Approach%	61.3%	38.8%	0%		-	100%	0%	0%		-	1.6%	98.4%	0%		-	-
Totals %	28.7%	18.1%	0%		46.8%	16.4%	0%	0%		16.4%	0.6%	36.3%	0%		36.8%	-
PHF	0.72	0.7	0		0.8	0.7	0	0		0.7	0.25	0.74	0		0.75	-
Heavy	0	0	0		0	0	0	0		0	0	0	0		0	-
Heavy %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Lights	49	27	0		76	28	0	0		28	1	62	0		63	-
Lights %	100%	87.1%	0%		95%	100%	0%	0%		100%	100%	100%	0%		100%	-
Single-Unit Trucks	0	0	0		0	0	0	0		0	0	0	0		0	-
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Buses	0	0	0		0	0	0	0		0	0	0	0		0	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Bicycles on Road	0	4	0		4	0	0	0		0	0	0	0		0	-
Bicycles on Road %	0%	12.9%	0%		5%	0%	0%	0%		0%	0%	0%	0%		0%	-

Peak Hour: 02:15 PM - 03:15 PM Weather: Light Rain (21.93 °C)





Turning Movement Count (4 . SPY CIDER DISTILLERY SITE ACCESS & SIDEROAD 24)

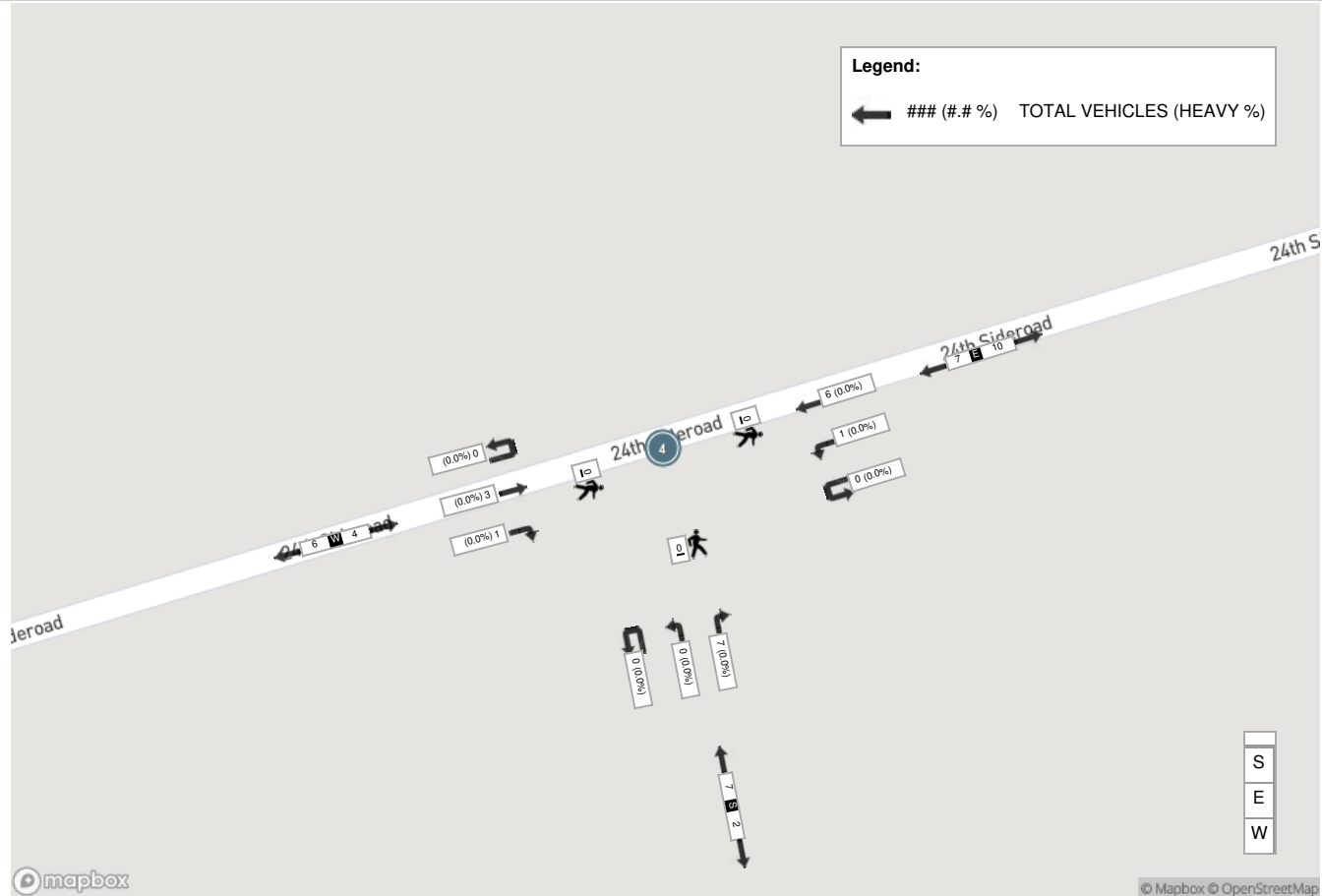
Start Time	E Approach SIDEROAD 24					S Approach SPY CIDER DISTILLERY SITE ACCESS					W Approach SIDEROAD 24					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
15:00:00	2	0	0	0	2	1	1	0	0	2	2	0	0	0	2	6	
15:15:00	3	0	0	0	3	1	0	0	0	1	0	2	0	0	2	6	
15:30:00	1	1	0	0	2	0	0	0	0	0	0	2	0	0	2	4	
15:45:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	17
16:00:00	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2	13
16:15:00	1	1	0	0	2	4	0	0	0	4	1	0	0	0	1	7	14
16:30:00	2	0	0	0	2	1	0	0	0	1	0	1	0	0	1	4	14
16:45:00	2	0	0	0	2	1	0	0	0	1	0	2	0	0	2	5	18
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
17:15:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10
17:30:00	2	0	0	0	2	0	1	0	0	1	0	1	0	0	1	4	10
17:45:00	2	1	0	0	3	2	0	0	0	2	0	0	0	0	0	5	10
18:00:00	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	4	14
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
18:45:00	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	3	7
Grand Total	21	3	0	0	24	12	2	0	0	14	3	11	0	0	14	52	-
Approach%	87.5%	12.5%	0%		-	85.7%	14.3%	0%		-	21.4%	78.6%	0%		-	-	-
Totals %	40.4%	5.8%	0%		46.2%	23.1%	3.8%	0%		26.9%	5.8%	21.2%	0%		26.9%	-	-
Heavy	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Heavy %	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	-	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	-	-



Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)

Start Time	E Approach SIDEROAD 24					S Approach SPY CIDER DISTILLERY SITE ACCESS					W Approach SIDEROAD 24					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
16:15:00	1	1	0	0	2	4	0	0	0	4	1	0	0	0	1	7
16:30:00	2	0	0	0	2	1	0	0	0	1	0	1	0	0	1	4
16:45:00	2	0	0	0	2	1	0	0	0	1	0	2	0	0	2	5
Grand Total	6	1	0	0	7	7	0	0	0	7	1	3	0	0	4	18
Approach%	85.7%	14.3%	0%		-	100%	0%	0%		-	25%	75%	0%		-	-
Totals %	33.3%	5.6%	0%		38.9%	38.9%	0%	0%		38.9%	5.6%	16.7%	0%		22.2%	-
PHF	0.75	0.25	0		0.88	0.44	0	0		0.44	0.25	0.38	0		0.5	-
Heavy	-	-	-			-	-	-			-	-	-			-
Heavy %	-	-	-		%	-	-	-		%	-	-	-		%	-
Lights	6	1	0		7	7	0	0		7	1	2	0		3	-
Lights %	100%	100%	0%		100%	100%	0%	0%		100%	100%	66.7%	0%		75%	-
Bicycles on Road	0	0	0		0	0	0	0		0	0	1	0		1	-
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	33.3%	0%		25%	-

Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (23.6 °C)





Turning Movement Count (4 . SPY CIDER DISTILLERY SITE ACCESS & SIDEROAD 24)

Start Time	E Approach SIDEROAD 24					S Approach SPY CIDER DISTILLERY SITE ACCESS					W Approach SIDEROAD 24					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
12:00:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	
12:15:00	1	1	0	0	2	0	1	0	0	1	0	3	0	0	3	6	
12:30:00	0	1	0	0	1	0	0	0	0	0	2	4	0	0	6	7	
12:45:00	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	5	20
13:00:00	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	2	20
13:15:00	0	1	0	0	1	0	2	0	0	2	1	2	0	0	3	6	20
13:30:00	1	2	0	0	3	1	1	0	0	2	1	2	0	0	3	8	21
13:45:00	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0	5	21
14:00:00	0	2	0	0	2	4	2	0	0	6	1	1	0	0	2	10	29
14:15:00	1	0	0	0	1	0	3	0	0	3	1	2	0	0	3	7	30
14:30:00	0	3	0	0	3	1	0	0	0	1	0	0	0	0	0	4	26
14:45:00	1	2	0	0	3	5	2	0	0	7	3	1	0	0	4	14	35
15:00:00	1	3	0	0	4	0	1	0	0	1	1	1	0	0	2	7	32
15:15:00	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2	27
15:30:00	1	5	0	0	6	2	0	0	0	2	0	4	0	0	4	12	35
15:45:00	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2	23
16:00:00	1	1	0	0	2	3	1	0	0	4	1	3	0	0	4	10	26
16:15:00	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2	26
16:30:00	0	1	0	0	1	2	1	0	0	3	0	2	0	0	2	6	20
16:45:00	1	0	0	0	1	1	1	0	0	2	2	2	0	0	4	7	25
17:00:00	1	2	0	0	3	5	1	0	0	6	0	1	0	0	1	10	25
17:15:00	1	1	0	0	2	0	1	0	0	1	1	0	0	0	1	4	27
17:30:00	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	22
17:45:00	1	0	0	0	1	2	1	0	0	3	0	0	0	0	0	4	19
18:00:00	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	3	12
18:15:00	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	2	10
18:30:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	10
18:45:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	7
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
19:30:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	3
19:45:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	3
Grand Total	21	33	0	0	54	31	20	0	0	51	14	34	0	0	48	153	-



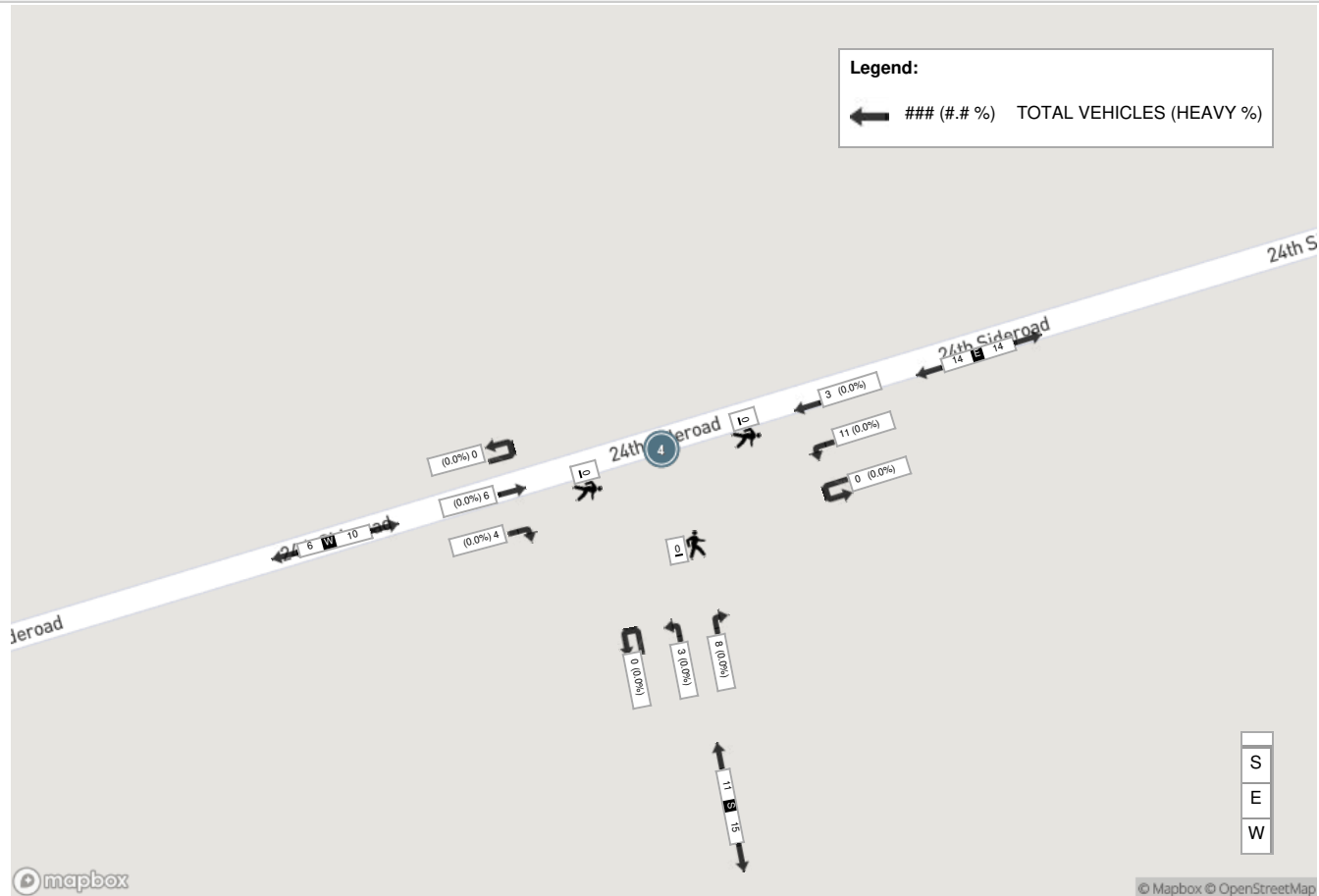
Approach%	38.9%	61.1%	0%	-	60.8%	39.2%	0%	-	29.2%	70.8%	0%	-	-	-
Totals %	13.7%	21.6%	0%	35.3%	20.3%	13.1%	0%	33.3%	9.2%	22.2%	0%	31.4%	-	-
Heavy	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Heavy %	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (21.93 °C)

Start Time	E Approach SIDEROAD 24					S Approach SPY CIDER DISTILLERY SITE ACCESS					W Approach SIDEROAD 24					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
14:45:00	1	2	0	0	3	5	2	0	0	7	3	1	0	0	4	14
15:00:00	1	3	0	0	4	0	1	0	0	1	1	1	0	0	2	7
15:15:00	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
15:30:00	1	5	0	0	6	2	0	0	0	2	0	4	0	0	4	12
Grand Total	3	11	0	0	14	8	3	0	0	11	4	6	0	0	10	35
Approach%	21.4%	78.6%	0%		-	72.7%	27.3%	0%		-	40%	60%	0%		-	-
Totals %	8.6%	31.4%	0%		40%	22.9%	8.6%	0%		31.4%	11.4%	17.1%	0%		28.6%	-
PHF	0.75	0.55	0		0.58	0.4	0.38	0		0.39	0.33	0.38	0		0.63	-
Heavy	-	-	-		-	-	-	-		-	-	-	-		-	-
Heavy %	-	-	-		%	-	-	-		%	-	-	-		%	-
Lights	3	11	0		14	8	3	0		11	4	6	0		10	-
Lights %	100%	100%	0%		100%	100%	100%	0%		100%	100%	100%	0%		100%	-

Peak Hour: 02:45 PM - 03:45 PM Weather: Light Rain (21.93 °C)



Attachment D

Detailed Capacity Analysis Worksheets

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	54	5	36	47	3	27
Future Vol, veh/h	54	5	36	47	3	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	6	20	0	2	0	0
Mvmt Flow	61	6	41	53	3	31
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	67	0	199	64
Stage 1	-	-	-	-	64	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1547	-	794	1006
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1547	-	773	1006
Mov Cap-2 Maneuver	-	-	-	-	773	-
Stage 1	-	-	-	-	964	-
Stage 2	-	-	-	-	872	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		3.2		8.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	977	-	-	1547	-	
HCM Lane V/C Ratio	0.035	-	-	0.026	-	
HCM Control Delay (s)	8.8	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	5	25	1	5	35
Future Vol, veh/h	0	5	25	1	5	35
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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	6	31	1	6	43

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	87	32	0	0	32
Stage 1	32	-	-	-	-
Stage 2	55	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	919	1048	-	-	1593
Stage 1	996	-	-	-	-
Stage 2	973	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	915	1048	-	-	1593
Mov Cap-2 Maneuver	915	-	-	-	-
Stage 1	996	-	-	-	-
Stage 2	969	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1048	1593
HCM Lane V/C Ratio	-	-	0.006	0.004
HCM Control Delay (s)	-	-	8.5	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	1	3	0	0	4	5	145	0	2	106	2
Future Vol, veh/h	6	1	3	0	0	4	5	145	0	2	106	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	25	0	1	0	0	4	0
Mvmt Flow	7	1	3	0	0	4	5	159	0	2	116	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	292	290	117	292	291	159	118	0	0	159	0	0
Stage 1	121	121	-	169	169	-	-	-	-	-	-	-
Stage 2	171	169	-	123	122	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.45	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.525	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	664	624	941	664	623	829	1483	-	-	1433	-	-
Stage 1	888	800	-	838	763	-	-	-	-	-	-	-
Stage 2	836	763	-	886	799	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	658	621	941	658	620	829	1483	-	-	1433	-	-
Mov Cap-2 Maneuver	658	621	-	658	620	-	-	-	-	-	-	-
Stage 1	884	799	-	835	760	-	-	-	-	-	-	-
Stage 2	828	760	-	881	798	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.1		9.4		0.2		0.1	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	719 829	1433	-	-
HCM Lane V/C Ratio	0.004	-	-	0.015 0.005	0.002	-	-
HCM Control Delay (s)	7.4	0	-	10.1 9.4	7.5	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

Intersection						
Int Delay, s/veh	3.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	1	1	6	0	7
Future Vol, veh/h	3	1	1	6	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	2	2	9	0	11
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	7	0	19	6
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	13	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1627	-	1004	1083
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1627	-	1003	1083
Mov Cap-2 Maneuver	-	-	-	-	1003	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1014	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1		8.4	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1083	-	-	1627	-	
HCM Lane V/C Ratio	0.01	-	-	0.001	-	
HCM Control Delay (s)	8.4	-	-	7.2	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0	-	-	0	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	1	31	49	0	28
Future Vol, veh/h	62	1	31	49	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	70	1	35	55	0	31
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	71	0	196	71
Stage 1	-	-	-	-	71	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1542	-	797	997
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	906	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1542	-	779	997
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	885	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2.9		8.7	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	997	-	-	1542	-	
HCM Lane V/C Ratio	0.032	-	-	0.023	-	
HCM Control Delay (s)	8.7	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	6	22	3	6	26
Future Vol, veh/h	3	6	22	3	6	26
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	8	29	4	8	35

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	82	31	0
Stage 1	31	-	-
Stage 2	51	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	925	1049	-
Stage 1	997	-	-
Stage 2	977	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	920	1049	-
Mov Cap-2 Maneuver	920	-	-
Stage 1	997	-	-
Stage 2	972	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1002	1592
HCM Lane V/C Ratio	-	-	0.012	0.005
HCM Control Delay (s)	-	-	8.6	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	1	4	0	0	2	3	121	1	3	94	6
Future Vol, veh/h	9	1	4	0	0	2	3	121	1	3	94	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	12	1	5	0	0	3	4	155	1	4	121	8
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	298	297	125	300	301	156	129	0	0	156	0	0
Stage 1	133	133	-	164	164	-	-	-	-	-	-	-
Stage 2	165	164	-	136	137	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	658	618	931	656	615	895	1469	-	-	1436	-	-
Stage 1	875	790	-	843	766	-	-	-	-	-	-	-
Stage 2	842	766	-	872	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	653	614	931	648	611	895	1469	-	-	1436	-	-
Mov Cap-2 Maneuver	653	614	-	648	611	-	-	-	-	-	-	-
Stage 1	872	788	-	840	764	-	-	-	-	-	-	-
Stage 2	837	764	-	863	785	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.2		9		0.2		0.2					
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1469	-	-	710	895	1436	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.025	0.003	0.003	-	-				
HCM Control Delay (s)	7.5	0	-	10.2	9	7.5	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-				

Intersection						
Int Delay, s/veh	5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	4	11	3	3	8
Future Vol, veh/h	6	4	11	3	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	6	17	5	5	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	52	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	39	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1615	-	962	1073
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1615	-	951	1073
Mov Cap-2 Maneuver	-	-	-	-	951	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	978	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		5.7		8.5	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	1037	-	-	1615	-	
HCM Lane V/C Ratio	0.017	-	-	0.011	-	
HCM Control Delay (s)	8.5	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 4.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	54	13	61	47	11	52
Future Vol, veh/h	54	13	61	47	11	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	6	20	0	2	0	0
Mvmt Flow	61	15	69	53	13	59

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	76
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1536
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1536
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.2	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	930	-	-	1536	-
HCM Lane V/C Ratio	0.077	-	-	0.045	-
HCM Control Delay (s)	9.2	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	38	25	1	38	35
Future Vol, veh/h	0	38	25	1	38	35
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	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	0	0	3
Mvmt Flow	0	47	31	1	47	43

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	169	32	0	0	32	0
Stage 1	32	-	-	-	-	-
Stage 2	137	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	826	1048	-	-	1593	-
Stage 1	996	-	-	-	-	-
Stage 2	895	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	801	1048	-	-	1593	-
Mov Cap-2 Maneuver	801	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	868	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	3.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	- 1048	1593	-
HCM Lane V/C Ratio	-	- 0.045	0.029	-
HCM Control Delay (s)	-	- 8.6	7.3	0
HCM Lane LOS	-	- A	A	A
HCM 95th %tile Q(veh)	-	- 0.1	0.1	-

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	31	1	28	0	0	4	30	145	0	3	94	27
Future Vol, veh/h	31	1	28	0	0	4	30	145	0	3	94	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	0	0	0	0	0	25	0	1	0	0	4	0
Mvmt Flow	34	1	31	0	0	4	33	159	0	3	103	30

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	351	349	118	365	364	159	133	0	0	159	0	0
Stage 1	124	124	-	225	225	-	-	-	-	-	-	-
Stage 2	227	225	-	140	139	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.45	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.525	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	608	578	939	595	567	829	1464	-	-	1433	-	-
Stage 1	885	797	-	782	721	-	-	-	-	-	-	-
Stage 2	780	721	-	868	785	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	592	562	939	563	552	829	1464	-	-	1433	-	-
Mov Cap-2 Maneuver	592	562	-	563	552	-	-	-	-	-	-	-
Stage 1	863	795	-	762	703	-	-	-	-	-	-	-
Stage 2	756	703	-	837	783	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.5		9.4		1.3		0.2	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1464	-	-	715	829	1433	-
HCM Lane V/C Ratio	0.023	-	-	0.092	0.005	0.002	-
HCM Control Delay (s)	7.5	0	-	10.5	9.4	7.5	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0	0	-

Intersection

Int Delay, s/veh 6.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	3	34	51	6	33	57
Future Vol, veh/h	3	34	51	6	33	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	64	64	64	64
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	5	53	80	9	52	89

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	58
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1559
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1559
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.7	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	915	-	-	1559	-
HCM Lane V/C Ratio	0.154	-	-	0.051	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.2	-

Intersection

Int Delay, s/veh 4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	62	9	56	49	8	53
Future Vol, veh/h	62	9	56	49	8	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	70	10	63	55	9	60

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	80
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1531
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1531
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	942	-	-	1531	-
HCM Lane V/C Ratio	0.073	-	-	0.041	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	4.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	39	22	3	39	26
Future Vol, veh/h	3	39	22	3	39	26
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	75	75	75	75	75	75
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	4	52	29	4	52	35

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	170	31	0
Stage 1	31	-	-
Stage 2	139	-	-
Critical Hdwy	6.4	6.2	-
Critical Hdwy Stg 1	5.4	-	-
Critical Hdwy Stg 2	5.4	-	-
Follow-up Hdwy	3.5	3.3	-
Pot Cap-1 Maneuver	825	1049	-
Stage 1	997	-	-
Stage 2	893	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	798	1049	-
Mov Cap-2 Maneuver	798	-	-
Stage 1	997	-	-
Stage 2	864	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	4.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	1026	1592
HCM Lane V/C Ratio	-	-	0.055	0.033
HCM Control Delay (s)	-	-	8.7	7.3
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	1	29	0	0	2	28	121	1	3	94	31
Future Vol, veh/h	34	1	29	0	0	2	28	121	1	3	94	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	0	0	0	0	0	0	0	2	0	0	1	0
Mvmt Flow	44	1	37	0	0	3	36	155	1	4	121	40

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	378	377	141	396	397	156	161	0	0	156	0	0
Stage 1	149	149	-	228	228	-	-	-	-	-	-	-
Stage 2	229	228	-	168	169	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	583	558	912	568	544	895	1430	-	-	1436	-	-
Stage 1	858	778	-	779	719	-	-	-	-	-	-	-
Stage 2	778	719	-	839	763	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	568	541	912	531	527	895	1430	-	-	1436	-	-
Mov Cap-2 Maneuver	568	541	-	531	527	-	-	-	-	-	-	-
Stage 1	834	776	-	757	699	-	-	-	-	-	-	-
Stage 2	754	699	-	801	761	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9	1.4	0.2
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1430	-	-	684 895	1436	-	-
HCM Lane V/C Ratio	0.025	-	-	0.12 0.003	0.003	-	-
HCM Control Delay (s)	7.6	0	-	11 9	7.5	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4 0	0	-	-

Intersection						
Int Delay, s/veh	6.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	6	37	61	3	36	58
Future Vol, veh/h	6	37	61	3	36	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	63	63	63	63	63	63
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	10	59	97	5	57	92
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	69	0	239	40
Stage 1	-	-	-	-	40	-
Stage 2	-	-	-	-	199	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1545	-	754	1037
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	839	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1545	-	706	1037
Mov Cap-2 Maneuver	-	-	-	-	706	-
Stage 1	-	-	-	-	988	-
Stage 2	-	-	-	-	786	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		7.1		9.9	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	879	-	-	1545	-	
HCM Lane V/C Ratio	0.17	-	-	0.063	-	
HCM Control Delay (s)	9.9	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0.2	-	

Attachment E

TAC Excerpts

contrasting construction materials across the driveway assists in defining a pedestrian crossing zone to the driver.

The radius of the curb return style or the flare required to accommodate an equivalent turning radius is meaningful only when considered in combination with the width of the driveway throat.

8.9.5 WIDTH

The width of a two-way driveway is measured parallel to the road since turns are generally oriented at right angles. The dimension is typically measured beyond any entrance flare. The width of one-way driveways, which are normally skewed, is measured perpendicular to the driveway.

It is desirable to state suitable driveway widths as a design domain. Dimensions at the lower end of the domain are intended to define the minimum spatial and operational requirements. The maximum dimensions assist in preventing driveways from becoming unwieldy with large paved areas and poorly defined travel paths. The most appropriate width of a driveway is determined in combination with the radius of the curb return (or the design vehicle turning radius and flare dimensions, if a straight flared design is adopted), the desired operating characteristics such as turning speed, and physical limitations which may exist at the site.

Table 8.9.1 provides a typical design domain for driveway throat widths and radii for both two-way and one-way operation. In locations where special vehicles such as long combination vehicles or similar vehicles are present, wider driveway throat dimensions or larger radii may be required.

Table 8.9.1: Typical Driveway^c Dimensions

Dimension (m)	Land Use		
	Residential	Commercial	Industrial
Width (W)			
- One way	3.0 ^a – 4.3	4.5 ^a – 7.5	5.0 – 9.0
- Two way	2.0 ^a – 7.3	7.2 ^a – 12.0 ^b	9.0 ^a – 15.0 ^b
Right turn radius (R)	3.0 – 4.5	4.5 – 12.0	9.0 – 15.0

Notes:

- Minimum widths are normally used with radii at or near the upper end of the specified range
- Increased widths may be considered for capacity purposes; where up to 3 exit lanes and 2 entry lanes are employed, 17.0 m is the maximum width exclusive of any median
- Applicable to driveways only, not road intersections

8.9.6 ANGLE OF DRIVEWAY

Two-way driveways normally intersect the roadway curb at or near 90°. However, a minimum acute angle of 70°, as measured from the roadway curb line, normally operates in an acceptable manner.

For one-way driveways, where a skewed intersection assists in efficient traffic operation, skews in the range of 45° to 60° are appropriate in industrial areas where pedestrians are infrequent. For commercial and residential land uses, where pedestrian volumes are normally moderate to high, minimum skew angles in the range of 60° to 70° are preferred to improve the driver's visibility of the pedestrian, and vice versa, and to encourage lower turning speeds.

Figures



Spy Cider
House and
Distillery Site

Project

Spy Cider House and Distillery

Drawing

Site Location Plan



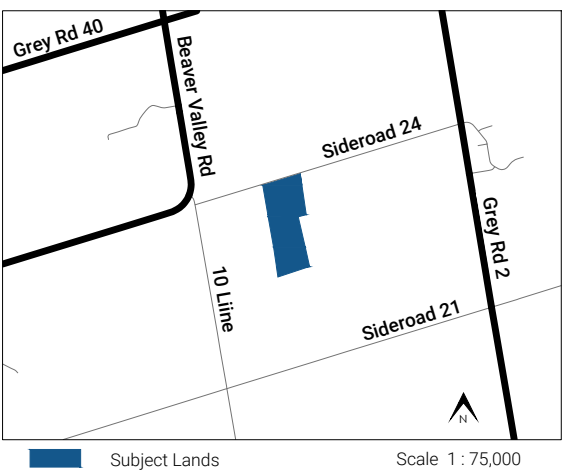
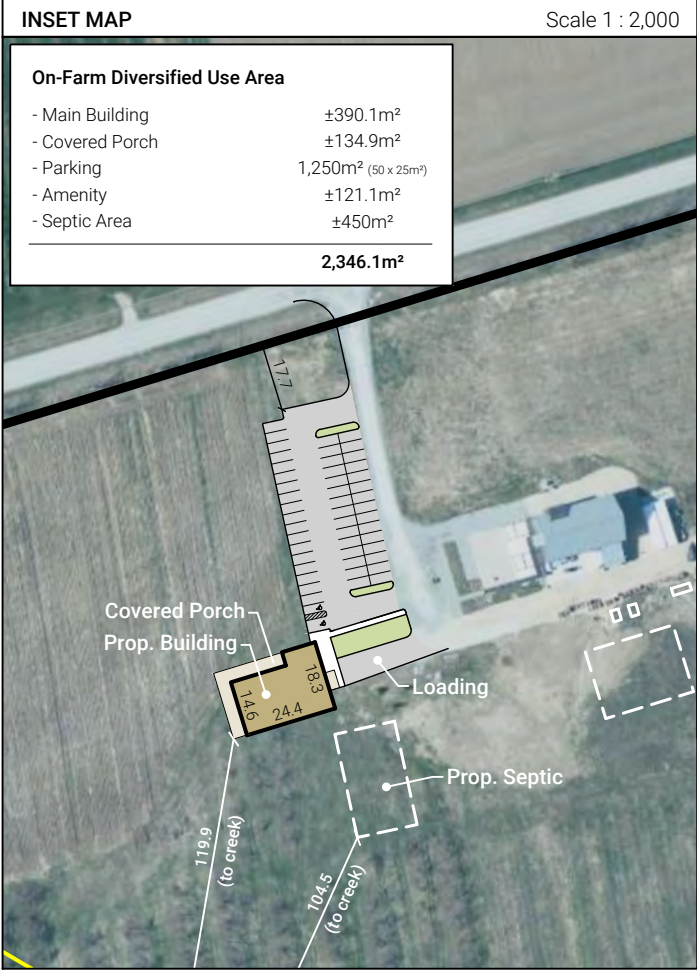
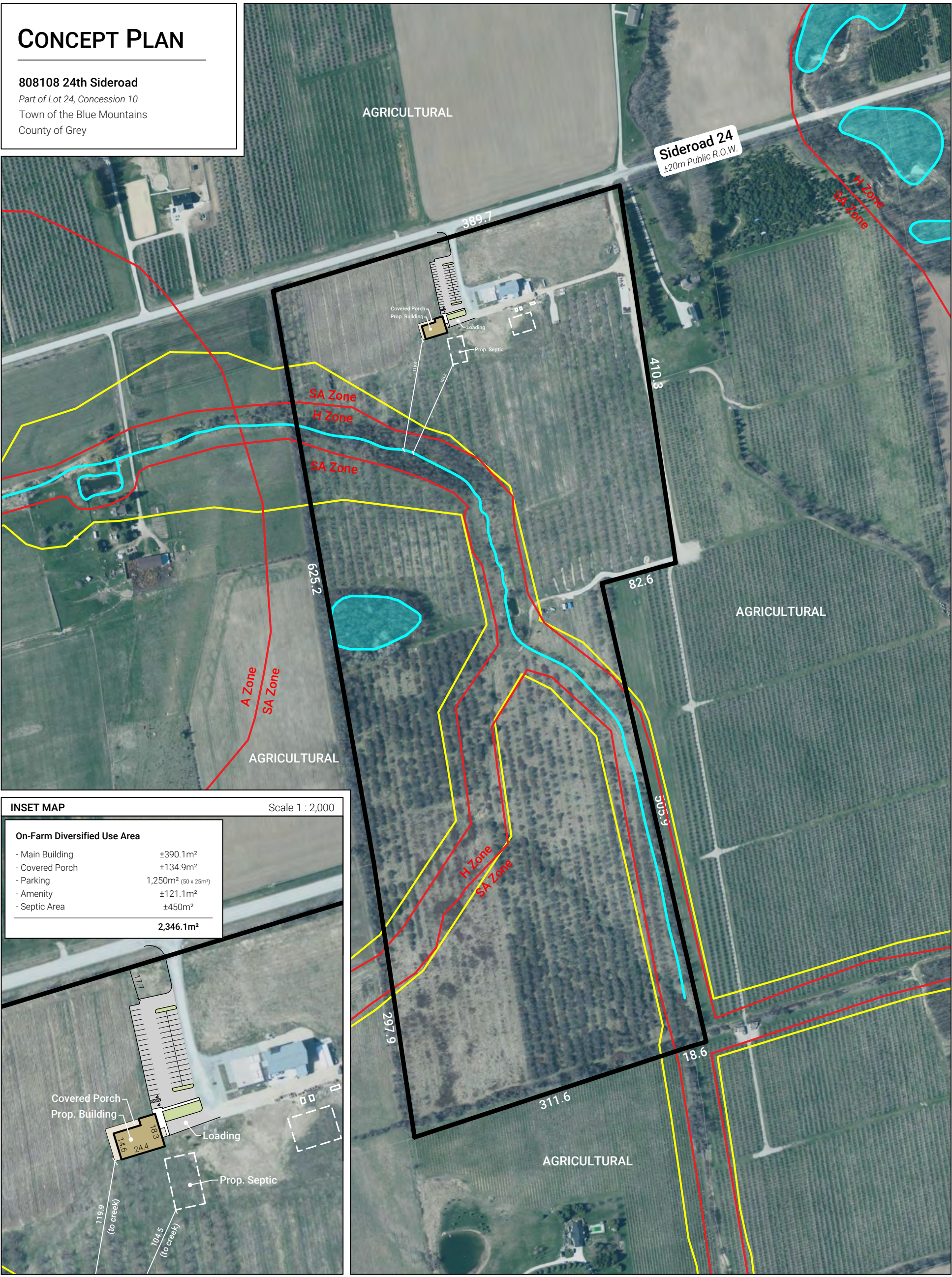
CROZIER
CONSULTING ENGINEERS

70 HURON STREET, SUITE 100
COLLINGWOOD, ON L9Y 4L4
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA

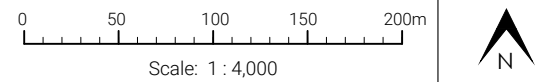
Drawn By	D.F	Design By	D.F	Project	2694 - 7142
Scale	N.T.S.	Date	11.14.2024	Check By	M.F
					Drawing
					FIG.1

CONCEPT PLAN

808108 24th Sideroad
Part of Lot 24, Concession 10
Town of the Blue Mountains
County of Grey



- LEGEND**
- Subject Lands
Lot Area: ±31.299ha (77.34ac)
Lot Frontage: ±389.5m
 - Proposed Building
 - Zone Boundary
 - Unevaluated Wetlands
 - GSCA Regulated Area



Note: This drawing is for discussion purposes only. Boundary to be verified by an O.L.S.

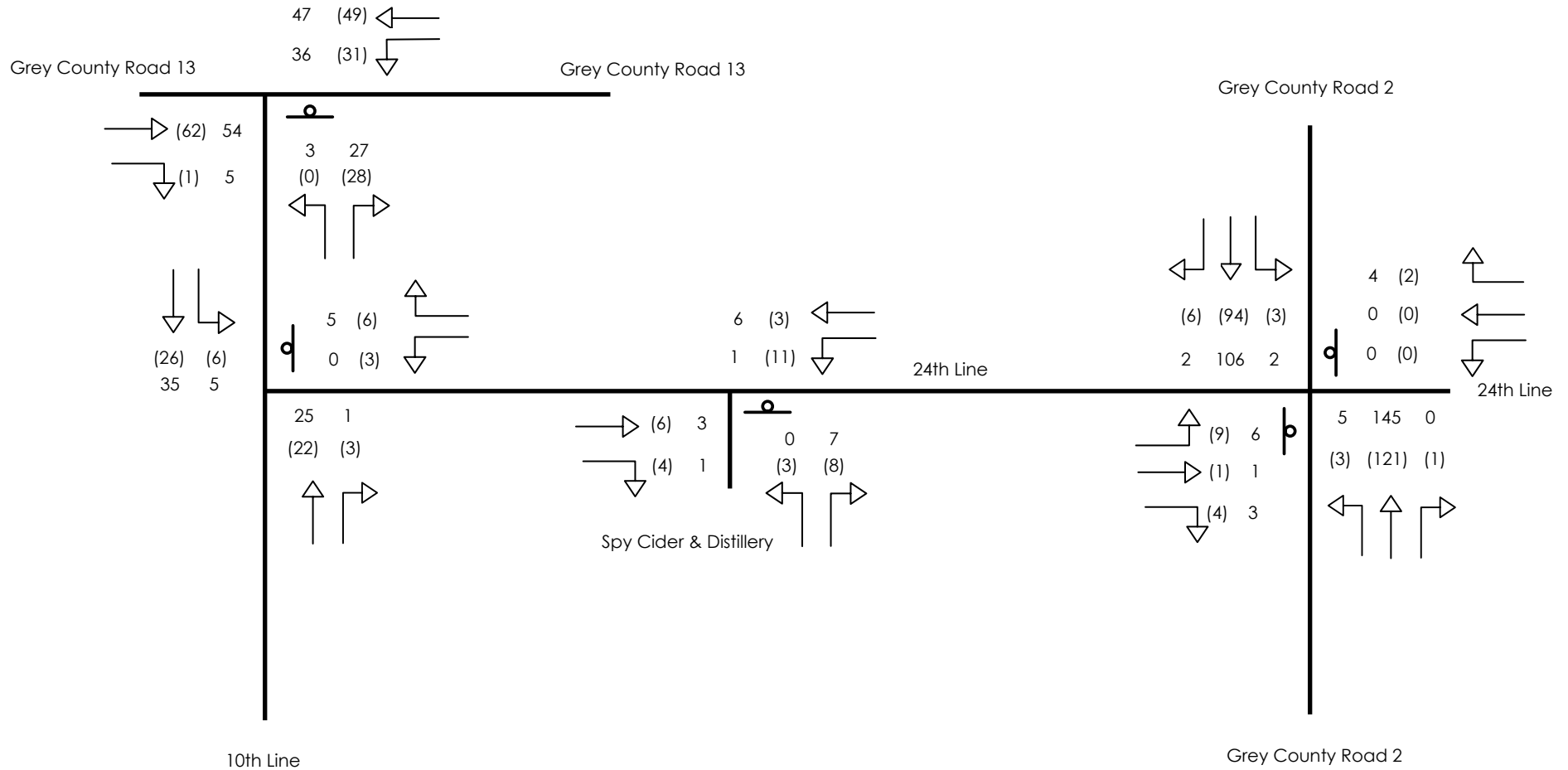
Source: Design Option 3, Justin Sherry Design Studio, August 2, 2024. County of Grey interactive map.

Drawn By: A.M. Date: September 25, 2024 File No: 1380

MORGAN
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jmorgan@morganplanning.ca



Legend



Stop Control

XX (YY) P.M. (Saturday) Peak Hour Traffic Volumes

Project

Spy Cider House and Distillery

Drawing

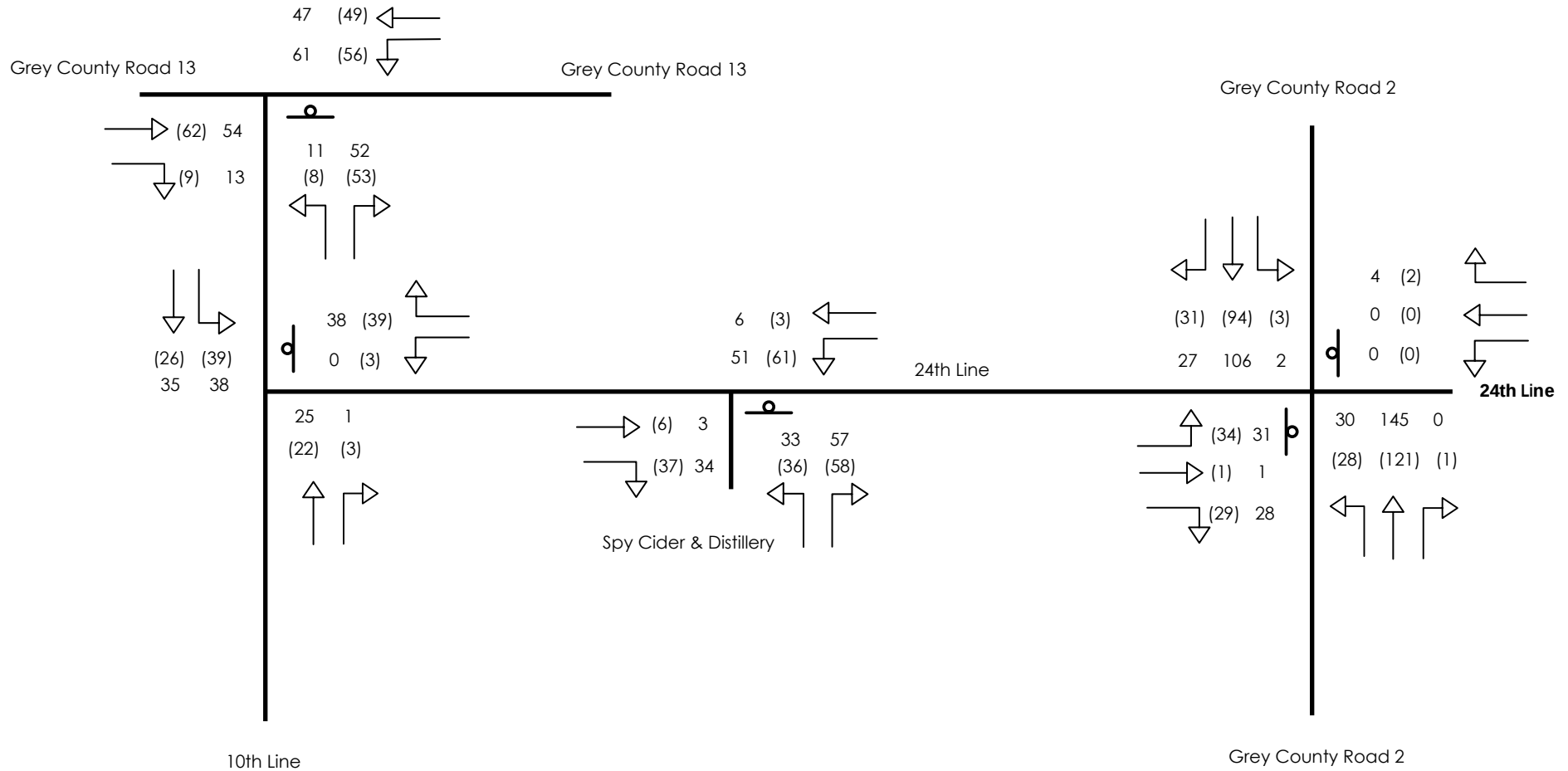
Existing Traffic Volumes



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70 HURON STREET, SUITE 100
COLLINGWOOD, ON L9Y 4L4
705 446-3510 T
705 446-3520 F
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Scale	N.T.S.	Date	11.14.2024	Check By	M.F.
					Drawing
					FIG.3



Legend



Stop Control

XX (YY)

P.M. (Saturday) Peak
Hour Traffic Volumes

Project

Spy Cider House and Distillery

Drawing

Future Total Volumes



CROZIER
CONSULTING ENGINEERS

70 HURON STREET, SUITE 100
COLLINGWOOD, ON L9Y 4L4
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA

Drawn By D.F.

Design By D.F.

Project 2694 - 7142

Scale N.T.S.

Date 11.14.2024

Check By M.F.

Drawing FIG.6