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Transportation Impact Study Addendum

PROPOSED TEMPORARY TRUCK & TRAILER PARKING FACILITY

13291 Airport Road
Town of Caledon, ON

October 7, 2025
Project No: NT-24-207

520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8
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nexTrans CONSULTING ENGINEERS
NextEng Consulting Group Inc.

October 7, 2025

Giampaolo Developments
1 Kenview Boulevard, Suite 301
Brampton, ON L6T 5E6

Attention: **Shonese Wallace-Morgan**

Re: **Engineering Serivce – Transportation Impact Study Addendum**
Proposed Temporary Truck and Trailer Parking Facility
13291 Airport Road, Town of Caledon
Our Project No. NT-24-207

On behalf of our Client, First Avenue, we acknowledge the transportation related comments issued by reviewing agencies regarding our Transportation Impact Study dated April 7, 2025.

The subject lands are located east of Airport Road and north of Old School Road, in the Town of Caledon. Based on the site plan prepared by Humphries Planning Group Inc., the development proposal seeks the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.

Subsequent to the submission of the first site plan, significant changes have been made to the plan, and the overall number of truck and trailer parking spaces has been reduced from 677 truck and trailer parking spaces to 530 truck and trailer parking spaces on 7.7ha of the subject lands.

The purpose of this Transportation Impact Study (TIS) Addendum is to address the comments issued by Peel Region Transportation Development and the Town of Caledon's Transportation Department. The comments issued by staff and our corresponding responses are detailed below.

Region of Peel Access Comments

1. *The Region is in receipt of a Traffic Impact Study, the following comments are noted and should be addressed in an updated TIS.*

NEXTRANS RESESPONSE: Acknowledged.

2. *Auxiliary Lanes – the Region understands that the requirement of auxiliary turn lanes will require road work and widening of the pavement structure, this is not considered a conflict. The TIS should be updated to include the requirement of auxiliary turn lanes.*

NEXTRANS RESESPONSE: It is Nextrans' understanding that in accordance with the EA report completed by the Region, Airport Road will undergo a physical road widening that is planned to be completed in several sections, starting in 2026. The proposed widening will provide a five (5) lane cross-section composed of two (2) through lanes

in each direction and a centre two-way left-turn lane. It is noted that the section of Airport Road that fronts the subject will be the last section to be widened.

Based on the existing condition of Airport Road, It is noted that an auxiliary left-turn lane and auxiliary right-turn lane cannot be accommodated within the existing pavement width, and therefore a physical widening would be required; however, this would be an interim condition given that the widening of Airport Road along the frontage of the subject site is imminent.

Given that the planned road widening will include a centre two-way left-turn lane along Airport Road, the requirement for an inbound left-turn lane at the site access will be accommodated by the ultimate condition of Airport Road. The Owner has agreed to the construction of an interim inbound right-turn lane at the site access, acknowledging that this will eventually be removed once Airport Road is widened. The provision of the inbound right-turn lane will improve safety for all road users in the interim as it will provide inbound trucks with a dedicated lane for deceleration when turning right into the subject site.

Given that the ultimate roadway configuration of Airport Road will accommodate a centre two-way left-turn lane and that the traffic operations of the southbound left movement at the site access are acceptable, Nextrans maintains that an interim southbound left-turn lane is not required in the interim. Additionally, the provision of an interim northbound right-turn lane into the site will improve road safety as inbound trucks will have a deceleration lane available when turning right into the subject site.

3. *Auxiliary turn lanes will be required to facilitate this development, this is triggered by total peak hour traffic and road characterization.*

NEXTRANS RESESPONSE: Nextrans maintains that the provision of an interim southbound left-turn lane at the site access would be redundant as there is an imminent road widening on Airport Road that will include a centre two-way left-turn lane. It is noted that there are a number of existing truck and trailer parking facilities along Airport Road without dedicated inbound left-turn lanes and as such, the proposed condition is consistent with established practice and is not unprecedented.

Additionally, the latest site plan illustrates an overall reduction in the number of truck and trailer parking spaces provided on site and as such, the projected number of trips has also been reduced. Updated trip generation calculations are provided in this TIS Addendum.

4. *The Region will require a functional design to be submitted in the forthcoming submissions which addresses the geometrics of the auxiliary southbound left turn lane and northbound right turn lane.*

NEXTRANS RESESPONSE: Please refer to Plan No. RW-1 prepared by Candevcon Group Inc.

5. *Sightline analysis will be required and should be submitted in the TIS.*

NEXTRANS RESESPONSE: A sightline analysis has been provided in this TIS Addendum and confirms that adequate sightlines are available for both approaching and departing vehicles.

6. *The Region acknowledges that the applicant is proposing an access approximately 50m south of the property line and not utilizing the existing access for the development.*

NEXTRANS RESESPONSE: Acknowledged.

7. *The Region in theory is not in support of shifting the access to the south as this creates sight line issues. Sight line analysis was not included in the TIS and further sight line issues will be created with the ongoing Capital Project.*

NEXTRANS RESESPONSE: The segments of Airport Road approaching the proposed location of the site access are generally straight and level, with no significant grades or horizontal curves. The results of the sightline analysis indicate that the available sightlines at the proposed site access exceed the minimum requirements of the TAC Geometric Design Guide for Canadian Roads for both approaching and departing vehicles. The assessment confirms that drivers entering or exiting the site will have sufficient visibility of oncoming traffic to complete turning and crossing maneuvers safely, and that through-traffic will likewise have adequate advance warning of vehicles using the access. Accordingly, the proposed site access is appropriately located and can be expected to operate safely without creating undue operational or safety concerns

8. *Only one access to the site will be supported, all other access points will have to be closed, and boulevard reinstates (note that this is mentioned).*

NEXTRANS RESESPONSE: Acknowledged.

9. *The Conservation Authority will need to be consulted to review floodplain, and any comments pertaining to the floodplain should be circulated to the Region for review.*

NEXTRANS RESESPONSE: Acknowledged.

10. *Region of Peel acknowledges the subject property lies within the Ontario Ministry of Transportation's (MTO) Highway 413 area. We therefore request that the applicant consult with MTO directly to review the future impacts of Highway 413. Any future comments pertaining to the road and access should be circulated to the Region for review. Final approval of this Temporary Zoning By-Law requires all concerns to be addressed to the satisfaction of the MTO.*

NEXTRANS RESESPONSE: Acknowledged.

Town of Caledon Transportation Department Comments

11. *Parking spaces should be provided in accordance with the rates outlined in the Zoning By-law. If fewer parking spaces are proposed, a parking justification will be required. A work plan (Terms of Reference) for the parking justification study should be circulated with Town Transportation staff prior to commencing this portion of the investigation.*

NEXTRANS RESESPONSE: Given the nature of the proposed land use (i.e., truck and trailer parking) and given that there is no structure on site that would require passenger vehicle parking spaces, Nextrans maintains that no vehicle parking is required for the site.

12. *Barrier-free accessible spaces must be designed in accordance with the requirements in Schedule O of the Town's Traffic By-law 2024-048.*

NEXTRANS RESESPONSE: Given the nature of the proposed land use (i.e., truck and trailer parking) and given that there is no structure on site that would require passenger vehicle parking spaces, Nextrans maintains that no accessible parking is required for the site.

13. *Since the submission of the Terms of Reference, the following secondary plan has been submitted in close proximity to the proposed development: 0 Airport Road (Tullamore North-West Secondary Plan) – Town of Caledon. If updates to the capacity analysis are required to address comments from other agencies, please consider including this plan in your review.*

NEXTRANS RESESPONSE: The future background and future total traffic analyses were updated accordingly to account for the Tullamore North-West Secondary Plan and the results are provided in this Addendum.

14. *AutoTURN analysis should be included in the appendix.*

NEXTRANS RESESPONSE: Updated AutoTURN analysis is provided in this TIS Addendum.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS

Prepared by:

Kristian Aviles, B.Eng.
Transportation Analyst

Reviewed & Approved by:

Richard Pernicky, MITE
Principal

Issues and Revisions Registry

Identification	Date	Description of issued and/or revision
Transportation Impact Study	April 1, 2025	1st Submission
Transportation Impact Study Addendum	October 7, 2025	2nd Submission

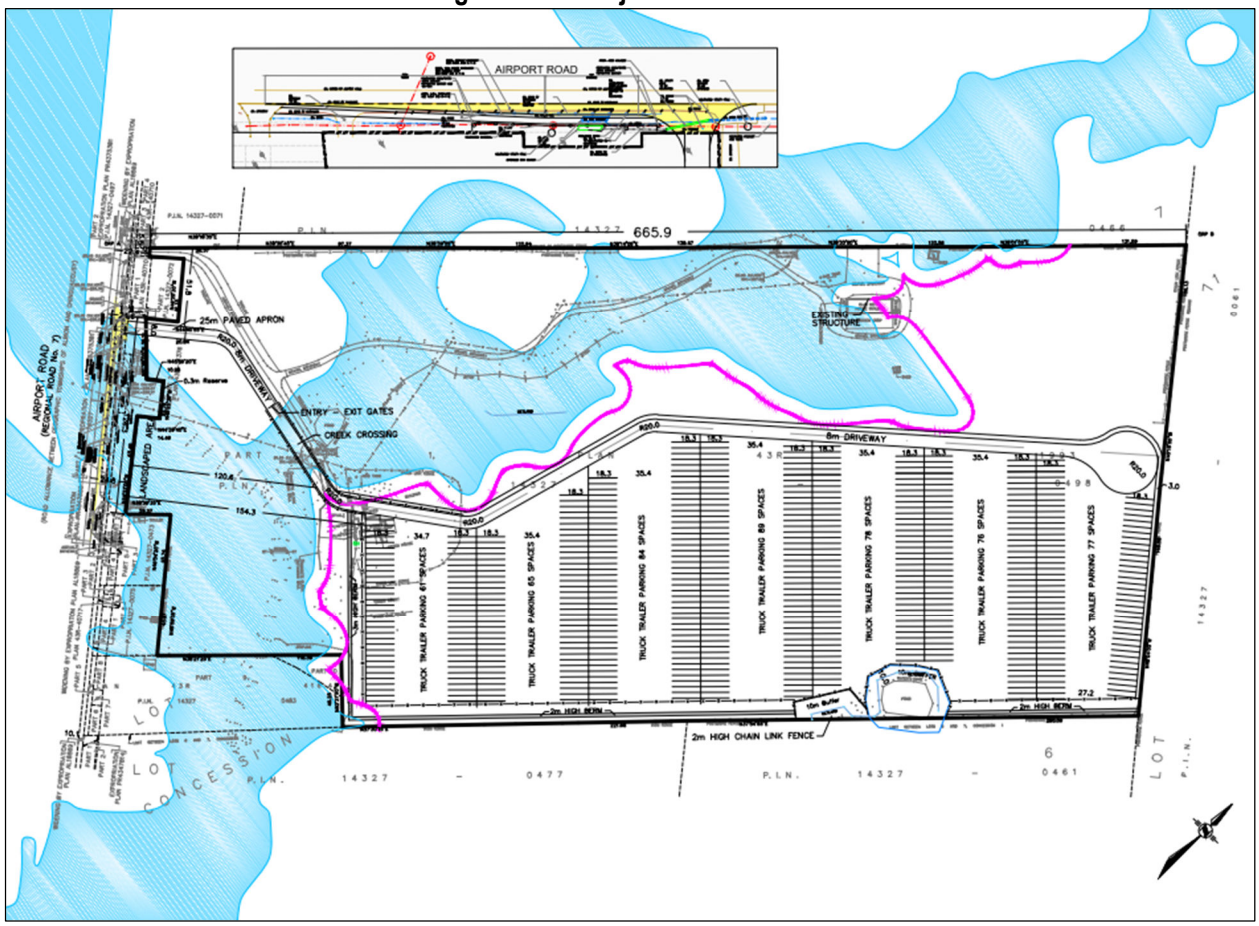
1.0 INTRODUCTION

Previously, the development proposal sought the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.

Subsequent to the first submission, the site plan was updated and reduced the amount of developable land from 9.6ha down to 7.7ha. Additionally, in accordance with comments issued by the Region of Peel, a northbound right turn lane at the site access onto Airport Road has been included as part of the development proposal.

The proposed site plan is illustrated in **Figure 1-2** and is enclosed in full detail in **Appendix A**.

Figure 1-1 – Subject Site Location



This report is an Addendum to our original study and updates the relevant sections of our previous reporting in accordance with the comments issued by reviewing agencies.

2.0 FUTURE BACKGROUND CONDITIONS

As established in the Terms of Reference, a five (5)-year horizon from the baseline year of 2025 was analyzed for future background traffic conditions (2030).

2.1. Planned Transportation Infrastructure Improvements

The Peel Region Municipal Class Environmental Assessment of Airport Road from 1.0km north of Mayfield Road to 0.6km north of King Street and the Airport Road – Design Plan Between Mayfield Road and King Street was reviewed to determine the future transportation network on Airport Road.

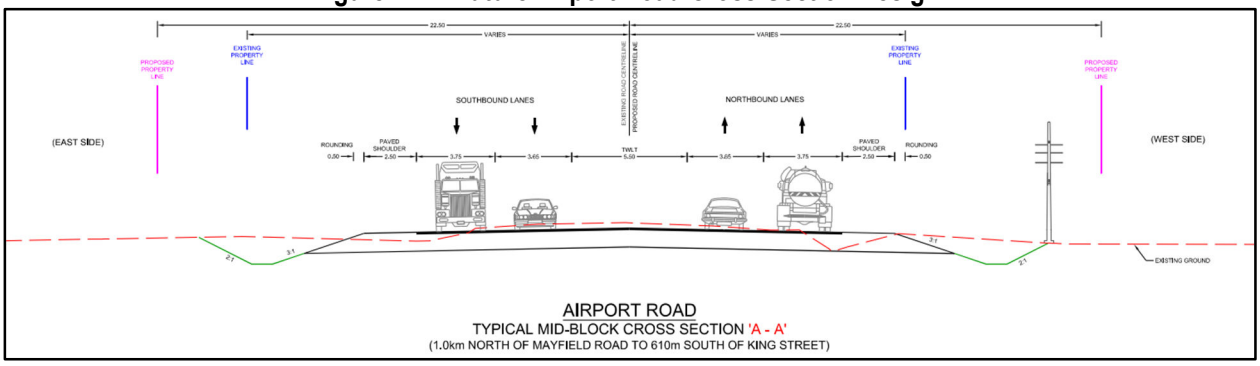
2.1.1. Airport Road Widening

Based on the results of the EA traffic analysis, Regional staff determined recommended several measures. Two of the measures recommended by Regional staff by 2031 are noted below:

- By 2031, a road widening to five lanes (four through lanes and a centre two-way left-turn) on Airport Road within the study will be required based on link level volumes and signal/roundabout analysis.
- Airport Road/Old School Road/ Healey Road – a partial 2-lane roundabout is recommended by 2031 with two entries and approaches on the north and south approaches and either a right turn bypass or a flared two-lane entry on Healey Road.

The above-noted measures will be modeled for the future background traffic conditions to reflect the Region's ultimate roadway design. An excerpt of the typical Airport Road cross-section design is illustrated in **Figure 2-1** below.

Figure 2-1 – Future Airport Road Cross-Section Design



2.2. Background Developments

The following development applications were included in our assessment of background traffic in our original study:

- 13846 & 13940 Airport Road
- Mayfield Tullamore Lands, 0 & 12245 Torbram Road

In response to the comments issued by the Town of Caledon, the following development application was also considered in this updated analysis:

- 0 Airport Road (Tullamore North-West Secondary Plan)

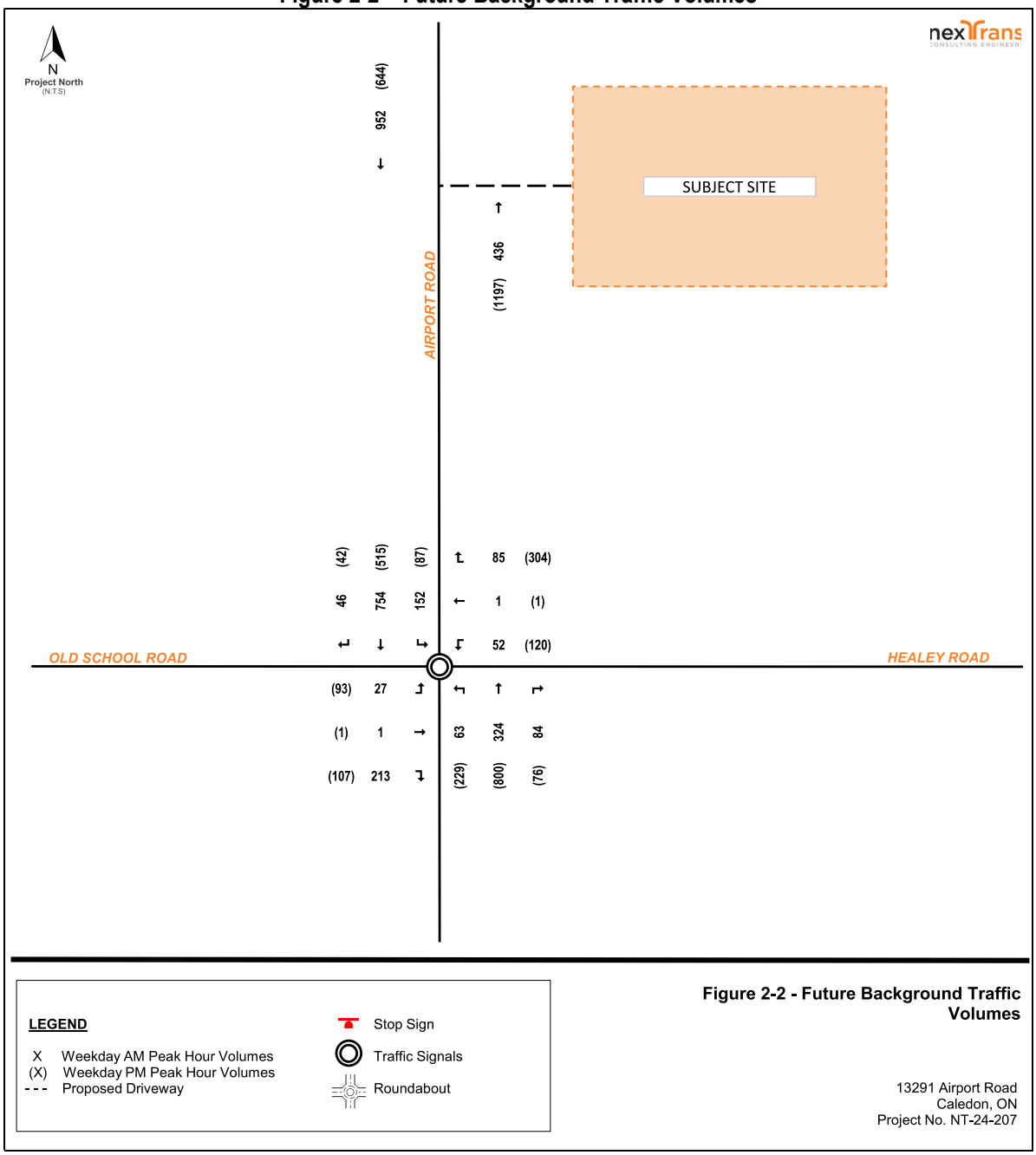
An excerpt of site traffic figure from 0 Airport Road is enclosed in **Appendix B**.

2.3. Future Background Traffic Assessment

As previously noted, the Region's EA report recommended that a roundabout be implemented at the intersection of Airport Road and Old School Road/Healey Road. Additionally, the Region's EA report recommended that Airport Road be widened to a five-lane cross-section. As such, the future road network was incorporated in the Synchro model. In accordance with the future road network, the traffic volumes at the Airport Road/ Old School Road and Airport Road/ Healey Road intersections were consolidated into one intersection for the purposes of traffic modelling.

The estimated future background traffic volumes (i.e., future background growth volumes + background development site traffic volumes) are illustrated in **Figure 2-2.**

Figure 2-2 – Future Background Traffic Volumes



The methodology used for the future background traffic analysis follows the procedures described and outlined in HCM 2010 Roundabout, published by the Transportation Research Board. The detailed calculations are enclosed in **Appendix C** and **Table 2.1** summarizes the level of service at the study area intersections under future background traffic conditions.

Table 2.1: Level of Service – Future Background Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
		v/c	Delay (s/veh)	LOS	95th Queue (veh)	v/c	Delay (s/veh)	LOS	95th Queue (veh)
Airport Road & Old School Road / Healey Road	**Overall**	**-**	**9.2**	**A**	**-**	**-**	**15.6**	**C**	**-**
	EBLTR	0.48	15.3	C	3	0.40	12.4	B	2
	WBLT	0.07	5.4	A	0	0.31	13.8	B	1
	WBTR	0.11	5.7	A	0	0.74	31.1	D	6
	NBLT	0.27	7.2	A	1	0.62	13.0	B	4
	NBTR	0.31	7.6	A	1	0.69	15.3	C	6
	SBLT	0.48	9.5	A	3	0.46	11.5	B	2
	SBTR	0.54	10.6	B	3	0.51	12.4	B	3

Based on the results of the capacity analysis under future background traffic conditions, the study area intersection is projected to operate with residual capacity, with acceptable levels of service, with negligible delays and queue lengths during weekday AM and PM peak hours.

3.0 SITE TRAFFIC

3.1. Trip Generation

Previously, the development proposal was to develop 9.6ha of the total 19.4ha lands to facilitate 677 temporary truck and trailer parking spaces. Subsequent to the submission of the first application, the site plan was updated, and the area of developable land was reduced to 7.7ha and 530 truck and trailer parking spaces.

Similar to the methodology used in the previous Transportation Impact Study, Nextrans opted to use turning movement count survey data that was collected previously at a similar proxy site in the Town of Caledon. The previously surveyed proxy site operated the same land use as the proposed development and is municipally addressed as 6186 Airport Road and was fully operational at the time that the driveway counts were surveyed; however, it is to be noted that the site is no longer operational.

The proxy site had an approximate lot area of 5.52ha and provided both truck and truck + trailer parking, as well as repurposing an existing detached single family dwelling as an office. The proxy site driveway counts were conducted on September 21, 2023, and September 22, 2023, during morning peak period (7:00AM – 9:00AM) and afternoon peak period (4:00PM – 6:00PM).

The results of the proxy site trip generation surveys are summarized in **Appendix D** and the peak hour trip generation results from each day of surveys are detailed in **Table 3.1** below.

Table 3.1 – Proxy Site Turning Movement Counts

Time Period	Parameter	September 21, 2023			September 22, 2023		
		Inbound	Outbound	Total	Inbound	Outbound	Total
AM Peak Period	Gross Trips	9	7	16	**9**	**9**	**18**
	Trip Rate	1.63	1.27	2.90	**1.63**	**1.63**	**3.26**
PM Peak Period	Gross Trips	**28**	**23**	**51**	28	12	40
	Trip Rate	**5.07**	**4.17**	**9.24**	5.07	2.17	7.25s

The peak number of trips generated by the proxy site during AM peak hour occurred on the second survey day, with a total of 18 two-way trips or **3.26 trips/ha**. The peak number of trips generated by the proxy site during PM peak hour occurred on the first survey day, with a total of 51 two-way trips or **9.24 trips/ha**.

Using the observed rates collected from the proxy site, the trip generation calculations for the subject site are detailed in **Table 3.2**.

Table 3.2 – Site Traffic Trip Generation

Parameter	AM Peak Hour			PM Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Gross Trips	13	12	25	39	32	71

Based on the trip generation calculations, the proposed development is projected to generate a total of 25 new two-way trips (13 inbound and 12 outbound) and 71 new two-way trips (39 inbound and 32 outbound) during the weekday AM peak hour and PM peak hour, respectively.

3.2. Trip Distribution

The assumptions for trip distribution rates are based on the distributional splits of existing TMC data within the study area road network, as well as engineering judgement for routes that drivers would likely take to and from the site access. The heavy vehicle volumes were specifically considered for trip distribution rates given the nature of the proposed development.

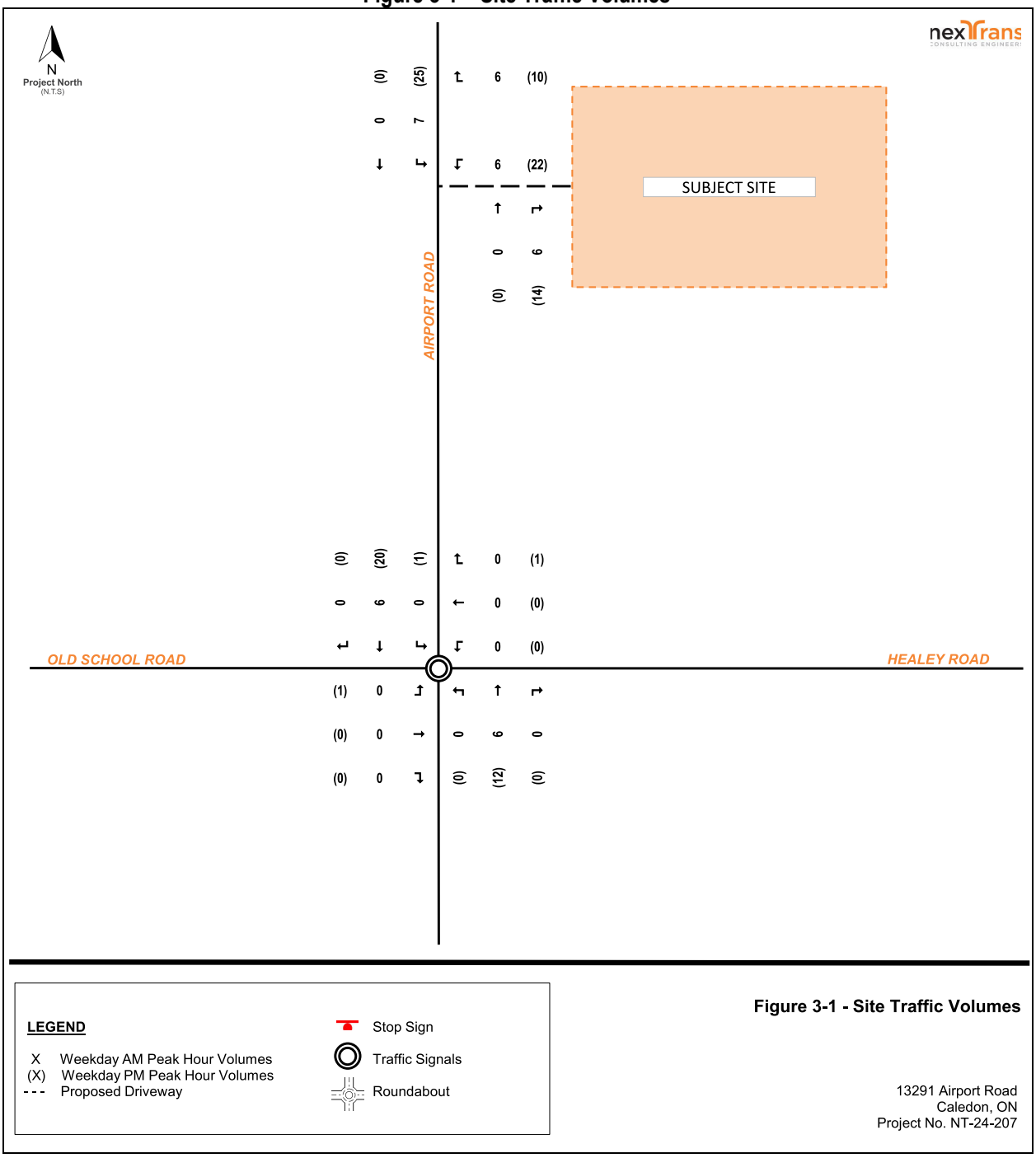
Trip distribution is summarized in **Table 3.2** and trip assignment is illustrated in **Figure 3-1**.

Table 3.3 – Site Traffic Trip Distribution

Corridor	Direction	AM		PM	
		Inbound	Outbound	Inbound	Outbound
Airport Road	North	51%	47%	64%	32%
	South	47%	51%	32%	64%
Old School Road	West	1%	1%	2%	2%
Healey Road	East	1%	1%	2%	2%
Total		**100%**	**100%**	**100%**	**100%**

Trip assignment for all site generated traffic is illustrated in **Figure 3-1**.

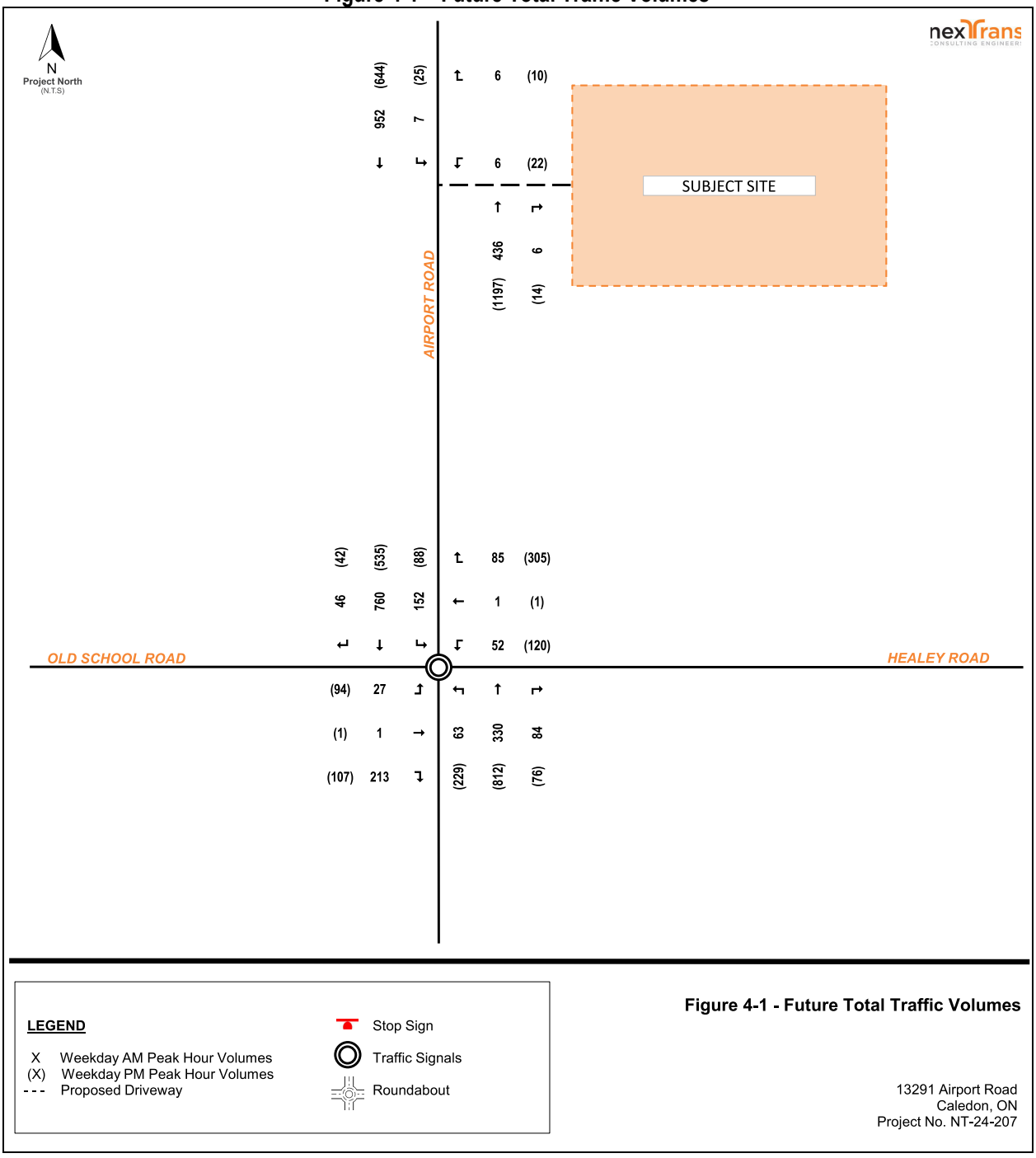
Figure 3-1 – Site Traffic Volumes



4.0 FUTURE TOTAL ANALYSIS

The forecasted future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in **Figure 4-1** and were analyzed using Synchro 10 software. Procedures outlined in HCM 2010 Roundabout were used for the operational assessment of the proposed roundabout at the future consolidated intersection of Airport Road/ Old School Road and Healey Road, whereas procedures outlined in HCM 2000 were used at the unsignalized site access.

Figure 4-1 – Future Total Traffic Volumes



The detailed calculations are enclosed in **Appendix E** and are summarized in **Table 4.1**.

Table 4.1 – Level of Service – Future Total Traffic Assessment

Intersection	Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
		v/c	Delay (s/veh)	LOS	95th Queue (veh)	v/c	Delay (s/veh)	LOS	95th Queue (veh)
Roundabout									
Airport Road & Old School Road / Healey Road	**Overall**	**-**	**9.8**	**A**	**-**	**-**	**16.0**	**C**	**-**
	EBLTR	0.48	15.4	C	3	0.40	12.9	B	2
	WBLT	0.07	5.4	A	0	0.32	14.0	B	1
	WBTR	0.11	5.7	A	0	0.75	32.2	D	6
	NBLT	0.28	7.2	A	1	0.63	13.2	B	5
	NBTR	0.31	7.6	A	1	0.70	15.7	C	6
	SBLT	0.49	9.5	A	3	0.48	11.8	B	3
	SBTR	0.54	10.7	B	3	0.53	12.9	B	3
Unsignalized Intersections									
		v/c	Delay (s)	LOS	95th Queue (m)	v/c	Delay (s)	LOS	95th Queue (m)
Proposed Site Access & Airport Road	WBLR	0.02	11.8	B	0.5	0.14	21.8	C	3.6
	NBR	0.19	0.0	-	0.0	0.26	0.0	-	0.0
	SBL	0.01	8.3	A	0.1	0.05	12.1	B	1.2

Based on the results of the capacity analysis of future total traffic volumes, the study area intersection and proposed site access are projected to operate with residual capacity, with acceptable levels of service and with acceptable delay and queue lengths. In contrasting the results of the traffic operations analysis between the previous and current site layouts, it is noted that the reduction in the number of truck and trailer parking spaces has resulted in improved operations, with no critical movements identified.

On this basis, the site traffic generated by the proposed development is projected to have a negligible impact on the future traffic operations of the surrounding road network.

5.0 SITE PLAN REVIEW

5.1. Vehicle Maneuverability Assessment

AutoTURN software was used to generate a vehicular turning template to confirm and demonstrate the accessibility of the proposed study area. The AutoTURN analysis demonstrates that a standard truck and trailer (WB-20 TAC-2017) can access the subject site and maneuver the proposed parking spaces. The AutoTURN analysis is provided in **Figure 5-1**.

5.2. Access Review

It is to be noted that the initial submission of our Transportation Impact Study provided a review of the proposed site access in accordance with Peel Region's Road Characterization Study. In response to the Region's comments regarding the proposed site access, the site access design elements were explored further in the following subsections.

5.2.1. Auxiliary Lanes

Left-Turn Lane

Table 4: Auxiliary Lane Placement from the Region's RCS indicates that auxiliary left turn lanes are required for access onto Suburban Connectors, whereas the requirement for right turn lanes is conditional based on the results of the traffic impact assessment. Trip generation calculations for the proposed development forecast a total of 25 and 71 two-way trips during AM and PM peak hour, respectively. Based on Table 5: Volume Thresholds for Access Control from the Region's RCS, the trip projections fall within the 'Medium Impact' threshold of 60-100 veh/hr peak hour, which triggers the auxiliary lane requirement for new developments.

Notwithstanding that auxiliary lanes are required in accordance with the Region's RCS Access Guidelines, an inbound left-turn lane is not proposed for the development on the basis of several key factors.

The existing pavement width of Airport Road within the vicinity of the subject site is approximately 7m and there are approximately 3m gravel shoulders on each side of the existing paved roadway. The implementation of an auxiliary turning lane would require the physical widening of the existing pavement width, which would result in extensive road works within the existing public right of way to accommodate. It is noted that Peel Region has undertaken a Municipal Class Environmental Assessment for Airport Road from 1.0km north of Mayfield Road to 0.6km north of King Street, which includes the segment of Airport Road that fronts the subject site. Based on the Region's Airport Road Design Plan, it is noted that the typical future cross-section of Airport Road will include two (2) through travel lanes in both the northbound and southbound directions, as well as a two-way left-turn lane and paved shoulders. It is Nextrans' understanding that the proposed widening of Airport Road will begin in 2026 and the section of Airport Road that fronts the subject site will be the last section to be widened. On this basis, once the widening of Airport Road has been completed, the ultimate road configuration will accommodate the requirement for a two-way left-turn lane at the site entrance.

Left-Turn Lane Warrant

Notwithstanding that the Region's RCS study indicated that an auxiliary left-turn lane is required, The MTO Design Supplement for TAC Geometric Design Guide (GDG) for Canadian Roads was also reviewed to determine if the warrants for a left-turn lane at the site access are met.

While it is noted that using the future total traffic volumes for the warrant calculations would result in the most conservative assessment, the projected future background traffic volumes add a significant amount of traffic during both AM and PM peak hour, respectively. In comparing the AM link volumes at the site access with the projected future background link volumes at the site access, there is over a 100% increase in total traffic. In comparing the PM existing and future background link volumes at the site access, there is an almost 200% increase in total traffic. As such, the projected future background traffic volumes on Airport Road necessitate the planned widening and it would be unrealistic to assume a scenario where the background traffic volumes are added to the road network with it's existing two (2) lane configuration. Furthermore, as the Region's comments require the left-turn lane in the interim, it would be more appropriate to assume this scenario under existing traffic conditions.

As such, the existing traffic conditions + the site traffic volumes were used for the left-turn lane warrant are detailed in **Table 5.1**.

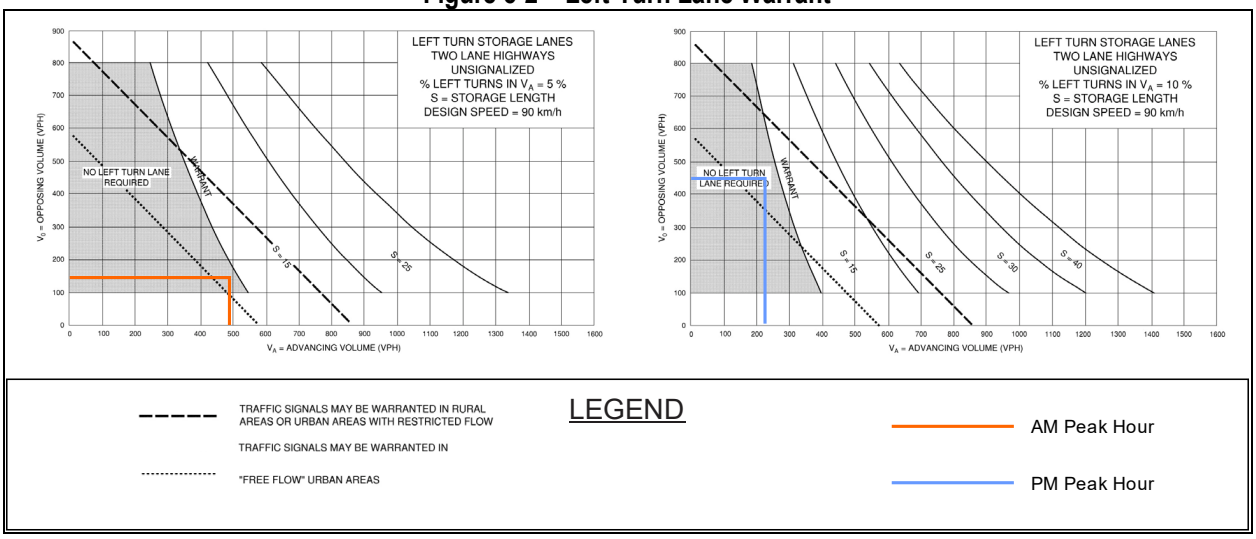
Table 5.1: Left-Turn Lane Warrant

Peak Hour	AM	PM
Design Speed	90 km/h	
V_a	493 (486+7)	224 (199+25)
V_o	148 (142+6)	447 (433+14)
% Lefts in Advancing	1.4%	12.5%
Exhibit Selected	Exhibit 9A-19 (5%)	Exhibit 9A-19 (10%)

It is to be noted that although the percent of left turning volume in advancing during AM peak hour (1.4%) is less than the minimum number of percent left turns noted on any warrant for a 90 km/h design speed, the warrant for 5% left turns in advancing was used as a conservative approach.

The warrants for both AM and PM traffic conditions is illustrated in **Figure 5-2**.

Figure 5-2 – Left-Turn Lane Warrant



Based on the left-turn lane warrants for the subject site under existing traffic conditions + site generated traffic, neither the traffic volumes during AM peak hour nor the traffic volumes during PM peak hour warrant a left-turn lane. On this basis, Nextrans maintains that a left-turn lane for the site is not warranted under interim conditions, prior to the imminent widening of Airport Road.

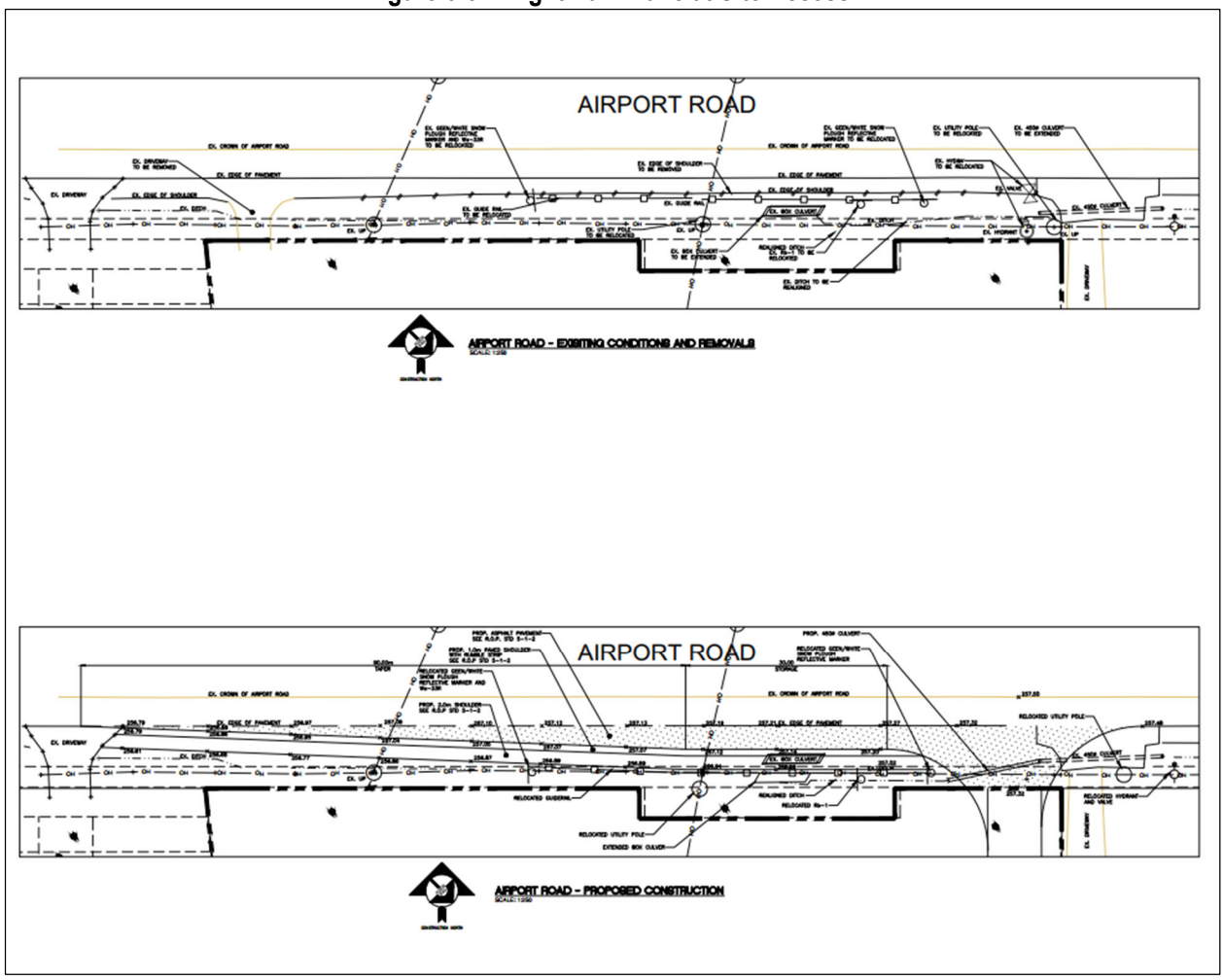
Right Turn Auxiliary Lane

The Owner has agreed to the construction of an interim inbound right-turn lane at the site access, acknowledging that this will eventually be removed once Airport Road is widened. The provision of the inbound right-turn lane will improve safety for all road users in the interim as it will provide inbound trucks with a dedicated lane for deceleration when turning right into the subject site. The right-turn lane was designed based on TAC 2017, Chapter 9 and the parameters are as follows:

- Right turn taper length = 90m
- Max taper width = 3.5m
- Right turn storage lane = 30m
- Curb return radius at entrance = 15m

The design of the right-turn lane was prepared by Candevcon Group Inc. and is illustrated in **Figure 5-3** below.

Figure 5-3 – Right-Turn Lane at Site Access



5.2.2. Sightline Analysis

5.2.3. Stopping Sight Distance

For the purpose of sight distance assessment, a design speed of 90 km/hr (posted speed limit plus 10 km/hr) was considered. Sight distance requirements were considered for passenger vehicles approaching the proposed site access onto Airport Road. Under the stopping sight distance assessment, the target height applied is 0.38 m for vehicle taillights, and for intersection movements a top of car height of 1.3 m is applied. A driver eye height of 1.05 m is applied for all scenarios.

The effect of the road grade on Airport Road was considered in calculating the stopping sight distance requirement. For the north approach, a road grade of -0.0125 was considered for approaching the site access, whereas for the south approach, a road grade of 0.0075 was considered. In accordance with the Geometric Design Guide for Canadian Roads by the Transportation Association of Canada (TAC 2017) section 2.5.3, the required stopping distance is determined using the following equation:

$$d_b = V^2 / 254[(a/9.81) +/- G)]$$

Where:

d_b = Braking distance (m);
V = design speed (km/h);
a = Deceleration rate (m/s^2), 3.4 m/s^2
G = the percent grade divided by 100

Then:

$$\text{Stopping Sight Distance} = 0.278tV + d_b$$

Minimum stopping sight distance for north approach $= [0.278 \times 2.5 \times 90] + [90^2 / 254 ((3.4/9.81) – 0.0125)]$
$= 158m$

Existing sight distances approaching the proposed site access have been determined through a site visit. Stopping sight distance at the proposed site access is detailed in **Table 3.1**.

Table 5.2 – Stopping Sight Distance Assessment at Site Access

Approach	Required	Achieved	Difference
Northbound	158m	+250m	+92m
Southbound	152m	+250m	+98m

In comparing the achieved stopping sight distance of 150m with the required stopping sight distance of 158m for the northbound approach and 152m for the southbound approach, there is a surplus of minimum surplus of 92m in each direction.

On this basis, the achieved stopping sight distances are compliant with the minimum requirement.

5.2.4. Departure Sight Distance

To assesses scenarios where vehicles are departing from the location of the proposed driveway, the departure sight distance was assessed under Case B1 – Left Turn from the Minor Road, in accordance with Section 9.9.2.3 of the *Geometric Design Guide for Canadian Roads (TAC 2017)*. The departure sight distance was assumed to be under stop-controlled conditions.

As stipulated in the Geometric Design Guide for Canadian Roads, the intersection sight distance along the major road is determined using the following equation:

$$ISD = 0.278\ V_{major}\ t_g$$

Where:

ISD = Intersection sight distance (length of the leg of sight triangle along the major road) (m);
V_{major} = design speed of the major road (km/h); and,
T_g = time gap for minor road vehicle to enter the major road (s)

Case B1 – Minimum intersection sight distance for vehicles turning left from the proposed site access onto Airport Road:

ISD = 0.278 x 90 x 7.5
= 187.65m say **190m**

As previously mentioned, actual departure sight distances at the proposed site access have been determined through an on-site visit. The departure sight distances at the proposed site access are summarized in **Table 5.2**.

Table 5.3 – Departure Sight Distance Assessment at Site Access

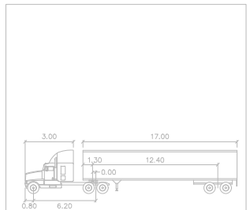
Approach	Required	Achieved	Difference
Northbound	190m	+250m	+60m
Southbound	190m	+250m	+60m

In comparing the achieved departure sight distance of a minimum of 250m in each direction with the required departure sight distance of 190m in each direction, there is a minimum surplus of 60m in departure sight distance for vehicles turning left out of the driveway. On this basis, the achieved departure sight distance is adequate.

Based on the results of the sight distance assessment, the available sightlines at the proposed site access exceed the minimum requirements of the TAC Geometric Design Guide for Canadian Roads (2017) for both approaching and departing vehicles. The assessment confirms that drivers entering or exiting the site will have sufficient visibility of oncoming traffic to complete turning and crossing maneuvers safely, and that through-traffic will likewise have adequate advance warning of vehicles using the access. Accordingly, the proposed site access is appropriately located and can be expected to operate safely without creating undue operational or safety concerns.

KEY PLAN

VEHICLE PROFILE



WB–20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

REVISONS

NO	REVISION	DATE	BY

STAMP

nexTrans
CONSULTING ENGINEERS
Suite 201, 520 Industrial Parkway South
Aurora ON L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

PROJECT NAME:

TEMP. TRUCK & TRAILER PARKING FACILITY

13291 AIPORT ROAD

TOWN OF CALEDON

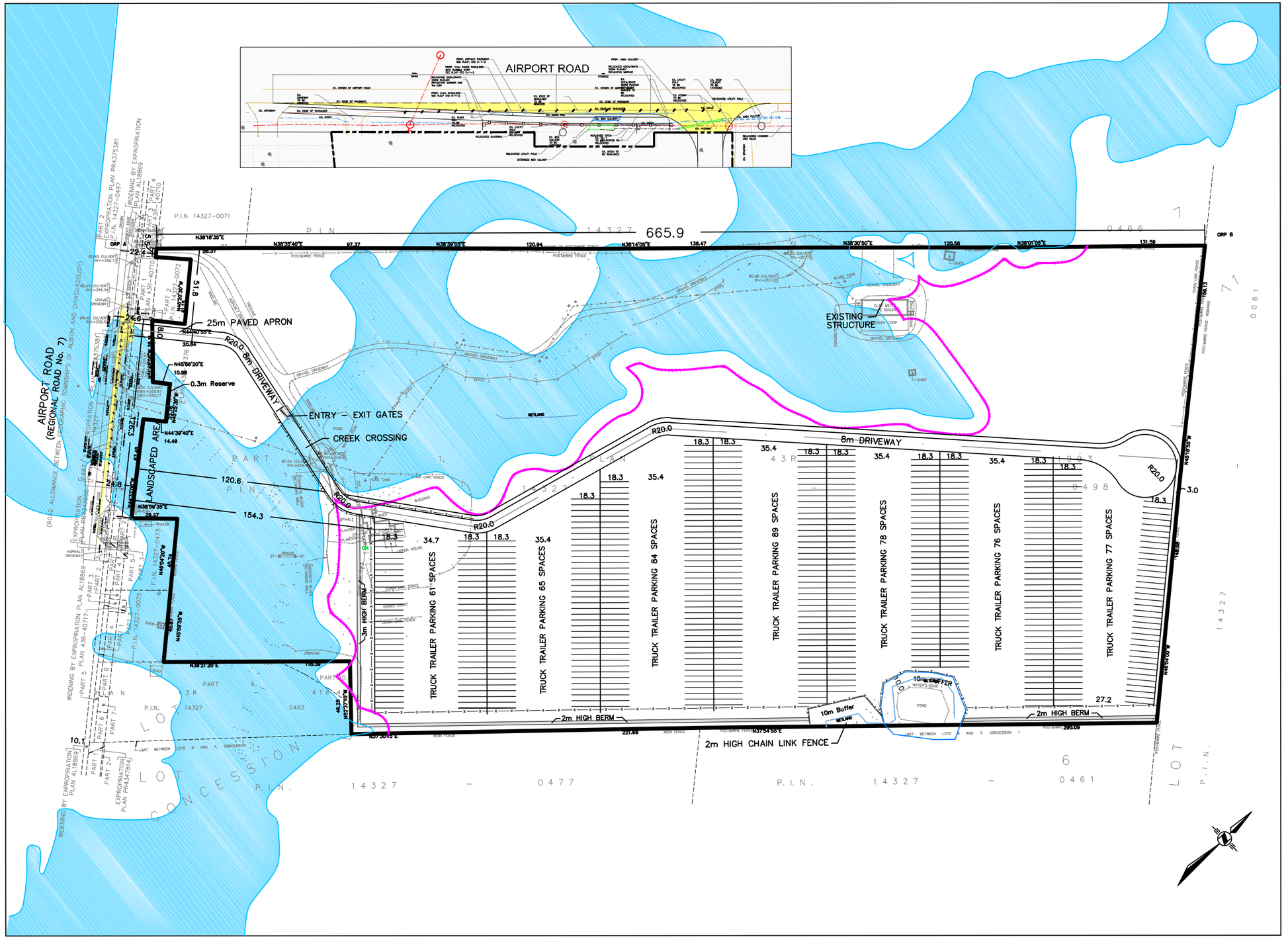
DRAWING TITLE:

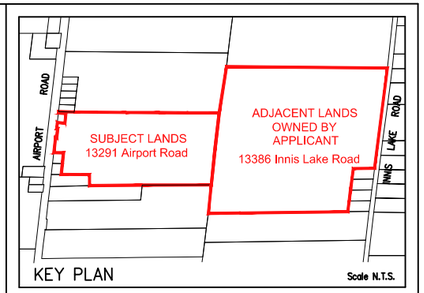
AutoTURN Analysis
WB–20 TAC–2017

DESIGN BY: K.A.	DATE: October 7, 2025
CHECKED BY: R.P.	PROJECT NO. NT-24-207
DRAWN BY: K.A.	
SCALE: NTS	DRAWING NO. Figure 5-1

APPENDIX A:

Site Plan





KEY PLAN Scale N.T.S.

HUMPHRIES PLANNING GROUP INC.
190 PIPPIN ROAD, SUITE A, VAUGHAN, ONTARIO, L4K 4X9
TEL (905)264-7678, FAX (905)264-8073
www.humphriesplanning.com

TRUCK AND TRAILER PARKING

DEVELOPMENT STATISTICS

TOTAL SITE AREA	19.4 ha
TEMPORARY TRUCK & TRAILER PARKING AREAS 'A' THROUGH 'F'	7.7 ha
TOTAL TEMPORARY TRUCK & TRAILER PARKING SPACES	530

TYPICAL PARKING SPACE (3.66m X 18.3m)

TEMPORARY USE SITE PLAN

13291 AIRPORT ROAD

PART OF LOT 7,
CONCESSION 1
(GEOGRAPHIC TOWNSHIP OF ALBION)
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

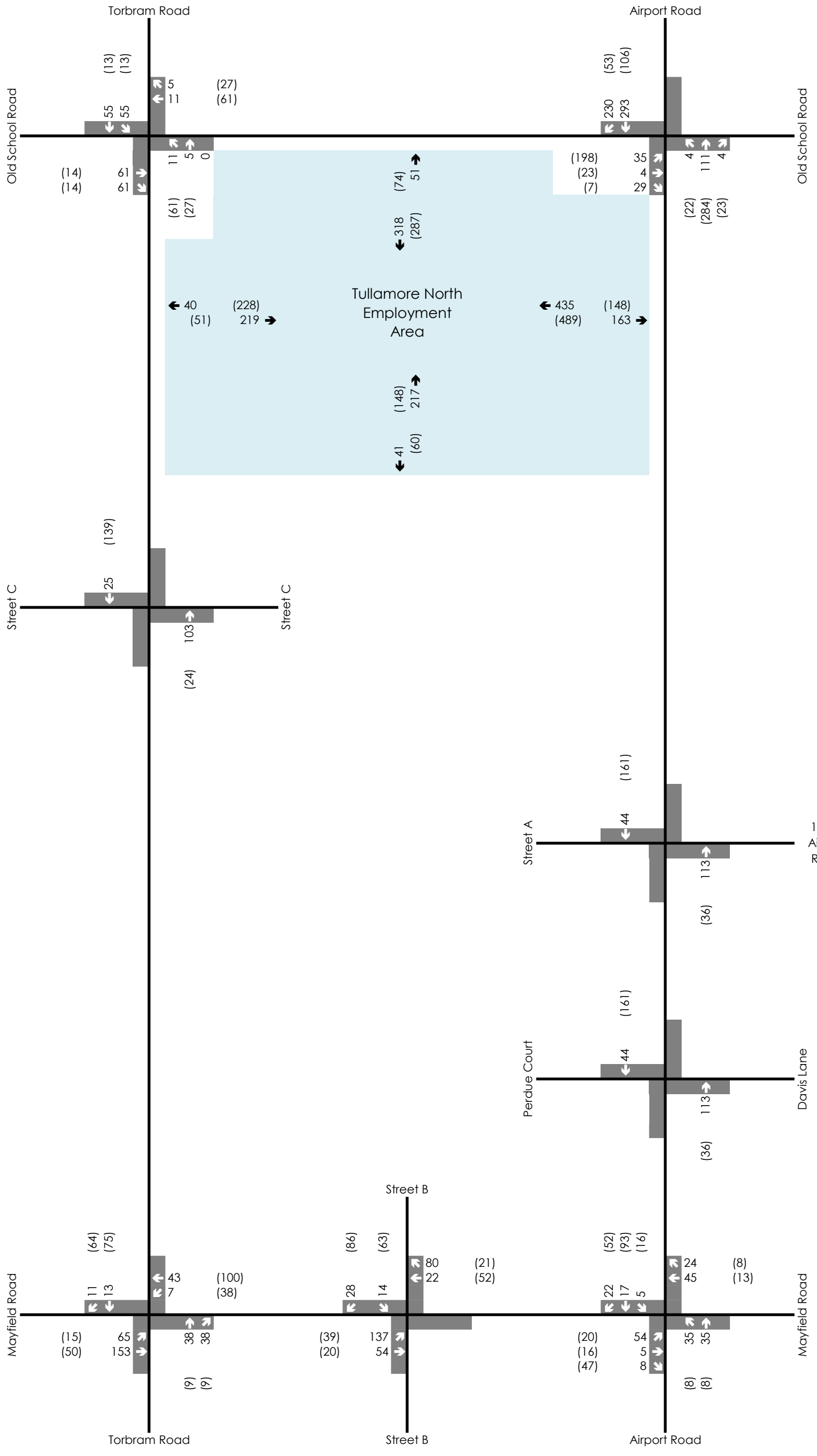
SCALE:
20 0 20 50 100m

HUMPHRIES PLANNING GROUP INC.
190 PIPPIN ROAD, SUITE A, VAUGHAN, ONTARIO, L4K 4X9
TEL (905)264-7678, FAX (905)264-8073
www.humphriesplanning.com

File Number:	Drawing Number: A
Date Drawn: 14 AUG 24	
Drawn By: BT	
Checked By: R.H.	
Date Revised: 1 OCT 25	
CAD File No.:	

APPENDIX B:

0 Airport Road (Tullamore North-West Secondary Plan) Site Traffic Figure



Legend

xx A.M. Peak Hour Traffic Volumes
(xx) P.M. Peak Hour Traffic Volumes
{xx} Weekend Peak Hour Traffic Volumes

Tullamore Northwest Employment Area Secondary Plan

Total Site Traffic Volumes

CROZIER CONSULTING ENGINEERS

Figure 17

Project No. 2278-7228
Date: 04/30/25
Analyst. MY

APPENDIX C:

Future Background Traffic Analysis Results

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	253	145	495	1002
Demand Flow Rate, veh/h	257	145	570	1058
Vehicles Circulating, veh/h	1065	512	191	122
Vehicles Exiting, veh/h	115	249	1131	535
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.3	5.6	7.4	10.1
Approach LOS	C	A	A	B

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.386	0.614	0.470	0.530	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	257	56	89	268	302	497	561
Cap Entry Lane, veh/h	536	770	790	979	989	1031	1037
Entry HV Adj Factor	0.984	1.000	1.000	0.868	0.869	0.948	0.947
Flow Entry, veh/h	253	56	89	233	262	471	531
Cap Entry, veh/h	528	770	790	850	859	977	982
V/C Ratio	0.479	0.073	0.113	0.274	0.306	0.482	0.541
Control Delay, s/veh	15.3	5.4	5.7	7.2	7.6	9.5	10.6
LOS	C	A	A	A	A	A	B
95th %tile Queue, veh	3	0	0	1	1	3	3

Intersection	
Intersection Delay, s/veh	15.6
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	223	472	1227	716
Demand Flow Rate, veh/h	235	472	1274	830
Vehicles Circulating, veh/h	916	1298	206	391
Vehicles Exiting, veh/h	305	182	945	1379
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.4	26.2	14.2	12.0
Approach LOS	B	D	B	B

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.284	0.716	0.470	0.530	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	235	134	338	599	675	390	440
Cap Entry Lane, veh/h	595	427	455	968	978	843	859
Entry HV Adj Factor	0.949	1.000	1.000	0.962	0.963	0.862	0.862
Flow Entry, veh/h	223	134	338	576	650	336	379
Cap Entry, veh/h	565	427	455	932	942	727	741
V/C Ratio	0.395	0.314	0.742	0.619	0.690	0.463	0.512
Control Delay, s/veh	12.4	13.8	31.1	13.0	15.3	11.5	12.4
LOS	B	B	D	B	C	B	B
95th %tile Queue, veh	2	1	6	4	6	2	3

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APPENDIX D:

Proxy Site Trip Generation Surveys

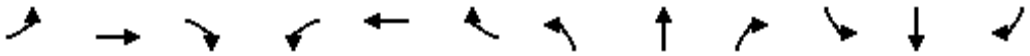
6186 Mayfield Road Trip Generation Survey Results

	AM Peak																			
Date	21-Sep-23										22-Sep-23									
Time	Inbound					OUTBOUND					Inbound					OUTBOUND				
Vehicle	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL
7:00	2	1	0	1	4	0	1	1	0	2	1	1	2	1	5	0	2	2	0	4
7:15	0	1	1	0	2	0	0	0	1	1	0	0	1	1	2	0	0	1	1	2
7:30	0	0	1	1	2	1	2	0	0	3	1	0	0	0	1	1	0	0	1	2
7:45	0	0	1	0	1	0	0	0	1	1	1	0	0	0	1	0	0	1	0	1
8:00	1	0	1	0	2	0	0	1	1	2	0	1	2	0	3	1	2	1	0	4
8:15	0	0	1	0	1	1	0	0	0	1	1	0	1	0	2	0	0	0	1	1
8:30	1	1	0	0	2	1	0	0	1	2	1	1	0	0	2	0	0	2	1	3
8:45	1	0	1	1	3	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0
Total 1-way	9					7					9					9				
Total 2-way	16										18									

	PM Peak																			
Date	21-Sep-23										22-Sep-23									
Time	Inbound					OUTBOUND					Inbound					OUTBOUND				
Vehicle	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL
16:00	3	0	1	1	5	2	0	1	0	3	1	0	2	0	3	1	0	0	0	1
16:15	2	4	1	0	7	3	0	1	0	4	1	1	2	1	5	1	0	1	0	2
16:30	0	2	1	1	4	2	0	0	0	2	4	2	3	3	12	1	0	2	1	4
16:45	2	1	2	1	6	2	0	0	0	2	0	1	2	1	4	0	0	1	1	2
17:00	3	4	0	3	10	6	1	2	0	9	2	0	2	3	7	1	0	1	1	3
17:15	4	3	1	0	8	4	0	1	1	6	3	1	1	0	5	0	2	1	0	3
17:30	1	3	1	3	8	3	0	1	0	4	2	1	3	2	8	0	1	1	0	2
17:45	0	1	1	0	2	3	0	0	1	4	1	0	1	0	2	0	0	0	2	2
Total 1-way	28					23					28					12				
Total 2-way	51										40									

APPENDIX E:

Future Total Traffic Analysis Results



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	27	1	213	52	1	85	63	330	84	152	760	46
Future Volume (veh/h)	27	1	213	52	1	85	63	330	84	152	760	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	28	1	224	55	1	89	66	347	88	160	800	48
Approach Volume (veh/h)		253			145			501			1008	
Crossing Volume (veh/h)		1015			441			189			122	
High Capacity (veh/h)		615			978			1194			1259	
High v/c (veh/h)		0.41			0.15			0.42			0.80	
Low Capacity (veh/h)		476			794			988			1047	
Low v/c (veh/h)		0.53			0.18			0.51			0.96	

Intersection Summary				
Maximum v/c High	0.80			
Maximum v/c Low	0.96			
Intersection Capacity Utilization	71.9%	ICU Level of Service	C	

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

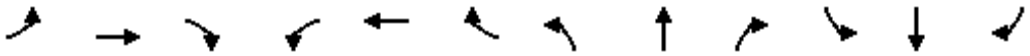
Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	253	145	501	1008
Demand Flow Rate, veh/h	257	145	577	1064
Vehicles Circulating, veh/h	1071	519	191	122
Vehicles Exiting, veh/h	115	249	1137	542
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.4	5.6	7.4	10.1
Approach LOS	C	A	A	B

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.386	0.614	0.470	0.530	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	257	56	89	271	306	500	564
Cap Entry Lane, veh/h	534	766	786	979	989	1031	1037
Entry HV Adj Factor	0.984	1.000	1.000	0.868	0.867	0.948	0.947
Flow Entry, veh/h	253	56	89	235	265	474	534
Cap Entry, veh/h	526	766	786	850	857	977	983
V/C Ratio	0.481	0.073	0.113	0.277	0.310	0.485	0.544
Control Delay, s/veh	15.4	5.4	5.7	7.2	7.6	9.5	10.7
LOS	C	A	A	A	A	A	B
95th %tile Queue, veh	3	0	0	1	1	3	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	5	436	6	6	952
Future Volume (Veh/h)	6	5	436	6	6	952
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	5	474	7	7	1035
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1009	240			481	
vC1, stage 1 conf vol	478					
vC2, stage 2 conf vol	532					
vCu, unblocked vol	1009	240			481	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	99			99	
cM capacity (veh/h)	451	767			1092	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	12	316	165	7	518	518
Volume Left	7	0	0	7	0	0
Volume Right	5	0	7	0	0	0
cSH	545	1700	1700	1092	1700	1700
Volume to Capacity	0.02	0.19	0.10	0.01	0.30	0.30
Queue Length 95th (m)	0.5	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	11.8	0.0	0.0	8.3	0.0	0.0
Lane LOS	B			A		
Approach Delay (s)	11.8	0.0		0.1		
Approach LOS	B					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	94	1	107	120	1	305	229	812	76	88	535	42
Future Volume (veh/h)	94	1	107	120	1	305	229	812	76	88	535	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	104	1	119	133	1	339	254	902	84	98	594	47
Approach Volume (veh/h)		224			473			1240			739	
Crossing Volume (veh/h)		825			1260#			203			388	
High Capacity (veh/h)		718			502			1181			1021	
High v/c (veh/h)		0.31			0.94			1.05			0.72	
Low Capacity (veh/h)		565			380			977			832	
Low v/c (veh/h)		0.40			1.24			1.27			0.89	

Intersection Summary					
Maximum v/c High	1.05				
Maximum v/c Low	1.27				
Intersection Capacity Utilization	88.7%	ICU Level of Service		E	
# Crossing flow exceeds 1200, method is not applicable					

Intersection	
Intersection Delay, s/veh	16.0
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	224	473	1240	739
Demand Flow Rate, veh/h	236	473	1288	858
Vehicles Circulating, veh/h	944	1313	208	391
Vehicles Exiting, veh/h	305	183	972	1395
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.9	27.1	14.5	12.4
Approach LOS	B	D	B	B

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.283	0.717	0.470	0.530	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	236	134	339	605	683	403	455
Cap Entry Lane, veh/h	584	422	451	967	977	843	859
Entry HV Adj Factor	0.949	1.000	1.000	0.963	0.962	0.862	0.861
Flow Entry, veh/h	224	134	339	583	657	347	392
Cap Entry, veh/h	554	422	451	931	940	726	740
V/C Ratio	0.404	0.317	0.752	0.626	0.699	0.478	0.529
Control Delay, s/veh	12.9	14.0	32.2	13.2	15.7	11.8	12.9
LOS	B	B	D	B	C	B	B
95th %tile Queue, veh	2	1	6	5	6	3	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	21	10	1197	14	25	644
Future Volume (Veh/h)	21	10	1197	14	25	644
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	11	1301	15	27	700
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1712	658			1316	
vC1, stage 1 conf vol	1308					
vC2, stage 2 conf vol	404					
vCu, unblocked vol	1712	658			1316	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	97			95	
cM capacity (veh/h)	208	412			532	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	34	867	449	27	350	350
Volume Left	23	0	0	27	0	0
Volume Right	11	0	15	0	0	0
cSH	248	1700	1700	532	1700	1700
Volume to Capacity	0.14	0.51	0.26	0.05	0.21	0.21
Queue Length 95th (m)	3.6	0.0	0.0	1.2	0.0	0.0
Control Delay (s)	21.8	0.0	0.0	12.1	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	21.8	0.0		0.5		
Approach LOS	C					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.5%	ICU Level of Service	A
Analysis Period (min)	15		