Alberta Transportation and Economic Corridors
Traffic Impact Assessment Review

Permit Number:	RPATH0049006	**Highway(s):**	27
Applicant Name:	Watt Consulting Group Ltd 1300 – 736 6 Ave SW Calgary, AB T2P 3T7		
Legal Land Location:	QS-SE SEC-3 TWP-33 RGE-1 MER-5	**Municipality:**	Mountain View County
Decision By:	Niki Burkinshaw, Infrastructure Manager.	**Issuing Office:**	Central Region / Red Deer
Issued Date:	May 1, 2025		
Project Scope:	Submission of Traffic Impact Assessment		
Description of Development:	The proposed residential development is located along Range Road 12 to the south of the Olds Golf Club in Mountain View County. The site is anticipated to include a total of 45 country residential lots and 32.6 acres of commercial / industrial area fronting Highway 27. Three access connections to Rage Road 12 are proposed to serve the development. One designated for the commercial access and two to service the residential lands.		

Transportation and Economic Corridors (TEC) has reviewed the revised Traffic Impact Assessment (TIA) submitted for the development as described above.

The Department accepts the TIA prepared by Watt Consulting Group Ltd dated March 31, 2025, subject to the following additional comments and/or requirements:

1) It has been noted that the right-of-way requirements for the future twinning of Hwy 27 have not been incorporated in the Site Plan (see page 10 of TIA).
2) The department accepts no responsibility for the noise impact of highway traffic upon any development or occupants thereof. Noise impact and the need for attenuation should be thoroughly assessed. The applicant is advised that provisions for noise attenuation are the sole responsibility of the developer and should be incorporated as required into the subdivision/development design.
3) The Netook North Development falls within the development control zone of a provincial highway (300 m from provincial highway right-of-way or within 800 m of the center point of highway and public road intersection). Therefore, the developer is required to obtain a Roadside Development Permit from TEC through the Department's online application portal RPATH (Roadside Planning Application and Tracking Hub).

If you have any questions, please do not hesitate to contact me at mat.reijnders@gov.ab.ca or by phone at (403) 340-4321.

Issued by **Mat Reijnders, Infrastructure Technologist,** on **May 1, 2025** on behalf of the Minister of Transportation and Economic Corridors pursuant to *Ministerial Order 52/20 – Department of Transportation and Economic Corridors Delegation of Authority*

NETOOK NORTH

Transportation Impact Assessment

PERMIT TO PRACTICE
WATT CONSULTING GROUP LTD.
RM Signature _____
RM APEGA ID #: 68750
Date: August 21, 2024
PERMIT NUMBER: P003818
The Association of Professional Engineers and Geoscientists of Alberta (APEGA)

PROFESSIONAL ENGINEER ALBERTA
BRUCE M. NELLIGAN
ID 79691
AUG. 21, 2024.

Gaelan Patterson, E.I.T.
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Bruce Nelligan, M.Eng., P.Eng.
Reviewer

Prepared For: 1273927 Alberta Ltd.
Date: August 21, 2024
Our File No: 3903.T01

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GLOSSARY OF TERMS

GENERAL	
All-Way-Stop Control	AWSC
Average Annual Daily Traffic	AADT
Average Annual Weekday Traffic	AAWT
Equivalent Adult Units	EAU
Institute of Transportation Engineers	ITE
Right-In-Right-Out	RIRO
Right-of-Way	ROW
Traffic Analysis Zone	TAZ
Transportation Association of Canada	TAC
Two-Way-Stop Control	TWSC
ANALYSIS RELATED	
Inbound	IB
Level of Service	LOS
Outbound	OB
Volume to Capacity	v/c
REPORT TYPE	
Area Structure Plan	ASP
Neighborhood Structure Plan	NSP
Transportation Impact Assessment	TIA
Transportation Master Plan	TMP

EXECUTIVE SUMMARY

WATT Consulting Group (WATT) was retained by 1273927 Alberta Ltd. to provide a Transportation Impact Assessment (TIA) in support of the Netook North development. The purpose of this TIA is to assess the impact of the proposed development on the existing transportation network, as well as review the proposed site plan.

Vision

Located in Mountain View County, just east of the Town of Olds, this development is expected to include a total of 45 country residential homes and a 33-acre commercial / industrial area fronting onto Highway 27, with a total of three access points to Range Road 12.

Scope

The scope of this TIA includes a review and analysis of the existing and future conditions for the 10 and 20-year horizons, with a focus on the following key elements:

- Background Information Review: Review site plans, supporting reports and existing documentation related to the proposed development site and surrounding transportation network.
- Trip Generation and Distribution: Estimate site generated traffic based on trip generation rates published by the Institute of Transportation Engineers (ITE), 11th Edition, and rates published in the Red Deer Design Guide. Distribution patterns to follow existing traffic patterns observed from the intersection count data.
- Capacity Analysis of Range Road 12 and Highway 27: Perform capacity analysis using Synchro software package and provide recommendations for future improvements at the following intersections:
    1. Highway 27 / Range Road 12
        - Analysis for future horizon years for the background and post development conditions
            - Existing Conditions (2024)
            - 2035 (Background & Post Development)
            - 2045 (Background & Post Development)

Analysis Approach

This analysis focuses on existing conditions, along with a 10-year (2035) horizon, and 20-year (2045) horizon. The opening day condition is not included as 2045 is the critical scenario that determines whether improvements are needed.

The TIA's of surrounding developments at Netook Business Park and Netook Crossing to the southeast of the development were used to develop the background traffic past the 2% linear growth rate required by Alberta Transportation. In addition, the two-stage left turn for vehicles heading east from Range Road 12 to Highway 27 was modelled, which reduces the delay for the SBL movement.

Results and Recommendations

Capacity analysis was conducted on Range Road 12 and Highway 27 intersection which is expected to be influenced by the proposed development. Based on this assessment, the following transportation network improvements were identified as being required for each study horizon to support the proposed development and surrounding regional growth in the post development scenario.

Analysis Results and Recommendations	
Existing Conditions	No upgrades required.
2035 Horizon (100% Build-Out)	No upgrades required.
2045 Horizon (100% Build-Out)	No upgrades required.

1.0 INTRODUCTION

1.1 Background

WATT Consulting Group (WATT) was retained by 1273927 Alberta Ltd. to complete a Transportation Impact Assessment (TIA) in support of a proposed country residential development in Mountain View County, near Olds, AB. This development consists of 45 homes on country residential lots, as well as 32.6 acres of commercial / industrial area along Range Road 12, north of Highway 27. The site context is illustrated in **Figure 1**.

Figure 1: Site Context

1.2 Scope

The scope of this TIA was confirmed in communication with Mountain View County, and includes the following key elements:

- Background Information Review
- Complete Traffic Counts
- Trip Generation and Distribution
- Capacity Analysis
    - Study Intersections Include:
        - Highway 27 / Range Road 12
        - Range Road 12 / Site Accesses (3)
- Evaluate Average Annual Daily Traffic (AADT)
- Internal Site Circulation Review

Project Terms of Reference confirmation is found in **Appendix A**.

2.0 EXISTING CONDITIONS

2.1 Existing Road Network

The site location is in proximity to three roadways which may be impacted by the proposed development, with access along Range Road 12.

A detailed description of the characteristics of each roadway and study intersection is provided in **Table 1** and **Table 2**, accompanied by the existing lane configuration and intersection control in **Figure 2,** to complement the analysis presented in this report.

Table 1: Roadway Characteristics

Road Name	Classification	Lanes	On-Street Parking	Sidewalks	Posted Speed
Roadways					
Range Road 12	County Road	2	No	No	N/A (80)
Highway 27	Rural Arterial Undivided	2	No	No	80

Table 2: Intersections Overview

Intersection	Control Type	Features	Crosswalks
Intersections			
Highway 27 / Range Rd 12	Two-Way Stop Control (TWSC)	Free flow along Hwy27, stop control for Range Road 12. 2-stage left turn for left-turn vehicles heading southbound on RR 12to eastbound Hwy 27.	None
Range Rd. 12 / Site Accesses	TWSC	Free flow along Range Road 12, stop control for site accesses.	None

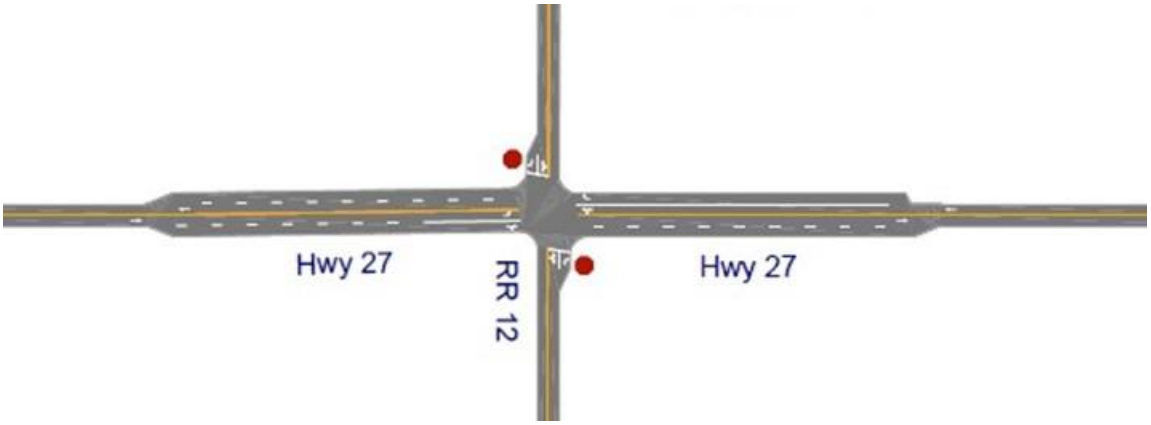

Figure 2: Existing Traffic Control

The primary intersection of concern in this study is Highway 27 / Range Road 12. The current geometry is that of a modified Type IVc. On the west approach a right turn storage bay is for vehicles making a WBR and resembles a Type IVd. The configuration on the east approach is similar to a Type IVc, with a dedicated left turn lane and a bypass lane. This configuration also results in an acceleration lane for southbound left-turning vehicles, making it possible for those drivers to perform a two-stage left turn. For the two-stage left turn: First the SB vehicle turns left across westbound traffic into the acceleration lane,

then the vehicle accelerates to match the speed of traffic travelling eastbound using the bypass lane. This two-stage left turn scenario was modelled for this TIA, and it was assumed that two vehicles could be stored in the acceleration lane, which is 90m long.

2.2 Existing Intersection Volumes

An intersection turning movement count was conducted at the intersection of Highway 27 / Range Road 12 during the AM (07:00-09:00) and PM (16:00-18:00) peak hours on Tuesday, February 7th, 2023.

An overview of the resulting existing turning movement volumes is provided in **Figure 3**. It was noted that Highway 27 experiences a higher percentage of heavy vehicles (10%) than what is typical (2%). For this analysis, all scenarios assume 10% heavy vehicles for the eastbound through and westbound through movements at Highway 27 / Range Road 12.

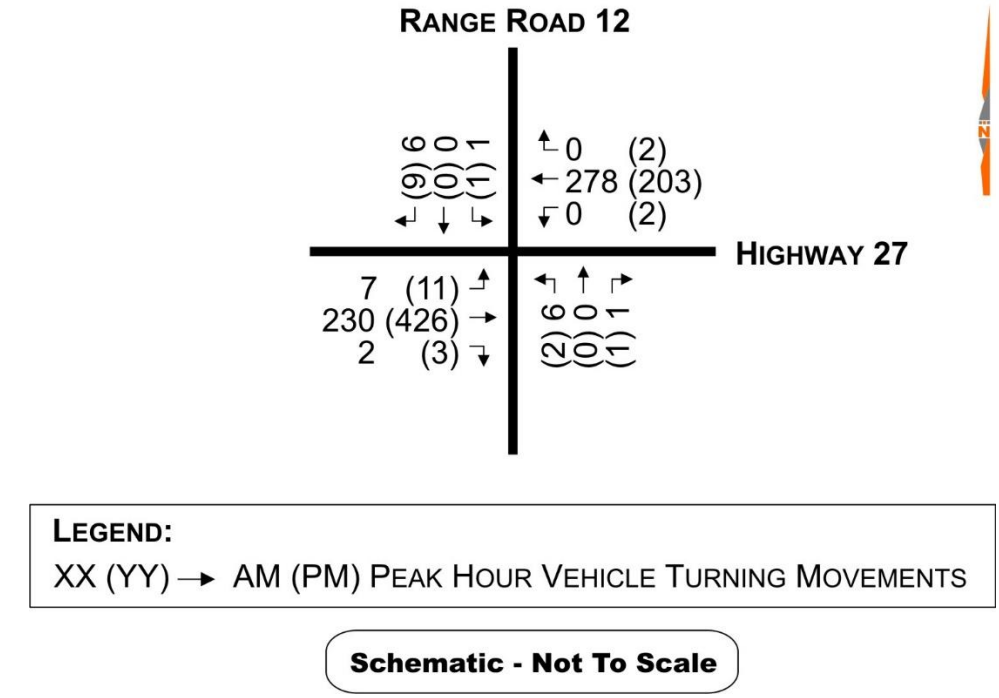

Figure 3: Existing Traffic Volumes

2.3 Intersection Performance Evaluation Criteria

Intersection capacity analysis for existing and proposed conditions was completed using the Synchro software package, which is based on the Highway Capacity Manual (HCM) evaluation method.

The Level-of-Service (LOS) for unsignalized (stop-controlled and roundabout) intersections is determined by the calculated delay for each critical movement. LOS 'A' represents minimal delay for minor-street traffic movements while LOS 'F' is associated with inadequate gaps for minor-street traffic. The LOS for a signalized intersection includes additional factors such as geometry, traffic and pedestrian volumes and signal phase/timing. As part of the analysis, the average delay for each lane group was calculated as well as the overall intersection delay, with operating conditions expressed as volume to capacity (v/c) ratios. **Table 3** provides an overview of associated delay per vehicle corresponding with the LOS.

Table 3: Level of Service Criteria

Level Of Service (Los)	Average Delay for **Unsignalized** & **Roundabout** Intersection Movements	Average Delay for **Signalized** Intersection Movements
A	0-10 seconds per vehicle	0-10 seconds per vehicle
B	> 10-15 seconds per vehicle	>10-20 seconds per vehicle
C	>15-25 seconds per vehicle	>20-35 seconds per vehicle
D	>25-35 seconds per vehicle	>35-55 seconds per vehicle
E	>35-50 seconds per vehicle	>55-80 seconds per vehicle
F	>50 seconds per vehicle	>80 seconds per vehicle

Considering that several study intersections intersect Highway 27 under the jurisdiction of Alberta Transportation, intersection capacity analysis presented in this report aligns with the requirements outlined in the Alberta Transportation Geometric Design Guidelines[1], with a threshold value LOS C for all turning movements.

[1] Alberta Transportation Highway Geometric Design Guidelines

2.4 Existing Operating Conditions

Current operating conditions were assessed using the Synchro software package according to observed intersection geometry illustrated in **Figure 2** and turning movement volumes in **Figure 3**. Analysis presented in **Table 4** is consistent with guidelines outlined by Red Deer County and Alberta Transportation. Complete Synchro reports are provided in **Appendix B**.

Table 4: Existing Operating Conditions

Intersection	Movement	LOS		Delay (s)		v/c Ratio		95th Queue (m)		Queue Bay Length (m)
		AM	PM	AM	PM	AM	PM	AM	PM	
Highway 27 / Range Road 12	NBL/T	B	C	14	16	0.02	0.01	0	0	
	NBR	A	B	10	11	0.00	0.00	0	0	6
	EBL/T	A	A	8	8	0.01	0.01	0	0	
	EBR	A	A	0	0	0.00	0.00	0	0	125
	WBL/T	A	A	0	8	0.00	0.00	0	0	
	WBR	A	A	0	0	0.00	0.00	0	0	125
	SBL/T	B	B	11	12	0.00	0.00	0	0	
	SBR	A	A	10	9	0.01	0.01	0	0	6

As noted in **Table 4**, all intersections and movements are expected to provide acceptable operating conditions under assumed geometry. There are no movements that are of concern.

3.0 PROPOSED DEVELOPMENT

3.1 Site Plan

The proposed residential development is located along Range Road 12 to the south of the Olds Golf Club in Mountain View County. Situated on one quarter-section of land, the site is expected to include a total of 45 country residential lots and 32.6 acres of commercial / industrial area fronting Highway 27. Three access connections to Range Road 12 are proposed to serve the development. One for commercial access, and two for the 45 residential homes.

The proposed commercial development also includes emergency access from the cul-de-sac onto the residential road. The current site plan for the proposed development is illustrated in **Figure 4**.

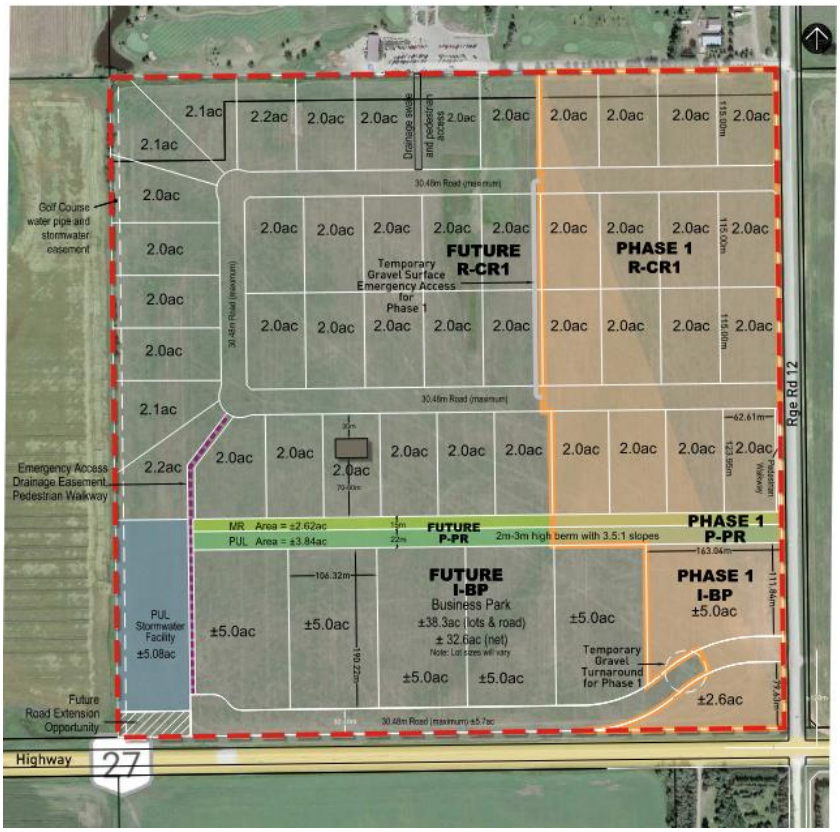

Figure 4: Site Plan

3.2 Trip Generation

Trip generation is a methodology used to model future trips that will occur from a development, based on the proposed land use. The trip generation for this proposed development was calculated using rates published by the Institute of Transportation Engineers (ITE), as well as relying on previous TIAs from adjacent developments. There are two land uses for the proposed development, single family homes, and a commercial development. For the single-family homes, ITE trip generation rates were used for the analysis.

- **Single Family Homes | ITE (210) Trip Generation**
  - AM Peak Hour 0.74 / unit (25% inbound / 75% outbound)
  - PM Peak Hour 0.99 / unit (63% inbound / 37% outbound)

For the commercial/industrial development, trip generation was performed using the same trip rates used in recently approved TIAs[2] [3] from the area. For both of these TIA's, the consultant used the empirical rates from the Red Deer Design Guide for an Industrial Subdivision. Since the land uses proposed for the commercial/industrial portion of this development are similar to the previous TIA's, the same trip rate was used as shown below:

- **Industrial | Red Deer Design Guide**
  - AM Peak Hour 4.6 / acre (85% inbound / 15% outbound)
  - PM Peak Hour 4.6 / acre (31% inbound / 69% outbound)

Anticipated trip generation was calculated for the AM and PM peak hours according to the trip generation rates provided below. Resulting site generated traffic is presented in **Table 5**.

[2] NW 35-32-1-W5M - Industrial/Commercial Development TIA, Al-Terra, September 14, 2022
[3] RR11/Highway 27 – (NW 35-32-1-W5M) Industrial/Commercial Development, Aptus Engineering, July 25, 2023

Table 5: Trip Generation

LAND USE	TRIPS GENERATED AM PEAK HOUR			TRIPS GENERATED PM PEAK HOUR		
	TOTAL	IB	OB	TOTAL	IB	OB
Single Family Homes	33	8	25	45	28	16
Light Industrial	150	127	23	150	46	103
TOTAL	**183**	**135**	**48**	**195**	**75**	**120**

3.3 Trip Distribution

Site generated traffic was assigned to the transportation network according to observed distribution patterns from existing count data, with adjustments to reflect access locations in future horizons. For inbound trips, 90% of trips were distributed as coming from the town of Olds to the west, and 10% from Hwy 2 to the east. For outbound trips, 85% of trips were distributed towards the town of Olds to the west, and 15% towards Hwy 2 to the east. These percentages are in-line with the distribution patterns observed from the intersection count data (AM 86% / 14%, PM 90% / 10%). Due to the nature of the commercial development, it was assumed all movements to / from Range Road 12 to / from Highway 27 experienced 10% heavy vehicle traffic. **Figure 5** provides an overview of the expected trip distribution patterns, accompanied by the site generated traffic in **Figure 6**.

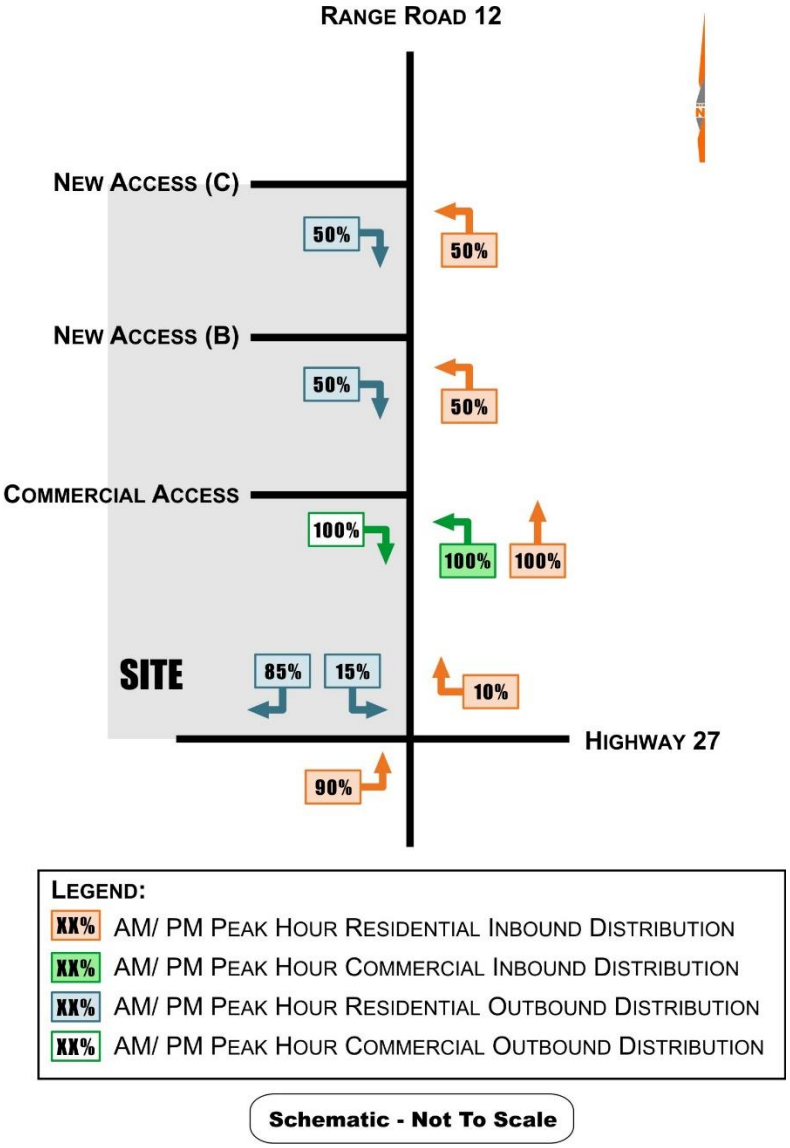

Figure 5: Trip Distribution

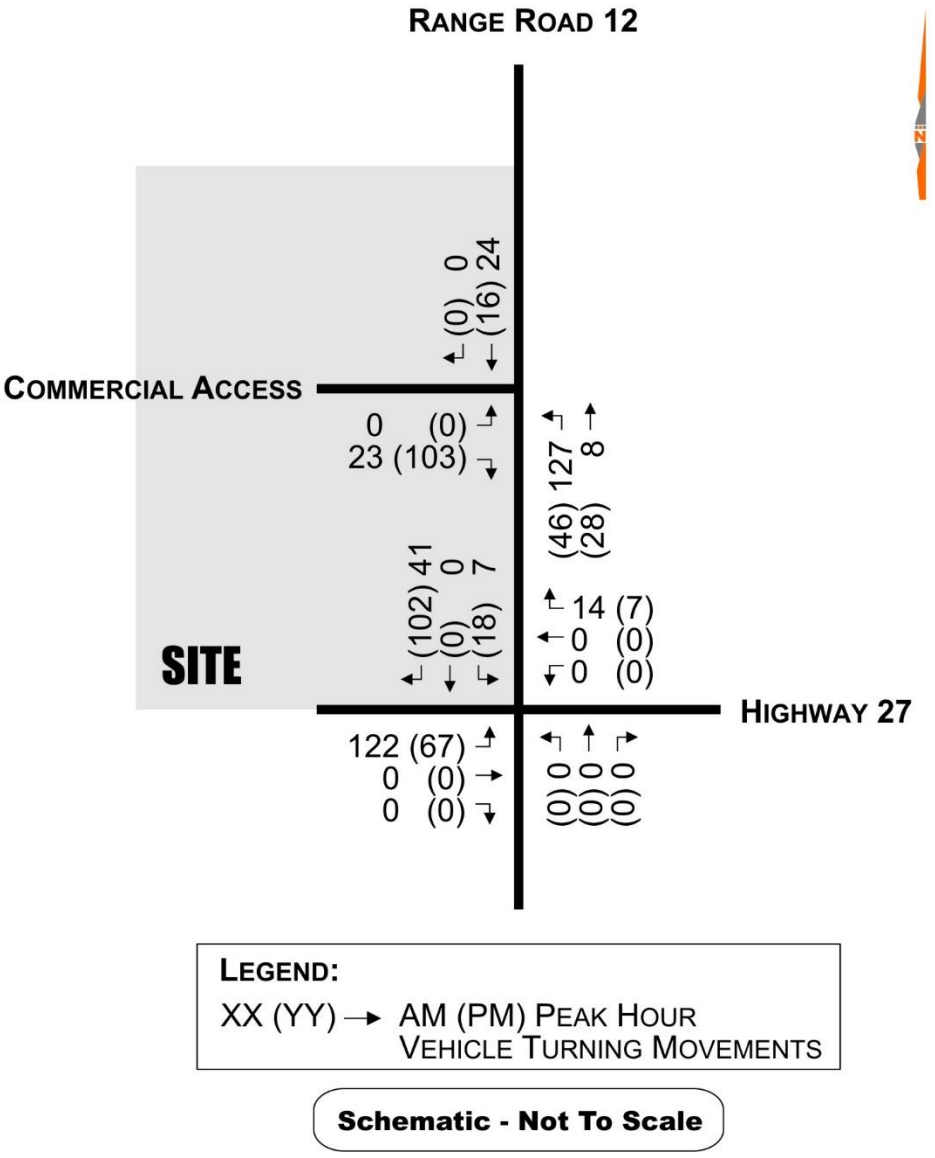

Figure 6: Site Generated Traffic Volumes

4.0 2035 HORIZON

4.1 Developments South of Hwy 27

Two light industrial / commercial developments are also planned on nearby quarter sections south of Highway 27. **Noble Industrial Park**, located in quarter section NW 35-32-1-W5M, diagonal to the study development, and **Netook Crossing Business Park**, located in quarter section NE 35-32-1-W5M, to the east of Noble Industrial Park. The two developments utilize the intersection of Highway 27 / Range Road 11 for site access, and not the intersection analyzed in this study (Highway 27 / Range Road 12). However, as the two developments develop, they will add more background traffic to the immediate road network that would not be captured in the 2% linear growth rate.

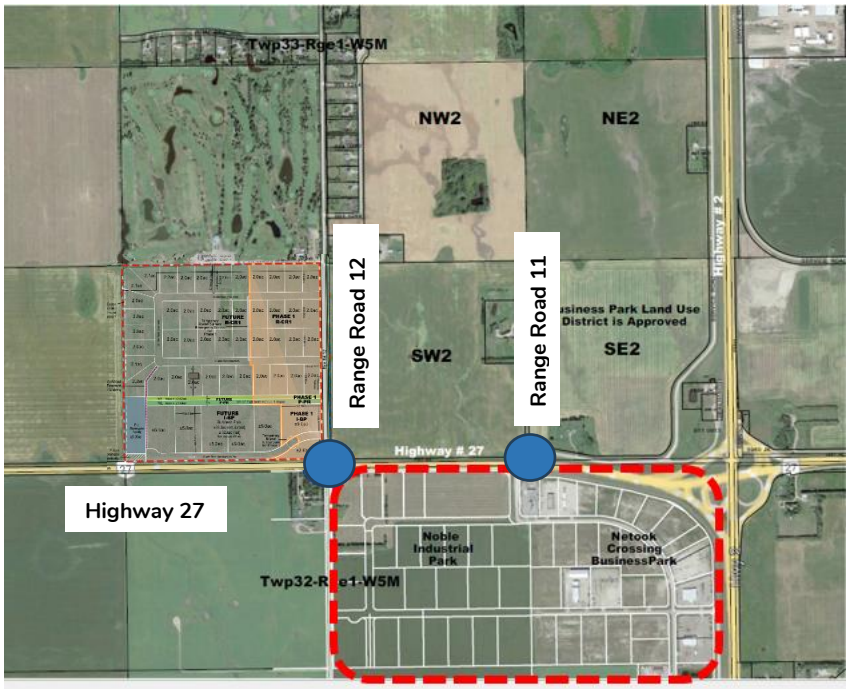

Figure 7: Developments south of Hwy 27

4.2 2035 Background

The proposed development is assumed to be complete by the 2035 horizon year, with background turning movement volumes determined by factoring existing count volumes with an annual linear growth rate of 2%, and by using the trip generation of future surrounding developments.

In 2022, a TIA was performed by AI-Terra Engineering Ltd., in which trip generation for both Noble Industrial Park and Netook Crossing Business Park was estimated for three future horizons: 2027, 2041, and 2052. While these horizon years do not match with the horizon years of this TIA, they were added to the background traffic volumes according to the following:

- 2041 estimates were added to 2035 and 2045 background scenarios.

Resulting traffic volumes for the background horizon are detailed in **Figure 8**.

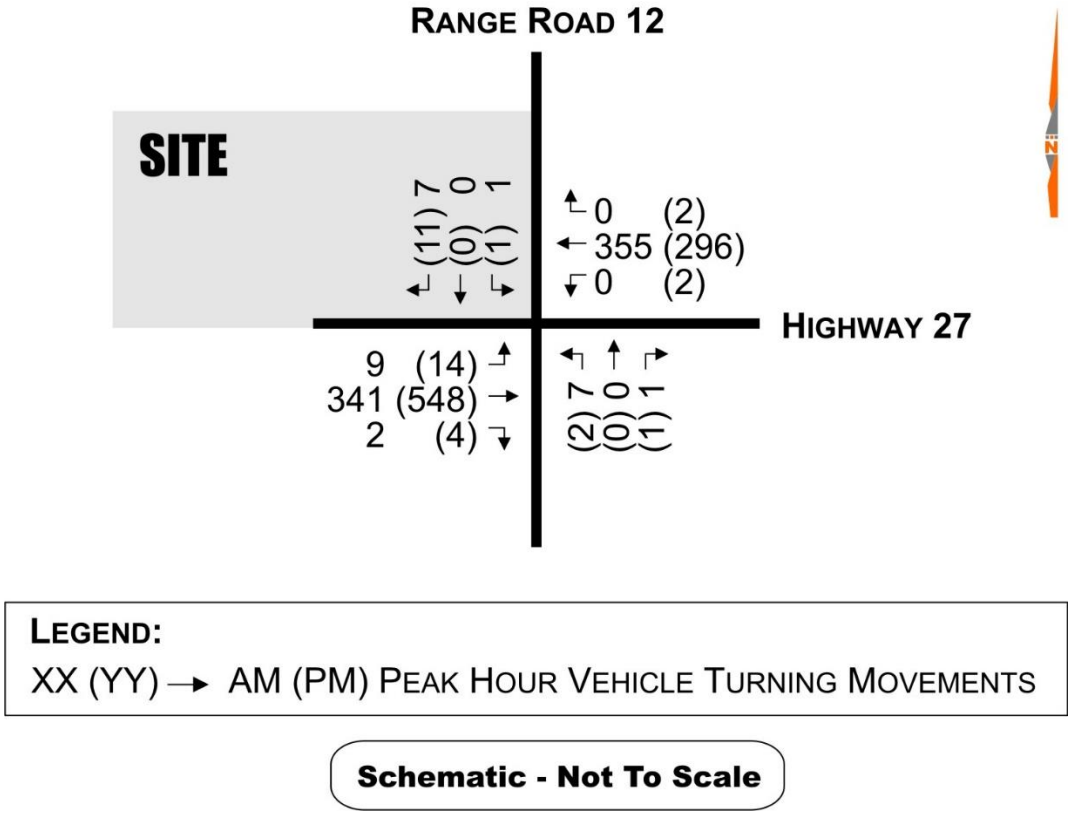

Figure 8: 2035 Background Traffic Volumes

Background operating conditions were assessed using the Synchro software package and background turning movement volumes illustrated in **Figure 8**. Analysis reflects the existing intersection geometry, with an overview of the resulting operating conditions provided in **Table 6,** and complete Synchro reports in **Appendix B.**

Table 6: 2035 Background Operating Conditions

Intersection	Movement	LOS		Delay (s)		v/c Ratio		95th Queue (veh)		Queue Bay Length (m)
		AM	PM	AM	PM	AM	PM	AM	PM	
Highway 27 / Range Road 12	NBL/T	C	C	17	21	0.03	0.01	1	0	
	NBR	B	B	10	12	0.00	0.00	0	0	6
	EBL/T	A	A	8	8	0.01	0.01	0	0	
	EBR	A	A	0	0	0.00	0.00	0	0	125
	WBL/T	A	A	0	9	0.00	0.00	0	0	
	WBR	A	A	0	0	0.00	0.00	0	0	125
	SBL/T	B	B	12	14	0.00	0.00	0	0	
	SBR	B	B	11	10	0.01	0.02	0	1	6

As noted in **Table 6**, all intersections are expected to provide acceptable operating conditions under assumed geometry.

4.3 2035 Post Development

Site generated traffic was assigned to the surrounding road network based on distribution patterns indicated in **Figure 5**. Post development traffic volumes were determined as the sum of the 2035 background traffic (**Figure 8**) and site generated traffic (**Figure 6**). Resulting turning movement volume presented in **Figure 9**, accompanied by the resulting intersection operating conditions in **Table 7**.

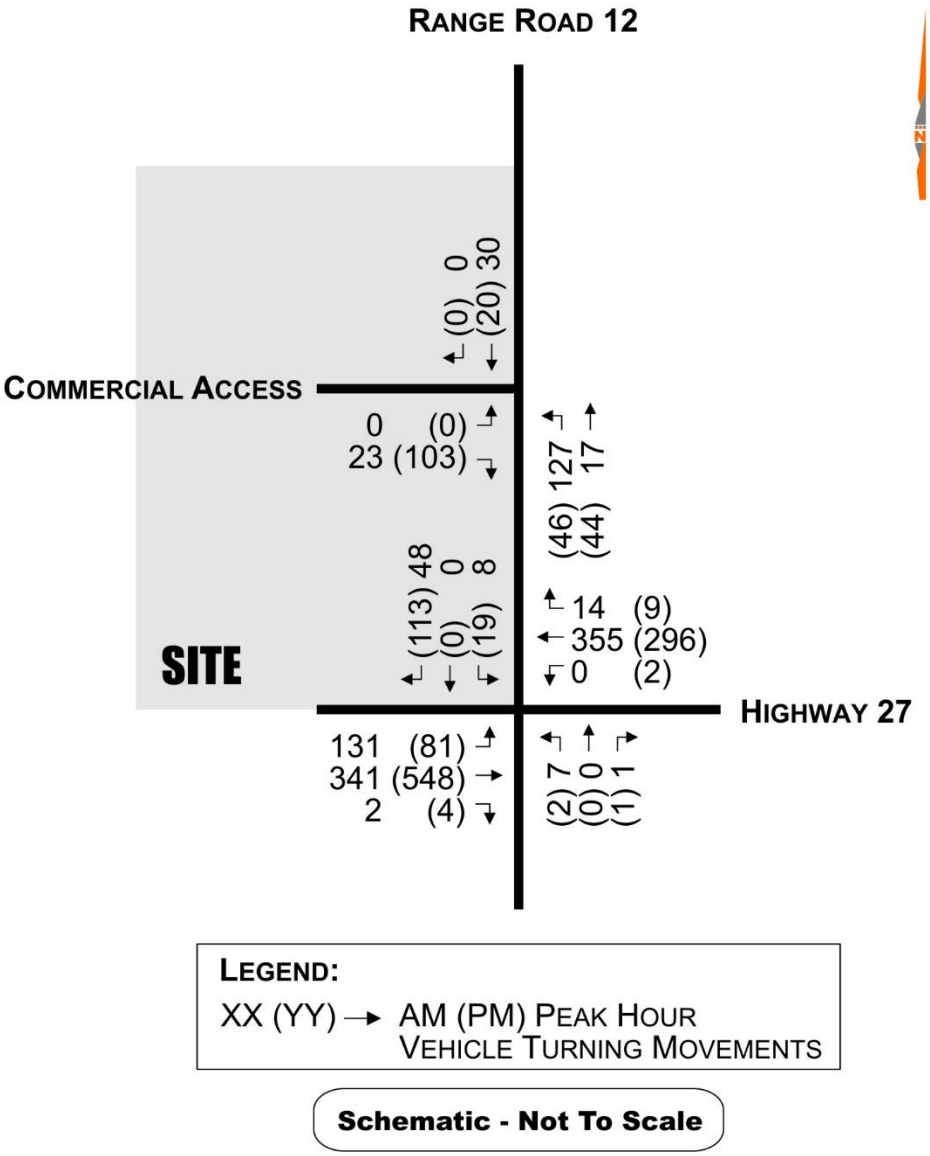

Figure 9: 2035 Post Development Traffic Volumes

Table 7: 2035 Post Development Operating Conditions

Intersection	Movement	LOS		Delay (s)		v/c Ratio		95th Queue (m)		Queue Bay Length (m)
		AM	PM	AM	PM	AM	PM	AM	PM	
Highway 27 / Range Road 12	**NBL/T**	D	D	28	33	0.05	0.02		D	D
	NBR	B	B	10	12	0.00	0.00	6	B	B
	EBL/T	A	A	9	8	0.12	0.07		A	A
	EBR	A	A	0	0	0.00	0.00	125	A	A
	WBL/T	A	A	0	9	0.00	0.00		A	A
	WBR	A	A	0	0	0.00	0.00	125	A	A
	SBL/T	C	C	16	17	0.03	0.07		C	C
	SBR	B	B	11	11	0.08	0.18	6	B	B
Range Rd 12 / Commercial Access	NBL/T	A	A	8	8	0.09	0.03		A	A
	EBL/R	A	A	9	9	0.02	0.11		A	A
	SBT/R	A	A	0	0	0.00	0.00		A	A
Range Rd 12 / Access B	NBL/T	A	A	7	7	0.00	0.01		A	A
	EBL/R	A	A	8	8	0.01	0.01		A	A
	SBT/R	A	A	0	0	0.00	0.00		A	A
Range Rd 12 / Access C	NBL/T	A	A	7	8	0.00	0.01		A	A
	EBL/R	A	A	8	8	0.01	0.01		A	A
	SBT/R	A	A	0	0	0.00	0.00		A	A

As noted in **Table 7,** only the northbound left/through movement is anticipated to experience LOS E. The LOS of this movement is not of concern, as a maximum of 7 vehicles perform this turn to head westbound towards Olds in peak hour. An alternative route west is available by using Township Road 324, and for the three houses where this turn represents the most direct route, a delay of less than one minute is not significant.

5.0 2045 HORIZON

5.1 2045 Background

Similar to the 2035 horizon, background traffic volumes for the 2045 scenario were obtained by applying a growth factor to existing count data and utilizing the trip generation of the Al-Terra TIA as detailed in section **3.2 – Trip Generation.**

Resulting traffic volumes for the background horizon are detailed in

Figure 10**,** accompanied by the resulting operating conditions in **Table 8** and detailed reports in **Appendix B.**

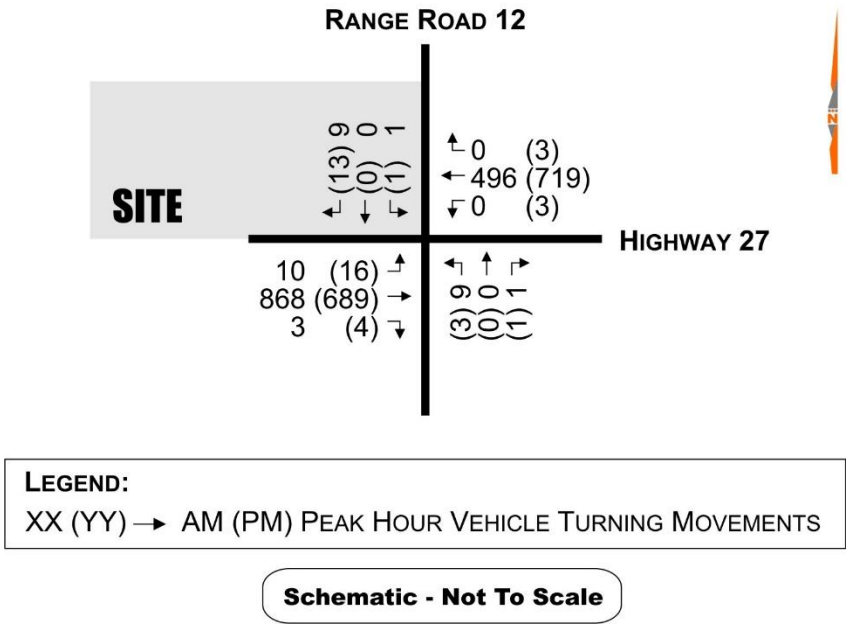

Figure 10: 2045 Background Traffic Volumes

Table 8: 2045 Background Operating Conditions

Intersection	Movement	LOS		Delay (s)		v/c Ratio		95th Queue (m)		Queue Bay Length (m)
		AM	PM	AM	PM	AM	PM	AM	PM	
Highway 27 / Range Road 12	**NBL/T**	**E**	**F**	**47**	**51**	0.10	0.04	2	1	
	NBR	C	B	16	14	0.00	0.00	0	0	6
	EBL/T	A	A	9	9	0.01	0.02	0	1	
	EBR	A	A	0	0	0.00	0.00	0	0	125
	WBL/T	A	A	0	9	0.00	0.00	0	0	
	WBR	A	A	0	0	0.00	0.00	0	0	125
	SBL/T	C	C	19	19	0.00	0.00	0	0	
	SBR	B	B	12	15	0.02	0.04	1	1	6

As noted in **Table 8**, the northbound left / through movement at Highway 27 / Range Road 12 is anticipated to experience LOS E and F in the AM and PM peak hour, respectively. All other intersections and movements are expected to provide acceptable operating conditions under assumed geometry.

- Northbound left / through movement at Highway 27 / Range Road 12 has delays of 47s in the AM Peak Hour and 51s in the PM Peak Hour. Only 9 and 3 vehicles are expected to make this movement in the respective AM and PM Peak hours. The LOS of this movement is not of concern. An alternative route west is available by using Township Road 324, and for the three houses where this turn represents the most direct route, a delay of less than one minute is not significant.

5.2 2045 Post Development

Post development traffic volumes were determined as the sum of the 2045 background traffic (**Figure 10**) and site generated traffic (**Figure 6**), with the resulting post development volumes presented in **Figure 11**. Resulting operating conditions are detailed in **Table 9**.

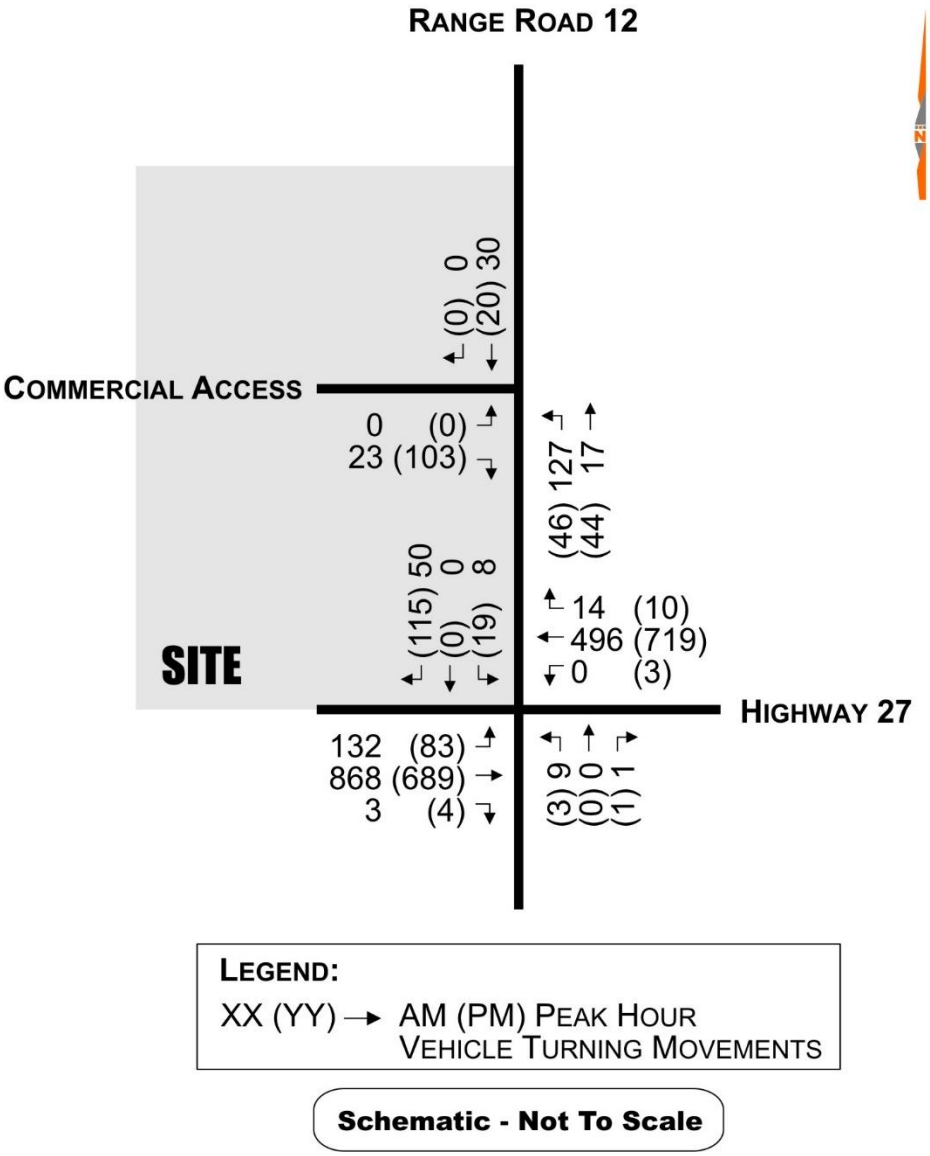

Figure 11: 2045 Post Development Traffic Volumes

Table 9: 2045 Post Development Operating Conditions

Intersection	Movement	LOS		Delay (s)		v/c Ratio		95th Queue (m)		Queue Bay Length (m)
		AM	PM	AM	PM	AM	PM	AM	PM	
Highway 27 / Range Road 12	**NBL/T**	F	F	96	106	0.20	0.08	5	2	
	NBR	C	B	16	14	0.00	0.00	0	0	6
	EBL/T	A	A	9	10	0.14	0.11	4	3	
	EBR	A	A	0	0	0.00	0.00	0	0	125
	WBL/T	A	A	0	10	0.00	0.00	0	0	
	WBR	A	A	0	0	0.00	0.00	0	0	125
	SBL/T	D	C	29	24	0.05	0.10	1	2	
	SBR	B	C	13	19	0.10	0.33	2	10	6
Range Road 12 / Commercial Access	NBL/T	A	A	8	7	0.09	0.03	2	1	
	EBL/R	A	A	9	9	0.02	0.11	1	3	
	SBT/R	A	A	0	0	0.00	0.00	0	0	
Range Road 12 / Access B	NBL/T	A	A	7	7	0.00	0.01	0	0	
	EBL/R	A	A	8	8	0.01	0.01	0	0	
	SBT/R	A	A	0	0	0.00	0.00	0	0	
Range Road 12 / Access C	NBL/T	A	A	7	7	0.00	0.01	0	0	
	EBL/R	A	A	8	8	0.01	0.01	0	0	
	SBT/R	A	A	0	0	0.00	0.00	0	0	

As noted in **Table 9,** only two movements are anticipated to operate at LOS D or less.

- Northbound left / through movement at Highway 27 / Range Road 12 has delays of 161s in the AM Peak Hour and 186s in the PM Peak Hour. Only 9 and 3 vehicles are expected to make this movement in the respective AM and PM Peak hours. The LOS of this movement is not of concern, as a maximum of 7 vehicles perform this turn to head westbound towards Olds in peak hour. An alternative route west is available by using Township Road 324, and for the three houses where this turn represents the most direct route, a delay of less than one minute is not significant.
- Southbound left / through movement at Highway 27 / Range Road 12 operates at LOS E in the AM Peak Hour and LOS D in the PM Peak hour. The v/c ratio is still very low at 0.10 and 0.18 for AM and PM peak hours respectively, meaning there is capacity remaining to handle higher volumes.

6.0 INTERNAL SITE REVIEW

6.1 Access

The Transportation Association of Canada (TAC) publishes access spacing requirements depending on road classification. Whilst there is no standard for the County Road classification of Range Road 12, Primary Collector Street is an appropriate substitute. The access spacing requirements for a primary collector or collector street are 60m between intersections. The smallest proposed distance between two accesses is between the third access along Range Road 12, and the existing access to Olds Golf Course, at a distance of ~120m. Access Spacing Requirements are summarized below in Table 10: Access Spacing Requirements.

Table 10: Access Spacing Requirements

TAC Minimum Access Spacing	Minimum Access Spacing in Development	Meets TAC Requirements?
60m	120m	Yes

6.2 Circulation

To ensure proper site circulation, each residential property has two access roads servicing Range Road 12. The commercial site is served by one commercial access road onto Range Road 12, as well as an emergency exit road into the residential neighbourhood.

7.0 ACTIVE TRANSPORTATION

There are currently no active transportation facilities in the surrounding area.

8.0 TRANSIT

There is no regular transit in the area. The Town of Olds Sunshine Bus services community members age 55+ on an on-demand basis, Monday to Friday from 9am to 4pm. It is unclear whether this service would ever be extended to the subject site. Regardless, the proposed transportation network can accommodate future transit service if desired.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusion

Based on the analysis presented in this report, key conclusions of the study are summarized for each horizon as follows:

General Conclusions	
Transit	• There is no regular transit in the area, but the road network could accommodate future transit service if desired.
Active Modes	• There are no active transportation facilities in the area.

General Conclusions		
Analysis Results	**Existing Conditions**	Traffic operates well with current assumed geometry.
	2035 Horizon (100% Build-Out)	Northbound left turns at Hwy 27 / Range Road 12 operate at LOS E. This is not a concern due to the low volume (9) and alternative routes available along Twp 324.
	2045 Horizon (100% Build-Out)	Northbound left turns at Hwy 27 / Range Road 12 operate at LOS F. This is not a concern due to the low volume (9) and alternative route via Twp 324. Southbound left turns at Hwy 27 / Range Road 12 operate at LOS E/D. This is not a concern due to the v/c ratio remaining well below 0.90.

9.2 Recommendations

General	• It is recommended to upgrade the surface of Range Road 12. It is noted that the nature of the re-surfacing of Range Road 12 is out of scope of this report, and it will be addressed in a separate report that will be submitted as part of the planning applications.
2035 Horizon (100% Build-Out)	• No improvements required.
2045 Horizon (100% Build-Out)	• No improvements required.

APPENDIX A: TERMS OF REFERENCE CONFIRMATION

APPENDIX B: SYNCHRO REPORTS