SITE TRAFFIC ASSESSMENT

FOR PROPOSED EXPANSION OF NULAID EGGLAND FACILITY ON FARM 745, THORNHILL

October 2021

Prepared for: **Quantum Foods (Pty) Ltd**

Prepared by: **Engineering Advice and Services (Pty) Ltd**
(041) 5812421

DOCUMENT CONTROL SHEET

CLIENT REF: **QUANTUM FOODS (PTY) LTD**

PROJECT NAME: **PROPOSED EXPANSION OF NULAID EGGLAND FACILITY ON FARM 745, THORNHILL**

DOCUMENT TITLE: **SITE TRAFFIC ASSESSMENT**

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1 INTRODUCTION

1.1 BACKGROUND

Engineering Advice & Services (Pty) Ltd was appointed by Quantum Foods (Pty) Ltd during September 2021 to prepare a Site Traffic Assessment (STA) for the proposed expansion of Nulaid Eggland Facility situated on farm 745, Thornhill in the Kouga Local Municipality.

This TIS forms part of an application for regularization of an unlawful activity in terms of Section 24G of the National Environmental Management Act, 1997 (Act No. 107 of 1998).

1.2 OBJECTIVES OF THE STUDY

In broad terms, the purpose of the STA is to determine the extent and nature of traffic generated by the proposed expansion of the development, assess the impact of this traffic on the operation of the adjacent road network, and devise solutions for any problems identified.

The following key elements, *inter alia*, are addressed:

- Determination of traffic generated by the existing and proposed development components;
- The suitability and safety of existing accesses to accommodate additional traffic generated by the proposed expansion of the development;
- The capacity of the existing road network within the influence radius; and
- Impact of the development and extensions on the DR01928 as well as the R331 (MR00400).

View of site from Existing Access Gate on DR01928

In general, this report serves to satisfy the Kouga Municipality and the Eastern Cape Province Department of Transport that the traffic impact of the envisaged development is within acceptable limits and that suggested improvements conform to the standards and parameters set by these authorities.

1.3 METHODOLOGY

The approach followed in conducting the traffic impact statement was in accordance with the guidelines set by the **TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual** [(1)]. The methodology used was as follows:

- Present traffic flow patterns were obtained for typical weekday AM and PM peak periods and the affected junctions analysed, where after recommendations were made on the present need for road upgrading, without taking the proposed expansion into account;
- The existing trips generated by the existing lay houses were used to determine the number of additional trips that will be generated by the proposed additional lay houses;
- The generated traffic was assigned to the surrounding road network;
- Once again, the functioning of the affected junctions was analysed, and recommendations made on the need for road upgrading taking cognisance of the proposed development for the development (2021) and development plus 5-year (2026) planning horizons given the phasing of the development components;
- The access arrangements were assessed in terms of traffic operations and safety to ensure that the accesses operate at acceptable levels of service and conform to traffic safety requirements; and
- By taking into account the findings of the study, conclusions were made regarding financial responsibilities of the affected parties for the required road upgrading measures.

1.4 STUDY AREA

Based on the extent of the development (existing and proposed expansion) the study area was restricted to the junctions of R331 (MR00400) and the existing access roads with DR01928 given that trips generated by the proposed development will approach along these roads and impact on these junctions.

It is considered that outside the above-mentioned study area trips will be further dispersed such that impact on individual road sections and junctions becomes minimal.

1.5 ASSUMPTIONS AND LIMITATIONS

The scope of this TIA is limited to the project as described in this report. The scope only deals with vehicular traffic related impacts at the junctions within the prescribed study area and excludes consideration of the following:

- Any vehicular activity outside of the study area as defined in **Chapter 1.4** above;

The report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- That operational trip frequency is based on development information supplied by the site owner / developer;
- That vehicle trips generated by the existing lay houses can be applied to the new lay houses on a proportional basis; and
- That trips generated by the proposed development are distributed to and from the site based on the location of the development site relative to the major road network.

Notwithstanding these assumptions it is our view that this Site Traffic Assessment provides the necessary framework to allow the operator to conduct activities within the necessary legal, planning and operational requirements set by the relevant road authorities.

2 THE DEVELOPMENT AND ENVIRONS

2.1 CURRENT LAND USE RIGHTS

Farm 745 (Portion 1 of the Farm Diep Kloof 429 & Portion 4 of the Farm Bergsig North 431 was consolidated on 22 July 2020 to form Farm 745) measures approximately 287.8 ha in extent, is currently zoned for agricultural Zone 1 purposes and is utilised as an agricultural lay house, producing eggs. The approved SG diagram for Farm 745 is attached as **Annexure A**.

2.2 DEVELOPMENT ENVIRONS

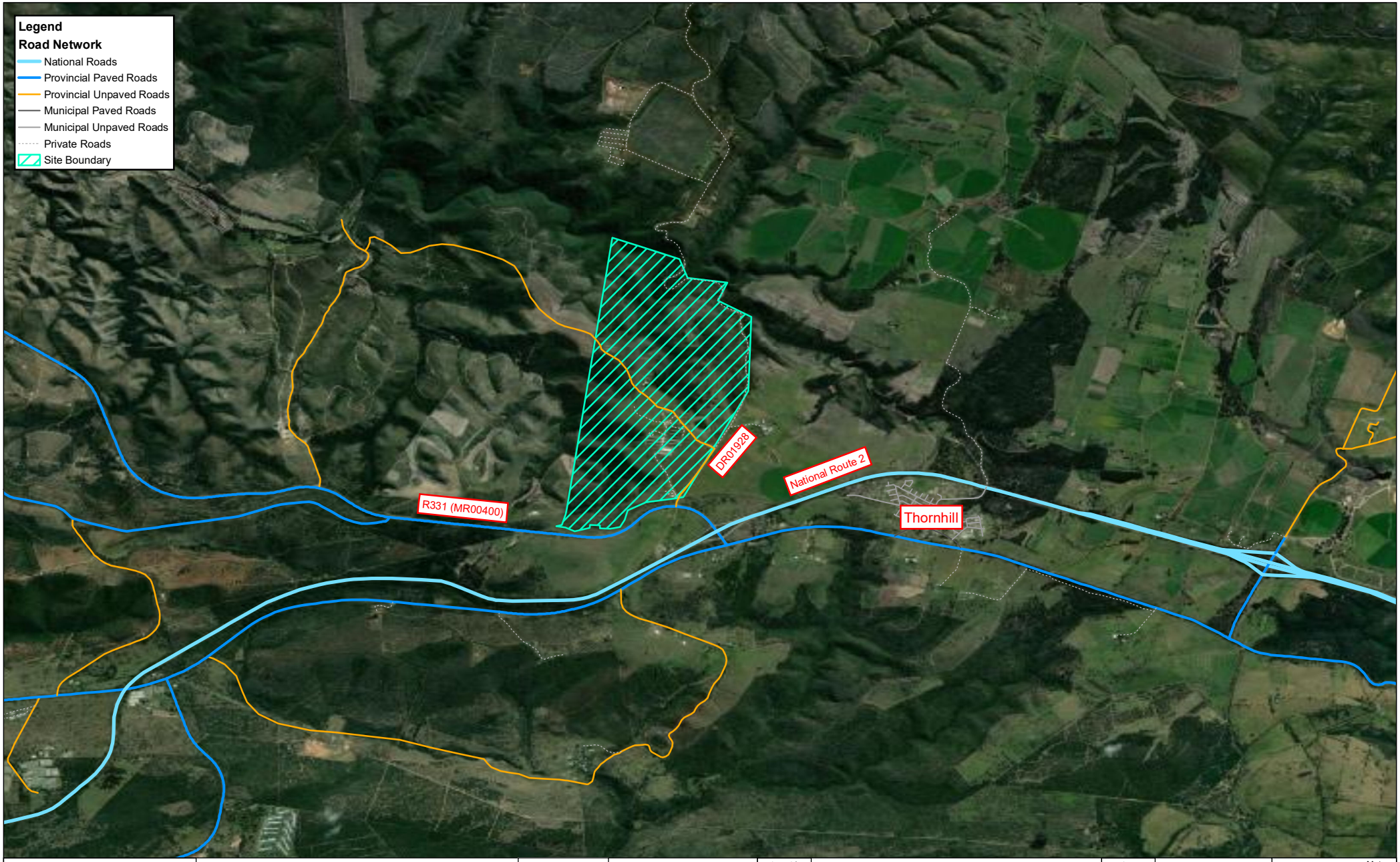
The development is located approximately 3 km west of Thornhill. The site is bounded by DR01928 to the east and the R331 (MR00400) to the south as indicated on **Figure 1.**

The land use surrounding the site can be categorised as agricultural to the north, east, south and west.

2.3 DEVELOPMENT OVERVIEW

The existing development consists of eight egg lay houses, four initial lay houses with a 30 000-hen capacity per lay house, four lay houses with a 40 000-hen capacity per lay house and an existing on-site packing facility. The first six lay houses and the on-site packing facility were constructed prior to the Environment Compliance Approval (ECA) Regulations of September 1997. The two lay houses constructed in 2004 were constructed without environmental authorization.

The development intends on expanding the facility to add two additional lay houses, bringing the total lay houses to ten. This increases the capacity from approximately 280 000 hens to 360 000 hens.



Engineering Advice and Services
Tel: (041) 581 2421

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Project Title:	Traffic Impact Statement for Proposed Expansion of Nulaid Eggland Facility on Farm 745, Thornhill
Drawing Title:	Figure 1: Locality Plan
Drawing No:	1938-P-001
Drawing Date:	October 2021

Meters
0 255 510 1 020

Scale 1 : 50 000

Prepared by : EHN

Checked by : CH

3 DATA COLLECTION

3.1 PEAK HOUR TRAFFIC VOLUMES

Peak hour traffic turning movement counts were conducted during weekday AM and PM peak periods on 29th September 2021 at the following junctions:

- R331 (MR00400) / DR01928
- DR01928 / Access 1
- DR01928 / Access 2

The detailed survey data is attached as **Annexure B** and summarised on **Figure 2** below.

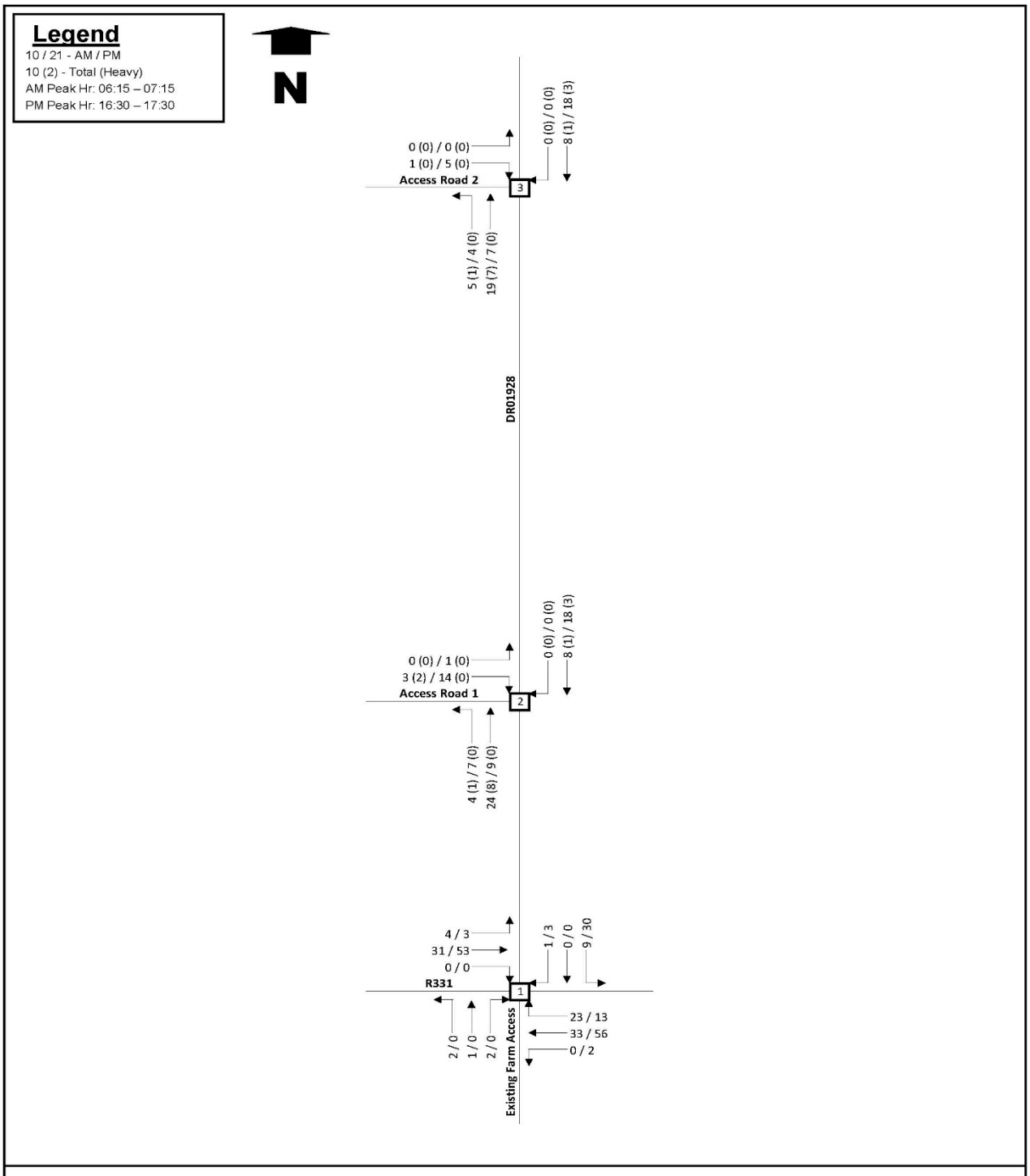


Figure 2: Existing Peak Hour Traffic Volumes - 2021

3.2 DAILY TRAFFIC VOLUMES

Unfortunately, no daily (24-hr) traffic counts have been conducted in the area since 2012. As such, the background traffic has been escalated by 3% in order to be conservative.

The escalated 2026 peak hour traffic volumes are indicated on **Figure 3** overleaf.

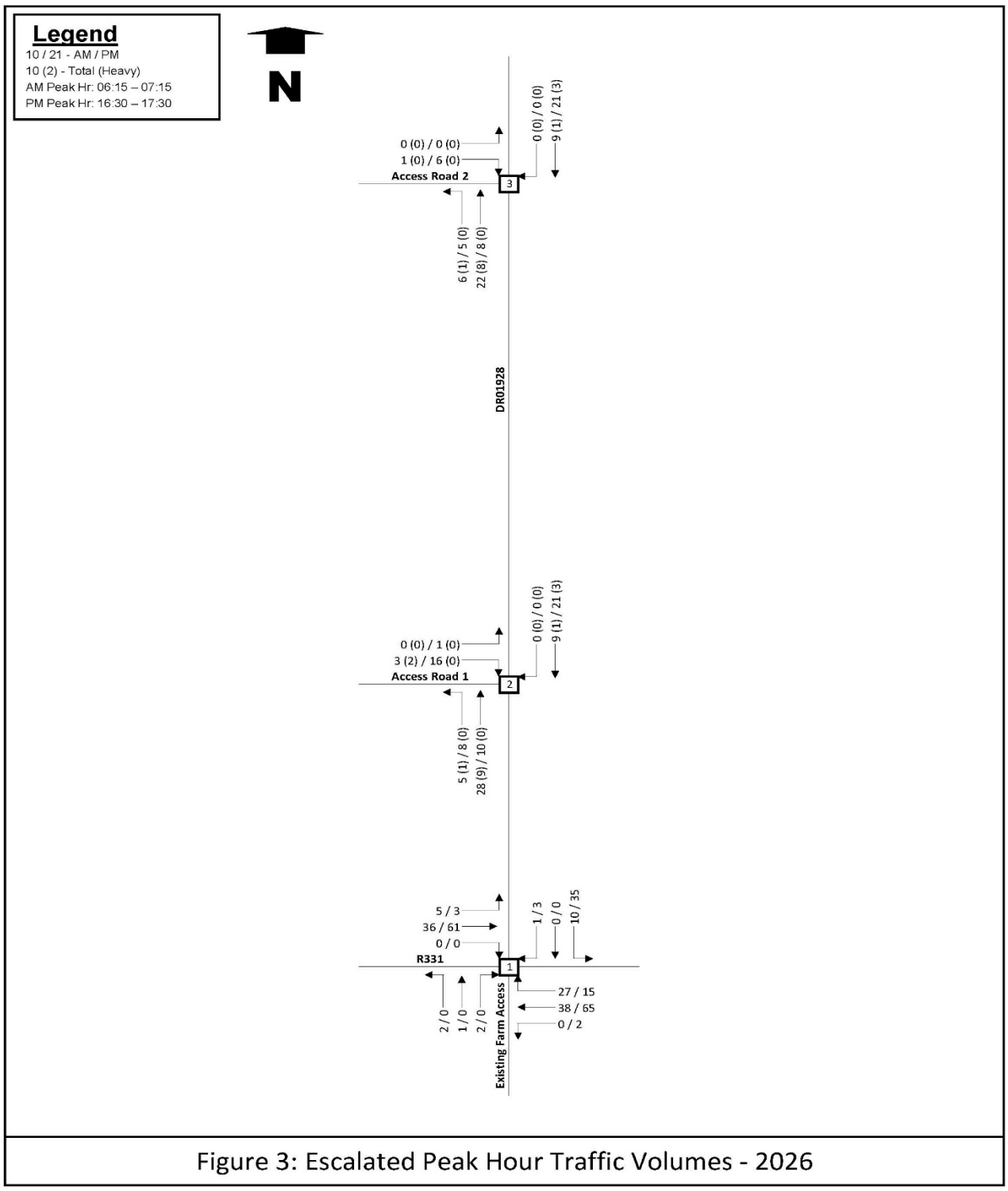
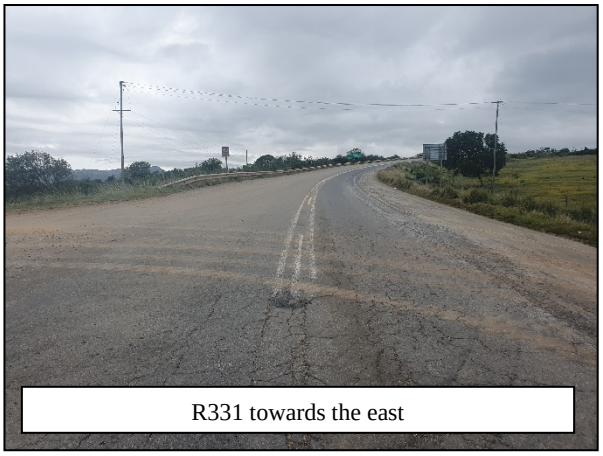


Figure 3: Escalated Peak Hour Traffic Volumes - 2026

3.3 ROAD NETWORK

3.3.1 Existing

R331 (MR00400) is a provincial class 3 rural minor arterial road which links Thornhill, Loerieheuwel and Hankey to the N2 and comprises of a single surfaced traffic lane in each direction. The road is in a fair to poor condition to the west of DR01928. The posted speed limit is 100km/h in the vicinity of the development.



R331 towards the east

DR01928 is a provincial class 5 rural local road road providing access to farms in the area. The road is 7m wide and is unsurfaced. The road is in a very poor condition.

DR01928 towards the south

The existing road network configuration is indicated on **Figure 4** overleaf.

FOR REPORT	UTSHINTSHO / AMENDMENTS	ENGINEERING ADVICE AND SERVICES associated with ULWAZI	PROJEKTI / PROJECT: TIS FOR PROPOSED EXPANSION OF NULAID EGGLAND FACILITY ON FARM 745, THORNHILL
	UMZOBONCAZA / DWG DESCRIPTION: FIGURE 4: EXISTING ROAD AND INTERSECTION CONFIGURATION		

4 CAPACITY ANALYSIS – BEFORE DEVELOPMENT

Level of Service (LOS) is defined as the operating condition that may occur at a junction when it accommodates various traffic volumes. LOS is a qualitative measure of the effect of speed, travel time, traffic interruptions, freedom to manoeuvre, safety, driving comfort and convenience, and operating costs. The LOS applicable to junctions under various control conditions, as defined in the **Highway Capacity Manual** [2] are indicated in **Table 1** below:

Table 1: Level of Service definitions for Vehicles (Highway Capacity Manual [2] method)

Level of Service	Control delay per vehicle in seconds (d) (*including geometric delay*)	
	Signals and Roundabouts	Stop Signs and Yield Signs
A	d ≤ 10	d ≤ 10
B	10 < d ≤ 20	10 < d ≤ 15
C	20 < d ≤ 35	15 < d ≤ 25
D	35 < d ≤ 55	25 < d ≤ 35
E	55 < d ≤ 80	35 < d ≤ 50
F	80 < d	50 < d

The capacity analysis was undertaken using the **SIDRA Intersection Network 9** [3] capacity analysis method.

The results are shown in **Table 2**, below and the detailed SIDRA output sheets attached as **Annexure C.**

Table 2: Results of Junction Capacity Analysis – 2021 Before Development

Intersection	Delay (s)		V/C		LOS*	
	AM	PM	AM	PM	AM	PM
MR00400 (R331) / DR01928	2.6	2.5	0.018	0.028	A*	A*
DR01928 / Access 1	1.6	3.3	0.009	0.015	A*	A*
DR01928 / Access 2	1.5	2.1	0.008	0.006	A*	A*

* - **SIDRA Intersection Network** [3] does not calculate intersection LOS for stop-controlled junctions. The LOS indicated is sourced from the **Highway Capacity Manual** [2] (**Table 1** above).

As can be seen from the results contained in **Table 2**, no capacity problems are experienced at the affected junctions under current conditions.

5 TRIP GENERATION AND DISTRIBUTION

5.1 EXISTING DEVELOPMENT TRIPS

The existing development comprises of eight lay houses with a 280 000-hen capacity and an on-site packing facility. The current traffic to and from the site is generated by the existing development comprising the six authorized and two unauthorized lay houses. The trips generated by these eight lay houses and an on-site packing facility are indicated on **Figure 2** above as well as **Table 3** below.

5.2 PROPOSED EXPANSION OF DEVELOPMENT TRIPS

The proposed expansion will include two additional lay houses which increases the capacity from approximately 280 000 hens to 360 000 hens. The current peak hour traffic volumes generated by the existing eight lay houses will be increased by 20% to allow for traffic generated by the expansion of the development with two additional lay houses.

The existing peak-hour trips generated by the existing eight lay houses and the additional trips for the additional two lay houses are indicated in **Table 3** below:

Table 3: Peak Hour Trip Generation Summary

	AM Peak Hour								PM Peak Hour							
	Access 1				Access 2				Access 1				Access 2			
	Light		Heavy		Light		Heavy		Light		Heavy		Light		Heavy	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Existing Trips	3	1	1	2	4	1	1	0	7	14	0	0	4	5	0	0
Generated Trips (20%)	1	0	0	1	1	0	0	0	2	3	0	0	1	1	0	0
Total Additional Trips Generated	**3**								**7**							
Total Trips	**16**								**37**							

5.3 TRIP DISTRIBUTION

Given the location of the proposed development and given the current traffic movements at the R331 / DR01928 junction, the following trip distribution is assumed:

- 80% to and from the east via R331 (MR00400); and
- 20% to and from the west via R331 (MR00400).

The generated peak hour trips are indicated on **Figure 5** overleaf.

The generated trips added to the AM and PM peak hour volumes for the 2021 and 2026 development horizons are indicated on **Figure 6** and **Figure 7** overleaf.

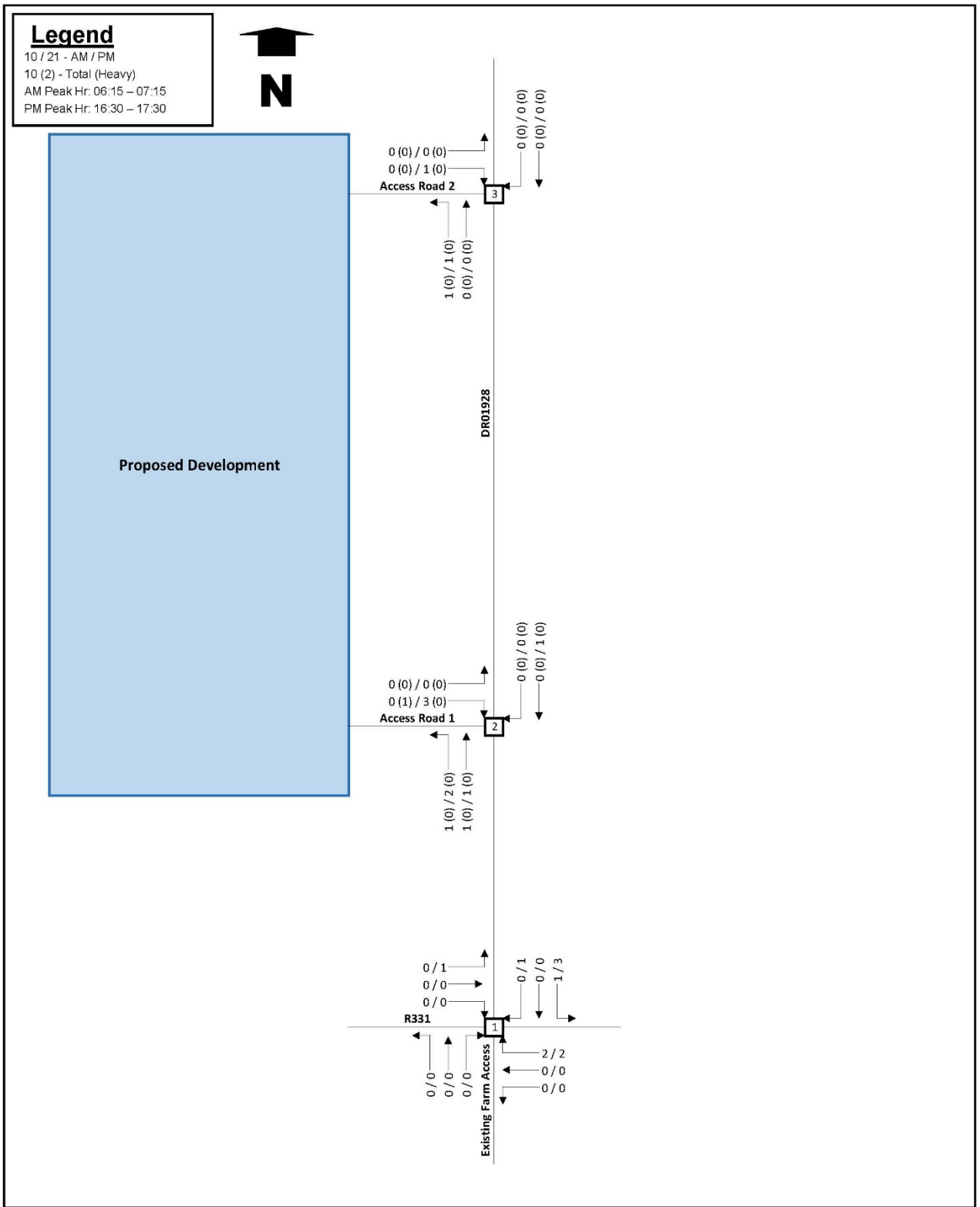


Figure 5: Generated Peak Hour Traffic Volumes

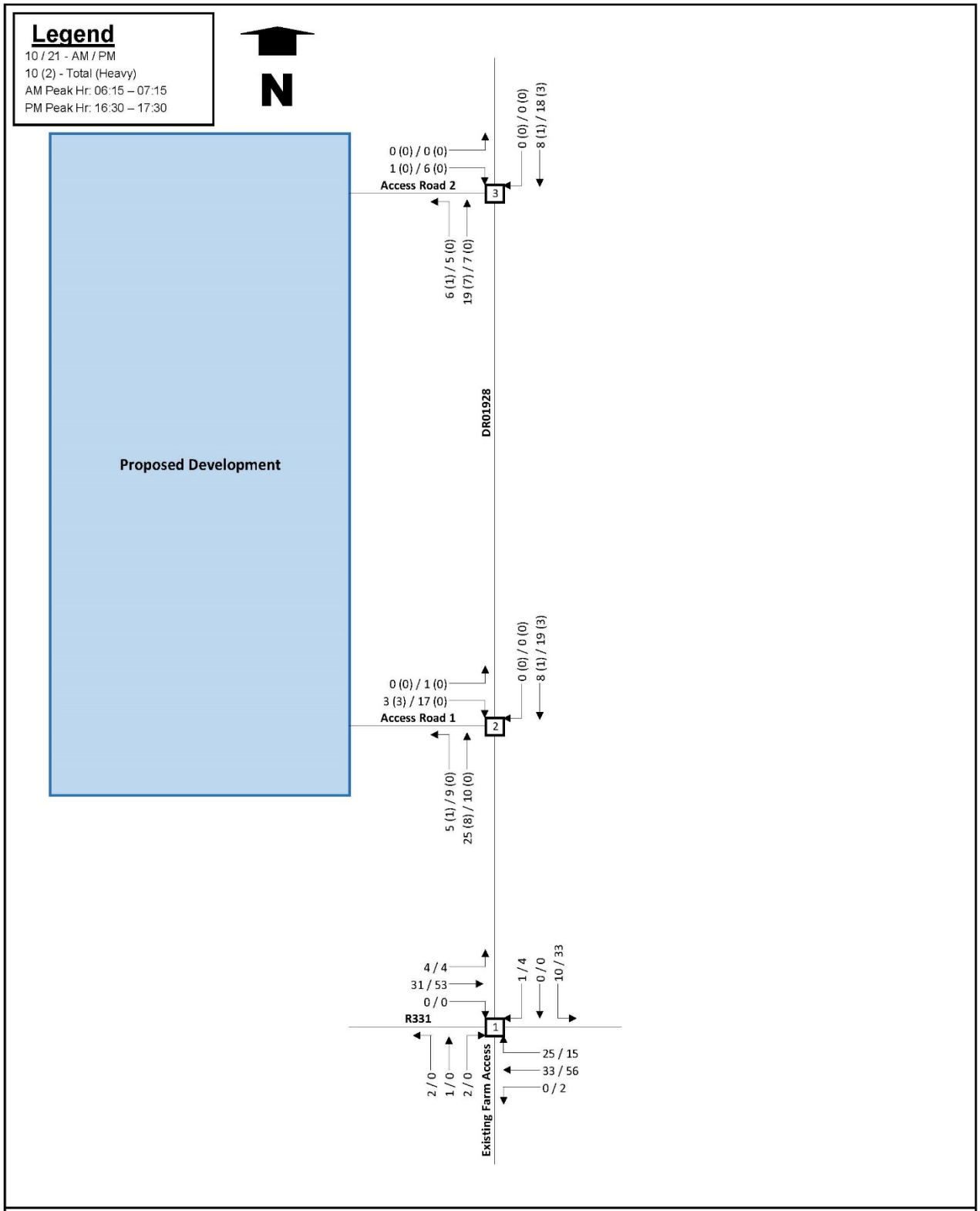


Figure 6: Peak Hour Traffic Volumes after Development - 2021

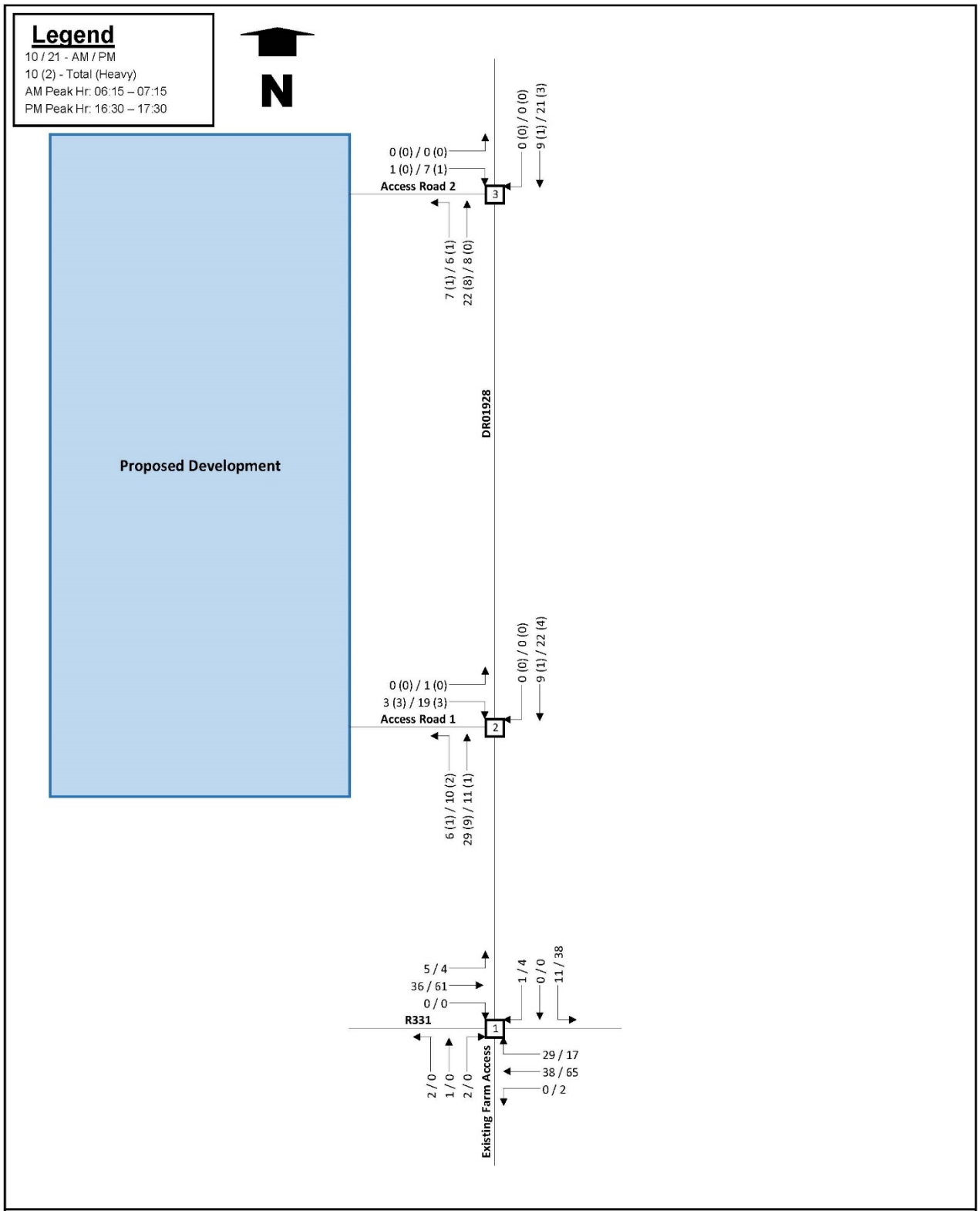


Figure 7: Peak Hour Traffic Volumes after Development - 2026

6 ACCESS ARRANGEMENTS

Access to the development will be gained from DR01928 via two existing access points to the Eggland facility situated approximately 100m (Access 1) and 675m (Access 2) north of the R331, as indicated on **Figure 8**.

Shoulder sight distance was assessed in terms of Figure 2.5.5(a) of **TRH 17: Geometric Design of Rural Roads** [4]. TRH17 indicates that a single unit vehicle entering a 7m road with a design speed of 60 kph (DR01928) requires shoulder sight distance of 200m. The distance between Access Road 1 and the R331 is 100m.

Given the low volumes at this junction as well as it being an existing access the junction is acceptable. The requirement for a passenger car is 100m.

The assessment indicates that shoulder sight distance from both access points are in excess of the required distances.


View of DR01928 to the north from Access 1


View of DR01928 to the south from Access 1


View of DR01928 to the north from Access 2


View of DR01928 to the south from Access 2

FOR REPORT

UTSHINTSHO / AMENDMENTS

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FIGURE 8: PROPOSED LAY HOUSES AND ACCESS ARRANGEMENTS

7 CAPACITY ANALYSIS – AFTER DEVELOPMENT

7.1 2021 AFTER DEVELOPMENT

The capacity analysis was undertaken using the **SIDRA Intersection Network 9** [(3)] capacity analysis method.

After adding generated traffic volumes to the background peak hour volumes, the traffic situation was analysed in order to determine the LOS at which the junction and access points would operate after adding the traffic generated by the development. The results are shown in **Table 4** below and the detailed SIDRA output sheets attached as **Annexure D.**

Table 4: Results of Junction Capacity Analysis – 2021 After Development

Intersection	Delay (s)		V/C		LOS*	
	AM	PM	AM	PM	AM	PM
MR00400 (R331) / DR01928	2.7	2.7	0.019	0.030	A*	A*
DR01928 / Access 1	1.7	3.5	0.010	0.019	A*	A*
DR01928 / Access 2	1.6	2.4	0.008	0.007	A*	A*

* - **SIDRA Intersection Network** [(3)] does not calculate junction LOS for stop-controlled junctions. The LOS indicated is sourced from the **Highway Capacity Manual** [(2)] (**Table 1** above).

As can be seen from the results contained in **Table 4**, the additional traffic generated by the additional lay houses has little to no impact on operations at the affected junctions.

7.2 2026 AFTER DEVELOPMENT

After adding generated traffic volumes to the escalated background peak hour volumes, the traffic situation was analysed in order to determine the LOS at which the junctions would operate after adding the traffic generated by the development. The results are shown in **Table 5** below and the detailed SIDRA output sheets attached as **Annexure E.**

Table 5: Results of Junction Capacity Analysis – 2026 After Development

Intersection	Delay (s)		V/C		LOS*	
	AM	PM	AM	PM	AM	PM
MR00400 (R331) / DR01928	2.7	2.6	0.022	0.035	A*	A*
DR01928 / Access 1	1.6	3.6	0.011	0.023	A*	A*
DR01928 / Access 2	1.5	2.5	0.010	0.008	A*	A*

* - SIDRA Intersection Network [(3)] does not calculate junction LOS for stop-controlled junctions. The LOS indicated is sourced from the **Highway Capacity Manual** [(2)] (**Table 2** above).

As with the 2021 after development assessment, the results contained in **Table 5** indicate that the additional traffic generated by the additional lay houses has little to no impact on operation of the affected junctions in terms of capacity.

8 LOADING REQUIREMENTS

Existing loading areas are currently provided at the on-site packhouse via the access roads from Access Road 1.

9 CONCLUSIONS

9.1 EXISTING DEVELOPMENT

- A total of 13 and 30 vehicle trips are generated during the AM and PM peak hours respectively;
- DR01928 is in a poor condition;
- Under existing traffic conditions, with the eight lay houses (six authorized and two unauthorized) the results of the capacity analysis indicate that the affected junctions operate at LOS A or better in terms of capacity during AM and PM peak hours.

9.2 AFTER DEVELOPMENT

- Access to the proposed expansion of the development (additional two lay houses) can be accommodated at the existing access points as indicated on **Figure 8**;
- A total of 3 and 7 additional vehicle trips are generated during the AM and PM peak hours respectively;
- When considering traffic generated by the additional lay houses the results of the capacity analysis indicate that the additional traffic generated by the proposed development has minimal impact on the affected junction and access point;
- The additional traffic will have a minimal impact on the condition of the existing roads; and
- DR01928 and the R331 requires no upgrading to accommodate the additional traffic volumes from a capacity perspective.

10 RECOMMENDATIONS

In view of the findings of this study, it is recommended that:

- This site traffic assessment be approved by the Eastern Cape Department of Transport;
- Access/egress to the development be provided from the existing access points as indicated on **Figure 8**.

11 REFERENCES

1. *Joubert, Sampson, et al*, **TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual**, COTO, August 2012.
2. *Transportation Research Board*, **Highway Capacity Manual**, 2000.
3. *Akcelik & Associates (Pty) Ltd*, **SIDRA Intersection Network 9 User Guide**, SIDRA Solutions, April 2020.
4. NITRR, **TRH 17 - Geometric Design of Rural Roads,** CSRA, September 1984

ANNEXURE A
Land Use
Rights

S.G. No.
348/2020
Approved
for Surveyor-General
2020-08-12

SERVITUDE NOTES:

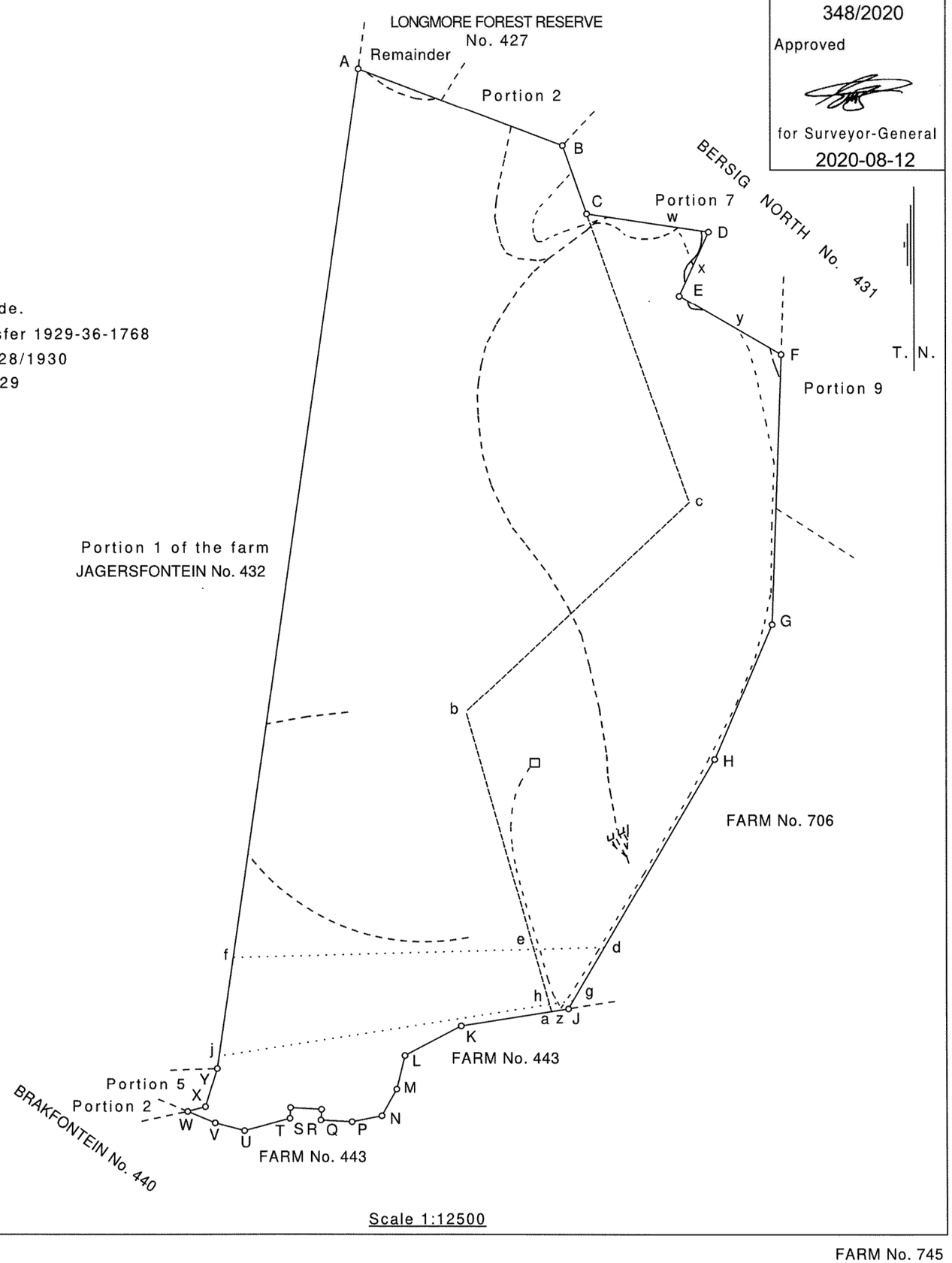
(1) The line d e f represents the centre line of an Electric Powerline Servitude 15,74 metres wide. Vide Diagram No. 1983/1961

(2) The line g h represents the Northern boundary of a Pipe Line Servitude 20,00 metres wide. Vide Diagram No. 3700/1975 D/S K370/1982s

(3) The line h j represents the Northern boundary of a Pipe Line Servitude 20,00 metres wide. Vide Diagram No. 3699/1975 D/S K370/1982s

(4) The lines w x and y z represent a Servitude of a Right of Way 12,34 metres wide. Vide Diagram No. A2728/1930 annexed to Notarial Deed filed with Deed of Transfer 1929-36-1768

(5) For plan illustating servitude of right of way over Portion 1 see annexure A2728/1930 to notarial deed dated 11.11.1930 filed with transfer No. 1768 dated 26.2.1929



Scale 1:12500

COMPONENTS:

(1) The figure A B c b a K L M N P Q R S T U V W X Y represents Portion 1 (Mount Vista North) of the farm Diepkloof No. 429 vide diagram No.2680/1932 annexed to D/T No.1934- -4053

(2) The figure C D E F G H J a b c represents Remainder of Portion 4 of the farm Bersig North No. 431 vide diagram No.3186/1946 annexed to D/T No.1947- -1229

The figure A B C D E F G H J K L M N P Q R S T U V W X Y represents 289,0470 hectares of land, being
FARM No. 745
and comprises 1 to 2 above
situate in the Kouga Municipality.
Administrative District of Uitenhage.
Province of Eastern Cape
Compiled in May 2020 by me.

J. Du T. Bester (PLS 1056)
Professional Land Surveyor.

EXEMPT FROM PROVISIONS OF SECTIONS 66(3)(a) OF THE SPLUMA BY-LAW:
KOUGA MUNICIPALITY
DATE 2020-07-22

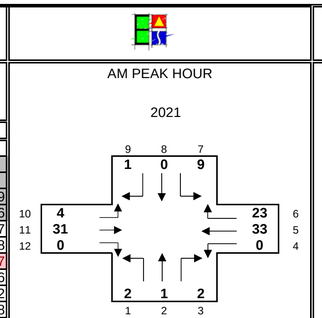
EXEMPT FROM PROVISIONS OF CHAPTER III OF ORDINANCE No. 15/1985
AGRICULTURAL PURPOSES

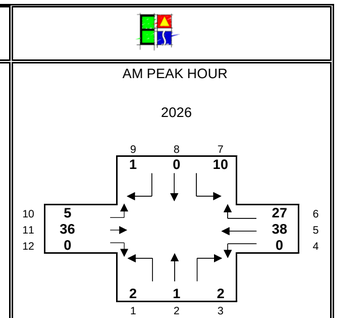
This diagram is annexed to No. dated i.f.o. Registrar of Deeds	The original diagrams are as listed above.	File No. Uitge 745 S.R. No. Compiled Comp BO-7A (4348) BO-7C (4360) BO-7CA (4361) LPI C0760000

ANNEXURE B
Peak Hour
Traffic Counts

Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : R331 / DR01928 — Day & date : 29/09/2021
NO. 1 — Time period: 06:00 - 09:00

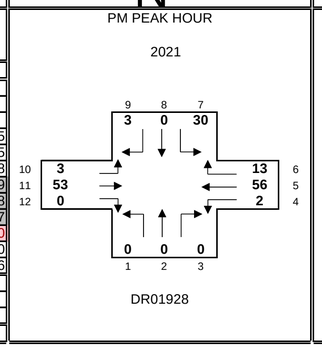
STARTING DIRECTION / TIME	DR01928 Northbound								DR01928 Southbound								R331 Westbound								R331 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
06:00	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	6	2	8	0	0	0	0	0	7	0	7	0	0	0	0	19	
06:15	1	1	0	2	0	0	0	0	4	0	0	4	0	0	0	0	0	11	3	14	0	0	0	0	0	7	0	7	0	0	0	0	27	
06:30	1	0	0	1	0	0	0	0	2	0	0	2	0	0	0	0	0	7	7	14	0	0	0	0	1	11	0	12	0	0	0	0	29	
06:45	0	0	1	1	0	0	0	0	3	0	0	3	0	0	0	0	0	4	6	10	0	0	0	0	1	9	0	10	0	0	0	0	24	99
07:00	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	11	7	18	0	0	0	0	2	4	0	6	0	0	0	0	26	106
07:15	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	12	4	16	0	0	0	0	0	10	0	10	0	0	0	0	28	107
07:30	0	0	0	0	0	0	0	0	5	0	1	6	0	0	0	0	0	19	0	19	0	0	0	0	0	5	0	5	0	0	0	0	30	108
07:45	0	0	0	0	0	0	0	0	4	0	1	5	0	0	0	0	0	23	8	31	0	0	0	0	0	7	0	7	0	0	0	0	43	127
08:00	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	10	2	12	0	0	0	0	0	2	0	2	0	0	0	0	15	116
08:15	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	12	0	12	0	0	0	0	1	10	0	11	0	0	0	0	24	112
08:30	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	12	6	18	0	0	0	0	0	6	0	6	0	0	0	0	26	108
08:45	0	0	1	1	0	0	0	0	2	0	0	2	0	0	0	0	0	12	3	15	0	0	0	0	0	12	0	12	0	0	0	0	30	95
Total	2	1	3	6	0	0	0	0	29	0	4	33	0	0	0	0	0	139	48	187	0	0	0	0	5	90	0	95	0	0	0	0	321	
Peak hour	2	1	2	5	0	0	0	0	9	0	1	10	0	0	0	0	0	33	23	56	0	0	0	0	4	31	0	35	0	0	0	0	106	
Peak 15 min				2				0				4				0				18				0				12				0	29	
PHF				0.63				#####				0.63				#####				0.78				#####				0.73				#####	0.91	

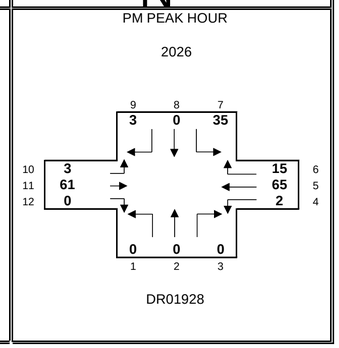




Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : R331 / DR01928 — Day & date : 29/09/2021
NO. 1 — Time period: 15:00 - 18:00

STARTING TIME	DR01928 Northbound								DR01928 Southbound								R331 Westbound								R331 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	5	13	0	0	0	0	0	8	0	8	0	0	0	0	21	
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1	17	0	0	0	0	0	11	0	11	0	0	0	0	28	
15:30	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	11	0	11	0	0	0	0	0	19	0	19	0	0	0	0	32	
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11	0	12	0	0	0	0	0	12	0	12	0	0	0	0	24	105
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	2	15	0	0	0	0	0	16	0	16	0	0	0	0	31	115
16:15	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	11	7	18	0	0	0	0	0	10	0	10	0	0	0	0	31	118
16:30	0	0	0	0	0	0	0	0	10	0	1	11	0	0	0	0	1	15	5	21	0	0	0	0	0	11	0	11	0	0	0	0	43	129
16:45	0	0	0	0	0	0	0	0	12	0	1	13	0	0	0	0	1	12	2	15	0	0	0	0	0	15	0	15	0	0	0	0	43	148
17:00	0	0	0	0	0	0	0	0	5	0	1	6	0	0	0	0	0	16	2	18	0	0	0	0	1	15	0	16	0	0	0	0	40	157
17:15	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	13	4	17	0	0	0	0	2	12	0	14	0	0	0	0	34	160
17:30	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	0	12	2	14	0	0	0	0	2	13	0	15	0	0	0	0	33	150
17:45	0	0	0	0	0	0	0	0	3	0	1	4	0	0	0	0	1	12	3	16	0	0	0	0	0	9	0	9	0	0	0	0	29	136
Total	0	0	0	0	0	0	0	0	40	1	5	46	0	0	0	0	4	150	33	187	0	0	0	0	5	151	0	156	0	0	0	0	389	
Peak hour	0	0	0	0	0	0	0	0	30	0	3	33	0	0	0	0	2	56	13	71	0	0	0	0	3	53	0	56	0	0	0	0	160	
Peak 15 min				0				0				13				0				21				0				16				0	43	
PHF				#####				#####				0.63				#####				0.85				#####				0.88				#####	0.93	

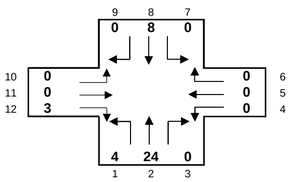




Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : DR01928 / ACCESS ROAD 1 Day & date : 29/09/2021
NO. 2 Time period: 06:00 - 09:00

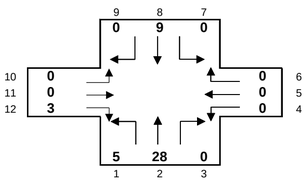
STARTING DIRECTION TIME	DR01928 Northbound								DR01928 Southbound								- Westbound								ACCESS ROAD 1 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
06:00	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	8	
06:15	0	4	0	4	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	8	
06:30	0	3	0	3	0	4	0	4	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
06:45	0	5	0	5	1	3	0	4	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	13	38
07:00	3	4	0	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9	39
07:15	3	3	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	37
07:30	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	7	35
07:45	2	3	0	5	0	1	0	1	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	11	33
08:00	1	1	0	2	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	29
08:15	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	25
08:30	3	1	0	4	0	2	0	2	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	9	27
08:45	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	5	21
Total	13	30	0	43	1	12	0	13	0	16	1	17	0	5	0	5	0	0	0	0	0	0	0	0	0	0	9	9	0	0	5	5	92	
Peak hour	3	16	0	19	1	8	0	9	0	7	0	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	39	
Peak 15 min				7				4				3				1				0				0				1				1	13	
PHF				0.68				0.56				0.58				0.25				#####				#####				0.25				0.50	0.75	

AM PEAK HOUR
2021



DR01928

AM PEAK HOUR
2026

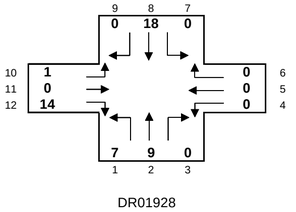


DR01928

Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : DR01928 / ACCESS ROAD 1 Day & date : 29/09/2021
NO. 2 Time period: 15:00 - 18:00

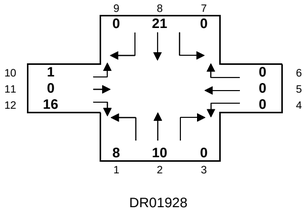
STARTING TIME	DR01928 Northbound								DR01928 Southbound								- Westbound								ACCESS ROAD 1 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
15:00	2	1	0	3	0	2	0	2	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	10	
15:15	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45	1	0	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	16
16:00	0	3	0	3	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	7	13
16:15	4	2	0	6	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	9	19
16:30	4	3	0	7	0	0	0	0	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	17	36
16:45	1	0	0	1	0	0	0	0	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	8	0	0	0	0	15	48
17:00	1	2	0	3	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	9	50
17:15	1	4	0	5	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	8	49
17:30	2	1	0	3	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	8	40
17:45	1	2	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	8	33
Total	18	18	0	36	1	2	0	3	0	20	1	21	0	11	0	11	0	0	0	0	0	0	0	0	2	0	24	26	0	0	0	0	97	
Peak hour	7	9	0	16	0	0	0	0	0	15	0	15	0	3	0	3	0	0	0	0	0	0	0	0	1	0	14	15	0	0	0	0	49	
Peak 15 min				7				0				6				3				0				0				8				0	17	
PHF				0.57				#####				0.63				0.25				#####				#####				0.47				#####	0.72	

PM PEAK HOUR
2021



DR01928

PM PEAK HOUR
2026

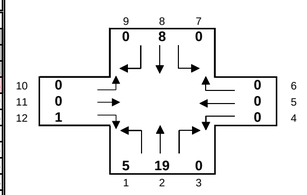


DR01928

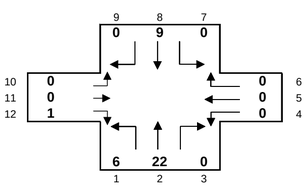
Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : DR01928 / ACCESS ROAD 2 — Day & date : 29/09/2021
NO. 3 — Time period: 06:00 - 09:00

STARTING DIRECTION TIME	DR01928 Northbound								DR01928 Southbound								- Westbound								ACCESS ROAD 2 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
06:00	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
06:15	2	1	0	3	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
06:30	0	3	0	3	0	4	0	4	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	
06:45	2	4	0	6	1	2	0	3	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	12	31
07:00	0	4	0	4	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	33
07:15	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	29
07:30	0	1	0	1	0	1	0	1	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	25
07:45	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17
08:00	0	2	0	2	1	1	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	16
08:15	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	15
08:30	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	14
08:45	0	3	0	3	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	15
Total	4	25	0	29	2	11	0	13	0	16	0	16	0	4	0	4	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	63	
Peak hour	4	12	0	16	1	7	0	8	0	7	0	7	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	33	
Peak 15 min				6				4				2				1				0				0				1				0	12	
PHF				0.67				0.50				0.88				0.25				#####				#####				0.25				#####	0.69	

AM PEAK HOUR 2021



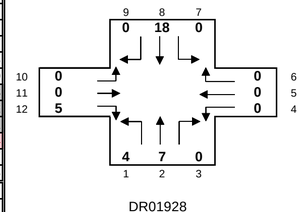
AM PEAK HOUR 2026



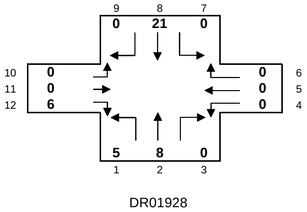
Project : TIA : PROPOSED EXPANSION OF NULAID DEVELOPMENT IN THORNHILL
Intersection : DR01928 / ACCESS ROAD 2 — Day & date : 29/09/2021
NO. 3 — Time period: 15:00 - 18:00

STARTING TIME	DR01928 Northbound								DR01928 Southbound								- Westbound								ACCESS ROAD 2 Eastbound								INTER-SECTION	
	Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy				Light Vehicles				Heavy					
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
15:00	0	1	0	1	1	1	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7
16:00	0	1	0	1	0	0	0	0	0	1	0	1	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6
16:15	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	10
16:30	1	0	0	1	0	0	0	0	0	2	0	2	0	3	0	3	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	8	18
16:45	3	2	0	5	0	0	0	0	0	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	16	32
17:00	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	31
17:15	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	7	34
17:30	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	27
17:45	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	16
Total	4	14	0	18	1	1	0	2	0	18	0	18	0	11	0	11	0	0	0	0	0	0	0	0	0	0	5	5	0	0	1	1	55	
Peak hour	4	7	0	11	0	0	0	0	0	15	0	15	0	3	0	3	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	34	
Peak 15 min				5				0				9				3				0				0				2				0	16	
PHF				0.55				#####				0.42				0.25				#####				#####				0.63				#####	0.53	

PM PEAK HOUR 2021



PM PEAK HOUR 2026



ANNEXURE C
SIDRA
OUTPUT
SHEETS: 2021
Before
Development

MOVEMENT SUMMARY

Site: 01 [[01] 01 AM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	2	5.0	2	5.0	0.003	6.5	LOS A	0.0	0.1	0.12	0.92	0.12	48.2
2	T1	1	5.0	1	5.0	0.003	7.2	LOS A	0.0	0.1	0.13	0.91	0.13	21.8
3	R2	2	5.0	2	5.0	0.003	7.3	LOS A	0.0	0.1	0.26	0.85	0.26	45.9
Approach		5	5.0	5	5.0	0.003	6.9	LOS A	0.0	0.1	0.18	0.89	0.18	43.8
East: MR00400 (R331)														
4	L2	1	5.0	1	5.0	0.018	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	54.9
5	T1	33	5.0	35	5.0	0.018	0.0	LOS A	0.1	0.5	0.00	0.04	0.00	59.6
6	R2	23	5.0	24	5.0	0.018	5.7	LOS A	0.1	0.5	0.11	0.51	0.11	46.7
Approach		57	5.0	60	5.0	0.018	2.4	NA	0.1	0.5	0.05	0.23	0.05	55.4
North: DR01928														
7	L2	9	5.0	9	5.0	0.008	7.8	LOS A	0.0	0.2	0.07	0.96	0.07	45.4
8	T1	1	5.0	1	5.0	0.003	8.6	LOS A	0.0	0.1	0.25	0.85	0.25	27.4
9	R2	1	5.0	1	5.0	0.003	8.6	LOS A	0.0	0.1	0.25	0.85	0.25	47.0
Approach		11	5.0	12	5.0	0.008	8.0	LOS A	0.0	0.2	0.10	0.94	0.10	44.7
West: MR00400 (R331)														
10	L2	4	5.0	4	5.0	0.010	5.6	LOS A	0.0	0.0	0.00	0.13	0.00	33.7
11	T1	31	5.0	33	5.0	0.010	0.0	LOS A	0.0	0.1	0.01	0.08	0.01	59.2
12	R2	1	5.0	1	5.0	0.010	5.7	LOS A	0.0	0.1	0.01	0.03	0.01	55.4
Approach		36	5.0	38	5.0	0.010	0.8	NA	0.0	0.1	0.01	0.08	0.01	55.9
All Vehicles		109	5.0	115	5.0	0.018	2.6	NA	0.1	0.5	0.05	0.28	0.05	54.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 01 [[01] 01 PM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	1	5.0	1	5.0	0.002	6.5	LOS A	0.0	0.1	0.14	0.91	0.14	48.0
2	T1	1	5.0	1	5.0	0.002	7.5	LOS A	0.0	0.1	0.19	0.89	0.19	21.5
3	R2	1	5.0	1	5.0	0.002	7.8	LOS A	0.0	0.1	0.32	0.82	0.32	45.4
Approach		3	5.0	3	5.0	0.002	7.3	LOS A	0.0	0.1	0.22	0.87	0.22	40.9
East: MR00400 (R331)														
4	L2	2	5.0	2	5.0	0.021	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	54.7
5	T1	56	5.0	59	5.0	0.021	0.0	LOS A	0.1	0.6	0.04	0.10	0.04	58.8
6	R2	13	5.0	14	5.0	0.021	5.8	LOS A	0.1	0.6	0.11	0.22	0.11	50.7
Approach		71	5.0	75	5.0	0.021	1.3	NA	0.1	0.6	0.05	0.12	0.05	57.7
North: DR01928														
7	L2	30	5.0	32	5.0	0.028	7.9	LOS A	0.1	0.7	0.09	0.94	0.09	45.4
8	T1	1	5.0	1	5.0	0.006	8.9	LOS A	0.0	0.2	0.30	0.84	0.30	27.1
9	R2	3	5.0	3	5.0	0.006	8.9	LOS A	0.0	0.2	0.30	0.84	0.30	46.7
Approach		34	5.0	36	5.0	0.028	8.0	LOS A	0.1	0.7	0.12	0.93	0.12	45.2
West: MR00400 (R331)														
10	L2	3	5.0	3	5.0	0.016	5.6	LOS A	0.0	0.0	0.00	0.06	0.00	34.0
11	T1	53	5.0	56	5.0	0.016	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	59.6
12	R2	1	5.0	1	5.0	0.016	5.8	LOS A	0.0	0.1	0.01	0.02	0.01	55.6
Approach		57	5.0	60	5.0	0.016	0.4	NA	0.0	0.1	0.01	0.04	0.01	58.0
All Vehicles		165	5.0	174	5.0	0.028	2.5	NA	0.1	0.7	0.05	0.27	0.05	55.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[01] 02 AM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	4	1	4	25.0	0.009	5.1	LOS A	0.0	0.0	0.00	0.17	0.00	15.1
8	T1	24	8	25	33.3	0.009	0.0	LOS A	0.0	0.0	0.00	0.07	0.00	58.9
Approach		28	9	29	32.1	0.009	0.7	NA	0.0	0.0	0.00	0.08	0.00	51.2
North: DR01928														
2	T1	8	1	8	12.5	0.003	0.0	LOS A	0.0	0.0	0.02	0.06	0.02	58.9
3	R2	1	0	1	0.0	0.003	5.6	LOS A	0.0	0.0	0.05	0.13	0.05	48.2
Approach		9	1	9	11.1	0.003	0.6	NA	0.0	0.0	0.02	0.06	0.02	57.4
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.1	LOS A	0.0	0.0	0.06	0.95	0.06	47.5
6	R2	3	2	3	66.7	0.005	10.6	LOS B	0.0	0.2	0.16	0.97	0.16	28.9
Approach		4	2	4	50.0	0.005	10.0	LOS A	0.0	0.2	0.14	0.97	0.14	36.2
All Vehicles		41	12	43	29.3	0.009	1.6	NA	0.0	0.2	0.02	0.16	0.02	51.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[01] 02 PM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	7	0	7	0.0	0.004	5.1	LOS A	0.0	0.0	0.00	0.52	0.00	14.4
8	T1	9	0	9	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.05	0.00	59.3
Approach		16	0	17	0.0	0.004	2.3	NA	0.0	0.0	0.00	0.25	0.00	36.3
North: DR01928														
2	T1	18	3	19	16.7	0.006	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	59.4
3	R2	1	0	1	0.0	0.006	5.6	LOS A	0.0	0.1	0.02	0.06	0.02	49.1
Approach		19	3	20	15.8	0.006	0.3	NA	0.0	0.1	0.01	0.03	0.01	58.7
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.01	0.99	0.01	47.5
6	R2	14	0	15	0.0	0.015	8.2	LOS A	0.1	0.4	0.13	0.91	0.13	31.5
Approach		15	0	16	0.0	0.015	8.2	LOS A	0.1	0.4	0.12	0.92	0.12	33.5
All Vehicles		50	3	53	6.0	0.015	3.3	NA	0.1	0.4	0.04	0.37	0.04	44.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[01] 03 AM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	5	1	5	20.0	0.008	5.8	LOS A	0.0	0.0	0.00	0.24	0.00	30.4
8	T1	19	7	20	36.8	0.008	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.1
Approach		24	8	25	33.3	0.008	1.2	NA	0.0	0.0	0.00	0.12	0.00	52.3
North: DR01928														
2	T1	8	1	8	12.5	0.003	0.0	LOS A	0.0	0.0	0.02	0.06	0.02	59.3
3	R2	1	0	1	0.0	0.003	5.6	LOS A	0.0	0.0	0.05	0.13	0.05	31.2
Approach		9	1	9	11.1	0.003	0.6	NA	0.0	0.0	0.02	0.06	0.02	55.8
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.05	0.96	0.05	47.5
6	R2	1	0	1	0.0	0.001	8.2	LOS A	0.0	0.0	0.13	0.90	0.13	47.5
Approach		2	0	2	0.0	0.001	8.1	LOS A	0.0	0.0	0.09	0.93	0.09	47.5
All Vehicles		35	9	37	25.7	0.008	1.5	NA	0.0	0.0	0.01	0.15	0.01	53.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[01] 03 PM ND (Site Folder: [01] 2021 Before Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 Before Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	4	0	4	0.0	0.003	5.5	LOS A	0.0	0.0	0.00	0.43	0.00	30.1
8	T1	7	0	7	0.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.09	0.00	59.2
Approach		11	0	12	0.0	0.003	2.0	NA	0.0	0.0	0.00	0.21	0.00	47.4
North: DR01928														
2	T1	18	3	19	16.7	0.006	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	59.7
3	R2	1	0	1	0.0	0.006	5.6	LOS A	0.0	0.1	0.01	0.06	0.01	31.5
Approach		19	3	20	15.8	0.006	0.3	NA	0.0	0.1	0.01	0.03	0.01	58.0
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.02	0.99	0.02	47.5
6	R2	5	0	5	0.0	0.005	8.2	LOS A	0.0	0.1	0.12	0.91	0.12	47.5
Approach		6	0	6	0.0	0.005	8.2	LOS A	0.0	0.1	0.10	0.92	0.10	47.5
All Vehicles		36	3	38	8.3	0.006	2.1	NA	0.0	0.1	0.02	0.24	0.02	53.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ANNEXURE D
SIDRA
OUTPUT
SHEETS: 2021
After
Development

MOVEMENT SUMMARY

Site: 01 [[02] 01 AM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	2	5.0	2	5.0	0.003	6.5	LOS A	0.0	0.1	0.12	0.92	0.12	48.2
2	T1	1	5.0	1	5.0	0.003	7.2	LOS A	0.0	0.1	0.14	0.91	0.14	21.8
3	R2	2	5.0	2	5.0	0.003	7.3	LOS A	0.0	0.1	0.26	0.85	0.26	45.9
Approach		5	5.0	5	5.0	0.003	7.0	LOS A	0.0	0.1	0.18	0.89	0.18	43.7
East: MR00400 (R331)														
4	L2	1	5.0	1	5.0	0.019	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	54.9
5	T1	33	5.0	35	5.0	0.019	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
6	R2	25	5.0	26	5.0	0.019	5.7	LOS A	0.1	0.6	0.11	0.54	0.11	46.3
Approach		59	5.0	62	5.0	0.019	2.5	NA	0.1	0.6	0.05	0.24	0.05	55.1
North: DR01928														
7	L2	10	5.0	11	5.0	0.009	7.8	LOS A	0.0	0.2	0.07	0.96	0.07	45.4
8	T1	1	5.0	1	5.0	0.003	8.6	LOS A	0.0	0.1	0.25	0.85	0.25	27.4
9	R2	1	5.0	1	5.0	0.003	8.6	LOS A	0.0	0.1	0.25	0.85	0.25	46.9
Approach		12	5.0	13	5.0	0.009	7.9	LOS A	0.0	0.2	0.10	0.94	0.10	44.8
West: MR00400 (R331)														
10	L2	4	5.0	4	5.0	0.010	5.6	LOS A	0.0	0.0	0.00	0.13	0.00	33.7
11	T1	31	5.0	33	5.0	0.010	0.0	LOS A	0.0	0.1	0.01	0.08	0.01	59.2
12	R2	1	5.0	1	5.0	0.010	5.7	LOS A	0.0	0.1	0.01	0.03	0.01	55.4
Approach		36	5.0	38	5.0	0.010	0.8	NA	0.0	0.1	0.01	0.08	0.01	55.9
All Vehicles		112	5.0	118	5.0	0.019	2.7	NA	0.1	0.6	0.05	0.29	0.05	54.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 01 [[02] 01 PM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	1	5.0	1	5.0	0.002	6.5	LOS A	0.0	0.1	0.14	0.91	0.14	48.0
2	T1	1	5.0	1	5.0	0.002	7.5	LOS A	0.0	0.1	0.19	0.89	0.19	21.5
3	R2	1	5.0	1	5.0	0.002	7.9	LOS A	0.0	0.1	0.33	0.82	0.33	45.4
Approach		3	5.0	3	5.0	0.002	7.3	LOS A	0.0	0.1	0.22	0.87	0.22	40.8
East: MR00400 (R331)														
4	L2	2	5.0	2	5.0	0.022	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	54.7
5	T1	56	5.0	59	5.0	0.022	0.1	LOS A	0.1	0.6	0.04	0.10	0.04	58.7
6	R2	15	5.0	16	5.0	0.022	5.8	LOS A	0.1	0.6	0.12	0.25	0.12	50.2
Approach		73	5.0	77	5.0	0.022	1.4	NA	0.1	0.6	0.06	0.13	0.06	57.5
North: DR01928														
7	L2	33	5.0	35	5.0	0.030	7.9	LOS A	0.1	0.8	0.09	0.94	0.09	45.4
8	T1	1	5.0	1	5.0	0.007	8.9	LOS A	0.0	0.2	0.30	0.85	0.30	27.0
9	R2	4	5.0	4	5.0	0.007	9.0	LOS A	0.0	0.2	0.30	0.85	0.30	46.7
Approach		38	5.0	40	5.0	0.030	8.0	LOS A	0.1	0.8	0.12	0.93	0.12	45.3
West: MR00400 (R331)														
10	L2	4	5.0	4	5.0	0.016	5.6	LOS A	0.0	0.0	0.00	0.08	0.00	33.9
11	T1	53	5.0	56	5.0	0.016	0.0	LOS A	0.0	0.1	0.01	0.05	0.01	59.5
12	R2	1	5.0	1	5.0	0.016	5.8	LOS A	0.0	0.1	0.01	0.02	0.01	55.6
Approach		58	5.0	61	5.0	0.016	0.5	NA	0.0	0.1	0.01	0.05	0.01	57.4
All Vehicles		172	5.0	181	5.0	0.030	2.7	NA	0.1	0.8	0.06	0.29	0.06	55.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[02] 02 AM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	5	1	5	20.0	0.010	5.1	LOS A	0.0	0.0	0.00	0.19	0.00	15.0
8	T1	25	8	26	32.0	0.010	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	58.7
Approach		30	9	32	30.0	0.010	0.9	NA	0.0	0.0	0.00	0.10	0.00	49.8
North: DR01928														
2	T1	8	1	8	12.5	0.003	0.0	LOS A	0.0	0.0	0.02	0.06	0.02	58.9
3	R2	1	0	1	0.0	0.003	5.7	LOS A	0.0	0.0	0.05	0.13	0.05	48.2
Approach		9	1	9	11.1	0.003	0.6	NA	0.0	0.0	0.03	0.06	0.03	57.4
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.1	LOS A	0.0	0.0	0.06	0.95	0.06	47.5
6	R2	3	3	3	100.0	0.005	11.8	LOS B	0.0	0.2	0.18	1.00	0.18	24.9
Approach		4	3	4	75.0	0.005	10.9	LOS B	0.0	0.2	0.15	0.99	0.15	33.0
All Vehicles		43	13	45	30.2	0.010	1.7	NA	0.0	0.2	0.02	0.17	0.02	50.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[02] 02 PM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	9	0	9	0.0	0.005	5.1	LOS A	0.0	0.0	0.00	0.56	0.00	14.3
8	T1	10	0	11	0.0	0.005	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
Approach		19	0	20	0.0	0.005	2.4	NA	0.0	0.0	0.00	0.27	0.00	34.6
North: DR01928														
2	T1	19	3	20	15.8	0.006	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	59.4
3	R2	1	0	1	0.0	0.006	5.6	LOS A	0.0	0.1	0.02	0.06	0.02	49.2
Approach		20	3	21	15.0	0.006	0.3	NA	0.0	0.1	0.01	0.03	0.01	58.8
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.01	0.99	0.01	47.5
6	R2	17	0	18	0.0	0.019	8.2	LOS A	0.1	0.5	0.13	0.91	0.13	31.5
Approach		18	0	19	0.0	0.019	8.2	LOS A	0.1	0.5	0.13	0.91	0.13	33.2
All Vehicles		57	3	60	5.3	0.019	3.5	NA	0.1	0.5	0.04	0.39	0.04	43.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[02] 03 AM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	6	1	6	16.7	0.008	5.7	LOS A	0.0	0.0	0.00	0.28	0.00	30.3
8	T1	19	7	20	36.8	0.008	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.0
Approach		25	8	26	32.0	0.008	1.4	NA	0.0	0.0	0.00	0.14	0.00	51.2
North: DR01928														
2	T1	8	1	8	12.5	0.003	0.0	LOS A	0.0	0.0	0.02	0.06	0.02	59.3
3	R2	1	0	1	0.0	0.003	5.6	LOS A	0.0	0.0	0.05	0.13	0.05	31.1
Approach		9	1	9	11.1	0.003	0.6	NA	0.0	0.0	0.02	0.06	0.02	55.8
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.04	0.96	0.04	47.5
6	R2	1	0	1	0.0	0.001	8.2	LOS A	0.0	0.0	0.13	0.90	0.13	47.5
Approach		2	0	2	0.0	0.001	8.1	LOS A	0.0	0.0	0.09	0.93	0.09	47.5
All Vehicles		36	9	38	25.0	0.008	1.6	NA	0.0	0.0	0.01	0.17	0.01	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[02] 03 PM AD (Site Folder: [02] 2021 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2021 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	5	0	5	0.0	0.003	5.5	LOS A	0.0	0.0	0.00	0.50	0.00	29.8
8	T1	7	0	7	0.0	0.003	0.0	LOS A	0.0	0.0	0.00	0.06	0.00	59.4
Approach		12	0	13	0.0	0.003	2.3	NA	0.0	0.0	0.00	0.24	0.00	45.7
North: DR01928														
2	T1	18	3	19	16.7	0.006	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	59.7
3	R2	1	0	1	0.0	0.006	5.6	LOS A	0.0	0.1	0.01	0.06	0.01	31.5
Approach		19	3	20	15.8	0.006	0.3	NA	0.0	0.1	0.01	0.03	0.01	58.0
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.01	0.99	0.01	47.5
6	R2	6	0	6	0.0	0.007	8.2	LOS A	0.0	0.2	0.12	0.91	0.12	47.5
Approach		7	0	7	0.0	0.007	8.2	LOS A	0.0	0.2	0.10	0.92	0.10	47.5
All Vehicles		38	3	40	7.9	0.007	2.4	NA	0.0	0.2	0.02	0.26	0.02	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ANNEXURE E
SIDRA
OUTPUT
SHEETS: 2026
After
Development

MOVEMENT SUMMARY

Site: 01 [[03] 01 AM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	2	5.0	2	5.0	0.003	6.5	LOS A	0.0	0.1	0.14	0.91	0.14	48.1
2	T1	1	5.0	1	5.0	0.003	6.7	LOS A	0.0	0.1	0.15	0.91	0.15	29.2
3	R2	2	5.0	2	5.0	0.003	7.4	LOS A	0.0	0.1	0.28	0.84	0.28	45.7
Approach		5	5.0	5	5.0	0.003	7.0	LOS A	0.0	0.1	0.20	0.88	0.20	45.2
East: MR00400 (R331)														
4	L2	1	5.0	1	5.0	0.022	5.6	LOS A	0.0	0.0	0.00	0.02	0.00	54.9
5	T1	38	5.0	40	5.0	0.022	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	59.8
6	R2	29	5.0	31	5.0	0.022	5.8	LOS A	0.1	0.7	0.12	0.54	0.12	46.3
Approach		68	5.0	72	5.0	0.022	2.5	NA	0.1	0.7	0.05	0.24	0.05	55.1
North: DR01928														
7	L2	11	5.0	12	5.0	0.010	7.8	LOS A	0.0	0.3	0.07	0.95	0.07	45.4
8	T1	1	5.0	1	5.0	0.003	8.7	LOS A	0.0	0.1	0.27	0.84	0.27	27.3
9	R2	1	5.0	1	5.0	0.003	8.8	LOS A	0.0	0.1	0.27	0.84	0.27	46.9
Approach		13	5.0	14	5.0	0.010	8.0	LOS A	0.0	0.3	0.10	0.93	0.10	44.8
West: MR00400 (R331)														
10	L2	5	5.0	5	5.0	0.012	5.6	LOS A	0.0	0.0	0.00	0.14	0.00	33.6
11	T1	36	5.0	38	5.0	0.012	0.0	LOS A	0.0	0.1	0.01	0.08	0.01	59.2
12	R2	1	5.0	1	5.0	0.012	5.7	LOS A	0.0	0.1	0.01	0.03	0.01	55.5
Approach		42	5.0	44	5.0	0.012	0.8	NA	0.0	0.1	0.01	0.08	0.01	55.7
All Vehicles		128	5.0	135	5.0	0.022	2.7	NA	0.1	0.7	0.05	0.28	0.05	54.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 01 [[03] 01 PM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: Farm Access														
1	L2	1	5.0	1	5.0	0.002	6.6	LOS A	0.0	0.1	0.16	0.90	0.16	47.9
2	T1	1	5.0	1	5.0	0.002	7.7	LOS A	0.0	0.1	0.21	0.88	0.21	21.5
3	R2	1	5.0	1	5.0	0.002	8.2	LOS A	0.0	0.1	0.35	0.82	0.35	45.1
Approach		3	5.0	3	5.0	0.002	7.5	LOS A	0.0	0.1	0.24	0.87	0.24	40.7
East: MR00400 (R331)														
4	L2	2	5.0	2	5.0	0.026	5.6	LOS A	0.0	0.0	0.00	0.03	0.00	54.7
5	T1	65	5.0	68	5.0	0.026	0.1	LOS A	0.1	0.7	0.04	0.10	0.04	58.8
6	R2	17	5.0	18	5.0	0.026	5.9	LOS A	0.1	0.7	0.13	0.25	0.13	50.2
Approach		84	5.0	88	5.0	0.026	1.4	NA	0.1	0.7	0.06	0.13	0.06	57.5
North: DR01928														
7	L2	38	5.0	40	5.0	0.035	7.9	LOS A	0.1	0.9	0.10	0.93	0.10	45.4
8	T1	1	5.0	1	5.0	0.007	9.1	LOS A	0.0	0.2	0.32	0.84	0.32	26.8
9	R2	4	5.0	4	5.0	0.007	9.2	LOS A	0.0	0.2	0.32	0.84	0.32	46.5
Approach		43	5.0	45	5.0	0.035	8.0	LOS A	0.1	0.9	0.13	0.92	0.13	45.3
West: MR00400 (R331)														
10	L2	4	5.0	4	5.0	0.019	5.6	LOS A	0.0	0.0	0.00	0.07	0.00	34.0
11	T1	61	5.0	64	5.0	0.019	0.0	LOS A	0.0	0.1	0.01	0.04	0.01	59.5
12	R2	1	5.0	1	5.0	0.019	5.9	LOS A	0.0	0.1	0.01	0.02	0.01	55.6
Approach		66	5.0	69	5.0	0.019	0.4	NA	0.0	0.1	0.01	0.05	0.01	57.7
All Vehicles		196	5.0	206	5.0	0.035	2.6	NA	0.1	0.9	0.06	0.29	0.06	55.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[03] 02 AM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	6	1	6	16.7	0.011	5.1	LOS A	0.0	0.0	0.00	0.20	0.00	15.0
8	T1	29	9	31	31.0	0.011	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	58.7
Approach		35	10	37	28.6	0.011	0.9	NA	0.0	0.0	0.00	0.10	0.00	49.5
North: DR01928														
2	T1	9	1	9	11.1	0.003	0.0	LOS A	0.0	0.0	0.02	0.05	0.02	59.0
3	R2	1	0	1	0.0	0.003	5.7	LOS A	0.0	0.0	0.05	0.12	0.05	48.3
Approach		10	1	11	10.0	0.003	0.6	NA	0.0	0.0	0.03	0.06	0.03	57.6
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.1	LOS A	0.0	0.0	0.06	0.95	0.06	47.5
6	R2	3	3	3	100.0	0.005	11.9	LOS B	0.0	0.3	0.19	0.99	0.19	24.9
Approach		4	3	4	75.0	0.005	11.0	LOS B	0.0	0.3	0.16	0.98	0.16	32.9
All Vehicles		49	14	52	28.6	0.011	1.6	NA	0.0	0.3	0.02	0.16	0.02	50.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[03] 02 PM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	10	2	11	20.0	0.006	5.1	LOS A	0.0	0.0	0.00	0.56	0.00	34.9
8	T1	11	1	12	9.1	0.006	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	60.0
Approach		21	3	22	14.3	0.006	2.4	NA	0.0	0.0	0.00	0.27	0.00	51.5
North: DR01928														
2	T1	22	4	23	18.2	0.007	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	59.5
3	R2	1	0	1	0.0	0.007	5.6	LOS A	0.0	0.1	0.02	0.05	0.02	49.2
Approach		23	4	24	17.4	0.007	0.2	NA	0.0	0.1	0.01	0.03	0.01	58.9
West: Nulaid Access 1														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.00	1.00	0.00	47.5
6	R2	19	3	20	15.8	0.023	8.8	LOS A	0.1	0.7	0.15	0.92	0.15	30.8
Approach		20	3	21	15.0	0.023	8.8	LOS A	0.1	0.7	0.14	0.93	0.14	32.4
All Vehicles		64	10	67	15.6	0.023	3.6	NA	0.1	0.7	0.05	0.39	0.05	50.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[03] 03 AM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	7	1	7	14.3	0.010	5.7	LOS A	0.0	0.0	0.00	0.28	0.00	30.3
8	T1	22	8	23	36.4	0.010	0.0	LOS A	0.0	0.0	0.00	0.10	0.00	59.0
Approach		29	9	31	31.0	0.010	1.4	NA	0.0	0.0	0.00	0.14	0.00	51.2
North: DR01928														
2	T1	9	1	9	11.1	0.003	0.0	LOS A	0.0	0.0	0.02	0.05	0.02	59.4
3	R2	1	0	1	0.0	0.003	5.7	LOS A	0.0	0.0	0.05	0.12	0.05	31.2
Approach		10	1	11	10.0	0.003	0.6	NA	0.0	0.0	0.02	0.06	0.02	56.2
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.1	LOS A	0.0	0.0	0.05	0.96	0.05	47.5
6	R2	1	0	1	0.0	0.001	8.3	LOS A	0.0	0.0	0.14	0.89	0.14	47.5
Approach		2	0	2	0.0	0.001	8.2	LOS A	0.0	0.0	0.09	0.93	0.09	47.5
All Vehicles		41	10	43	24.4	0.010	1.5	NA	0.0	0.0	0.01	0.16	0.01	52.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 02 [[03] 03 PM AD (Site Folder: [03] 2026 After Development)]

Traffic Impact Statement for the Proposed Expansion
of Nulaid Eggland Facility on Farm 745, Thornhill
2026 After Development
Site Category: (None)
Stop (Two-Way)

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] veh/h	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] m	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed km/h
South: DR01928														
7	L2	6	1	6	16.7	0.004	5.7	LOS A	0.0	0.0	0.00	0.53	0.00	29.5
8	T1	8	0	8	0.0	0.004	0.0	LOS A	0.0	0.0	0.00	0.03	0.00	59.7
Approach		14	1	15	7.1	0.004	2.5	NA	0.0	0.0	0.00	0.25	0.00	45.2
North: DR01928														
2	T1	21	3	22	14.3	0.007	0.0	LOS A	0.0	0.1	0.01	0.03	0.01	59.7
3	R2	1	0	1	0.0	0.007	5.6	LOS A	0.0	0.1	0.01	0.05	0.01	31.6
Approach		22	3	23	13.6	0.007	0.3	NA	0.0	0.1	0.01	0.03	0.01	58.2
West: Nulaid Access 2														
4	L2	1	0	1	0.0	0.001	8.0	LOS A	0.0	0.0	0.01	0.99	0.01	47.5
6	R2	7	1	7	14.3	0.008	8.7	LOS A	0.0	0.2	0.13	0.92	0.13	46.7
Approach		8	1	8	12.5	0.008	8.6	LOS A	0.0	0.2	0.12	0.93	0.12	46.8
All Vehicles		44	5	46	11.4	0.008	2.5	NA	0.0	0.2	0.02	0.26	0.02	52.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: SIDRA Standard.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.