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SEPTEMBER 2025

Traffic Impact Assessment Report

for the

Proposed Rethusheng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo Province

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VERSION CONTROL

Status	Version	Prepared by	Date	Changes/Notes
Draft	V1	Bridget Mokgalabone bridget@transdataconsult.com	25/08/2025	
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1 EXECUTIVE SUMMARY

1.1 Project Overview

The proposed Rethusheng Special School development will be located on Part of Portion 2 of Farm Cromford 690-LR within the Blouberg Local Municipality. The school is expected to accommodate a total of 332 boarding students. In addition, the development will include accommodation for a maximum of 58 boarding staff and 53 daily staff members.

The proposed Rethusheng Special School aims to cater to learners with special educational needs, including physical disabilities, learning difficulties or sensory impairments. This Traffic Impact Assessment (TIA) evaluates the potential impact of the proposed development on the existing road network and recommends any necessary improvements to accommodate future traffic demand.

1.2 Key Findings

- **Trip Generation & Distribution**: Based on COTO **TMH17** trip rates, the development is expected to generate significant traffic volumes. The proposed school development will generate the following additional vehicle trips per hour:
  - ❖ Weekday morning peak hour trips:
    - o Inbound traffic: **141** trips
    - o Outbound traffic: **141** trips
  - ❖ Weekday afternoon peak hour trips:
    - o Inbound traffic: **50** trips
    - o Outbound traffic: **50** trips
  - ❖ Midday peak hour trips:
    - o Inbound traffic: **52** trips
    - o Outbound traffic: **64** trips
- **Trip Reductions**: No trip reduction was applied to this development's trips.
- **Critical Intersections**: Tuesday classified traffic counts were conducted at the following three critical intersections that act as main feeders in and out of the study area:
  - ❖ Juno Road / Unnamed Road (D3429)
  - ❖ Juno Road / Sadoma Road
  - ❖ Sadoma Road / Lekhureng Road
- **Capacity Analysis**: The capacity analysis evaluated these key intersections under three traffic scenarios for current base year (2025), projected (2030), projected (2030) and development traffic conditions. Currently, all intersections operate within acceptable levels of service (LOS) and volume-to-capacity (v/c) ratios. Projections indicate that by 2030, the intersections will continue to function efficiently without delays. Furthermore, when traffic generated by the proposed school is included, no significant delays are expected. Therefore, no road improvements are required, as the development does not substantially impact intersection performance under the assessed projected (2030) and development traffic scenario.

- **Road Upgrades Required**: No road improvements have been proposed.
- **Access Provision**: The primary access will be via a partial intersection (Left-in/Left-out/Right-in only) on Juno Road (D19), with three internal, priority stop-controlled accesses from the internal road serving the proposed Rethusheng Special School development. This partial intersection will be located approximately 540 m from Sadoma Road and 1.06 km from Unnamed Road (D3429). In addition to vehicular access, pedestrian gates will be provided at the direct access points to ensure safe and convenient entry and exit for non-motorised transport (NMT) users.
- **Public Transport (PT) & Non-Motorised Transport (NMT)**: The study highlighted the necessity of providing designated public transport lay-bys at access point (both upstream and downstream of the Juno Road) and the provision of NMT infrastructure along Juno Road and site boundary.

1.3 Recommendations

- **Access on Juno Road (D19)**: Based on the projected (2030) and development traffic volumes (Scenario 3) the access configuration is proposed as follows:
  - ❖ A third leg (Access Road) to be constructed on the northern approach with one inbound and one outbound lane;
  - ❖ An additional 30m left-turning lane on the western approach
  - ❖ An additional 30m right-turning lane and a 30m receiving lane on the eastern approach

1.4 Approval of Submission

This TIA will be submitted to Blouberg Local Municipality for evaluation and approval.

2 INTRODUCTION

2.1 Background

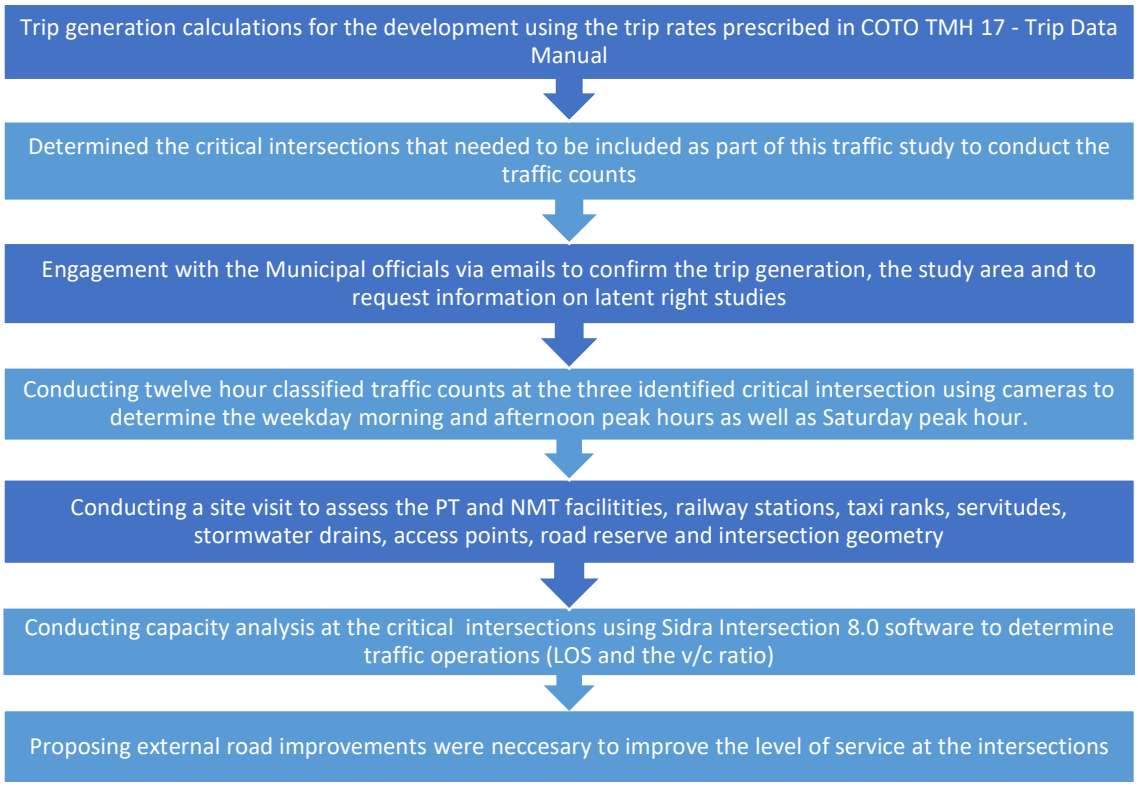
Transdata Consult (Pty) Ltd was appointed by Muteo Consulting (Pty) Ltd to conduct a Traffic Impact Assessment (TIA) for the proposed Rethusheng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo Province. The development involves the establishment of a boarding school for learners with special needs, accommodating up to 322 boarding students, maximum of 58 boarding staff and 53 daily staff on site.

2.2 Study Purpose

This TIA evaluate the potential impact of traffic generated by the proposed Rethusheng Special School development on the surrounding road infrastructure. As part of this process, the study examines land-use entitlements, estimates trip generation and assesses the existing traffic conditions and road network in the area. This TIA report also includes an evaluation of access options to the site, intersection performance through traffic simulations and the identification of any necessary road upgrades. The report concludes with final conclusions and recommendations.

2.3 Methodology

The methodology utilised in this study include the following:



3 DEVELOPMENT PARTICULARS

3.1 Study Area

The proposed development site is located to the far west of the Mamehlabe residential area, in the northeast quadrant of the Juno Road/Sadoma Road intersection within the Blouberg Local Municipality and is bounded by:

- Juno Road to the south.
- Vacant land to the north, west and east.

Figure 3-1 below shows the site location.

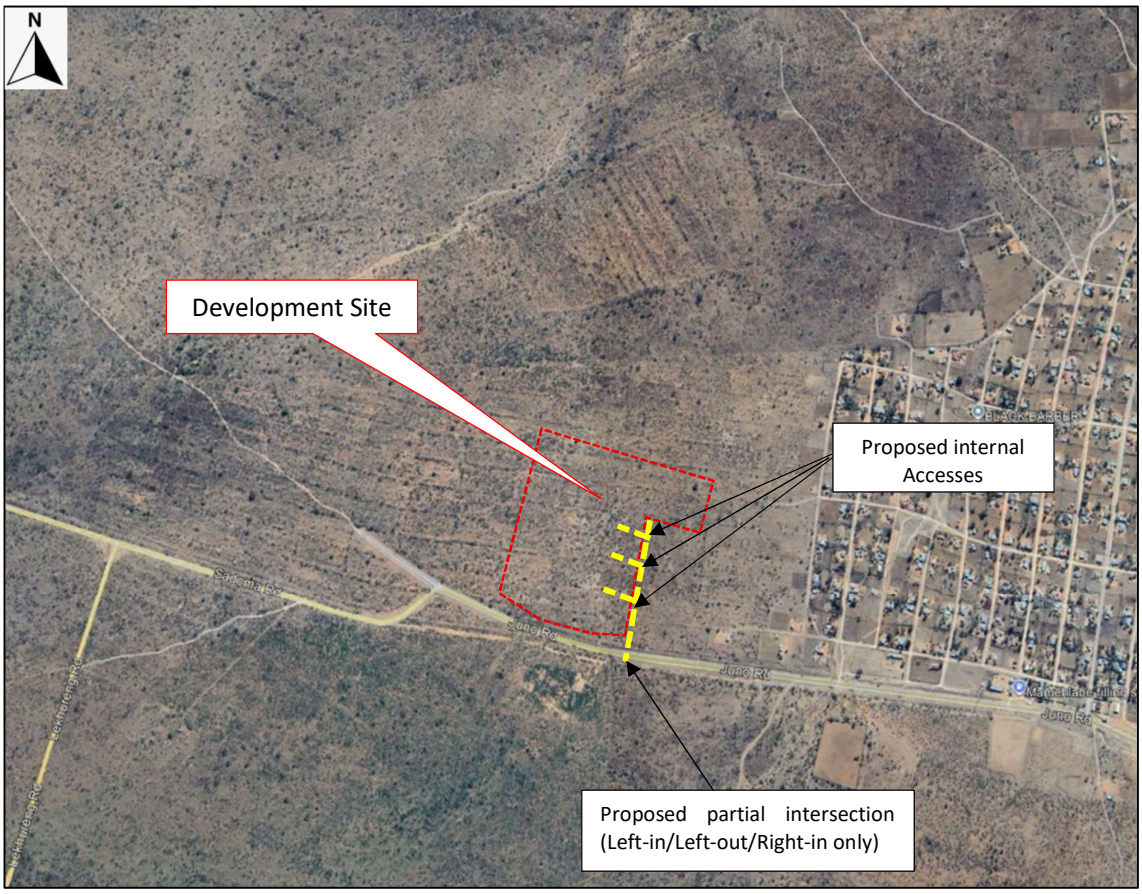


Figure 3-1: Site location

3.2 Land Use

The proposed land-use rights for the development are summarised in Table 3-1 below.

Table 3-1: Proposed Land-Use Rights

Site Name	Office Block	Land Use Code / TMH 17	Site Area	Extent
Part of Portion 2 of Farm Cromford 690-LR	Special School	Public Primary School (520)	± 10 ha	322 students
Total Proposed GLA				**322 students**

A copy of the Site Layout Plan is included in **Annexure A**.

4 TRIP GENERATION

4.1 Development Trip Generation

The trip rates prescribed in the Committee of Transport Officials' (COTO) TMH 17 - Trip Data Manual, Version 1.0 (dated September 2013) were used to calculate the expected trips for the proposed Rethusheng Special School development.

The land-use with the highest trip generation rates was selected as conservative measure to account for the worst-case scenario, ensuring alignment with development land-use entitlements. The trip rate for public primary school land-use was used to calculate the trips generated by the proposed school development and can be seen in Table 4-1.

4.2 Trip Reduction and Motivation

In terms of the National Development Plan: Vision 2030, human settlement patterns within cities and towns should meet the needs and preferences of the citizens, considering broader social, environmental and economic interests. Travel distances need to be shorter which implies ensuring that a larger proportion of workers live closer to their places of work.

The developer intends to provide accommodation for 58 boarding staff, which implies that most staff will reside on-site. As a result, there will be minimal commuter trips generated by staff and students. No trip reductions have been applied to the trip generation for the proposed school development.

Table 4-1: Trip Generation for the Proposed Rethusheng Special School Development

Weekday Morning Peak Hour							
Land-Use	**Extent**	**Trip Rate**	**Directional Split**		**Trip Generation**		
			In	**Out**	**In**	**Out**	**Total**
Public Primary School	322	0.85 per 1 Student	50%	50%	141	141	**282**
				Total Generated Trips	141	141	**282**
Weekday Afternoon Peak Hour							
Land-Use	**GLA**	**Trip Rate**	**Directional Split**		**Trip Generation**		
			In	**Out**	**In**	**Out**	**Total**
Public Primary School	322	0.30 per 1 Student	50%	50%	50	50	**100**
				Total Generated Trips	50	50	**100**
Midday Peak Hour							
Land-Use	**GLA**	**Trip Rate**	**Directional Split**		**Trip Generation**		
			In	**Out**	**In**	**Out**	**Total**
Public Primary School	322	0.35 per 1 Student	45%	55%	52	64	**116**
				Total Generated Trips	52	64	**116**

5 SITE INVESTIGATION

A site investigation was conducted on the 11th of August 2025. The site visit focused on observing the general road network layout, road conditions, modes of transport available in the area, traffic safety, and some land-use aspects that were relevant to this study.

5.1 Existing Surrounding Road Network

The surrounding road network within the vicinity of the proposed development are described in Table 5-1. The road classification was conducted according to the Road Agency Limpopo (RAL) and TRH 26, The South African Road Classification and Access Management Manual.

Table 5-1: Existing Surrounding Road Network Classification

Road/ Street Names	Description	Class
Juno Road (D19)	Single carriageway Collector road also known as D19 that forms the southern boundary of the development. It has one lane in each direction, running from north-west to south-east direction. Juno Road provide direct access between local settlements and the regional road network and links surrounding villages such as Juno, Olympus and Tibane to the R567. Street lighting and sidewalks have not been provided along this road.	R4
Sadoma Road	Single carriageway Collector road is located to the south-east of the development site. It has one lane in each direction, running from north-west to south-east direction. The section of this road from Juno Road to the west is currently gravel surfaced. This road serves as a local access route linking nearby rural settlements such as Ga-Mothapo and Ga-Ramela to Juno Road (D19). Street lighting and sidewalks have not been provided along this road.	R4
Unnamed Road (D3429)	Single carriageway The Unnamed Road (D3429) functions as a collector route, located to the far east of the development site and has one lane in each direction. This road supports local mobility and serves an access route to the residents of Mamehlabe Village and links this rural settlement to Juno Road (D19). The road runs in a north to south direction and there are no available sidewalks and street lighting along the sides of the road.	R4
Lekhureng Road	Single carriageway Gravel surfaced road that functions as a collector route and lies to the south- west of the development site. It has one lane in each direction, running from northeast to southwest.	R4

Refer to Figure 5-1 below for the existing road network extract from the Road Agency Limpopo (Google Earth).

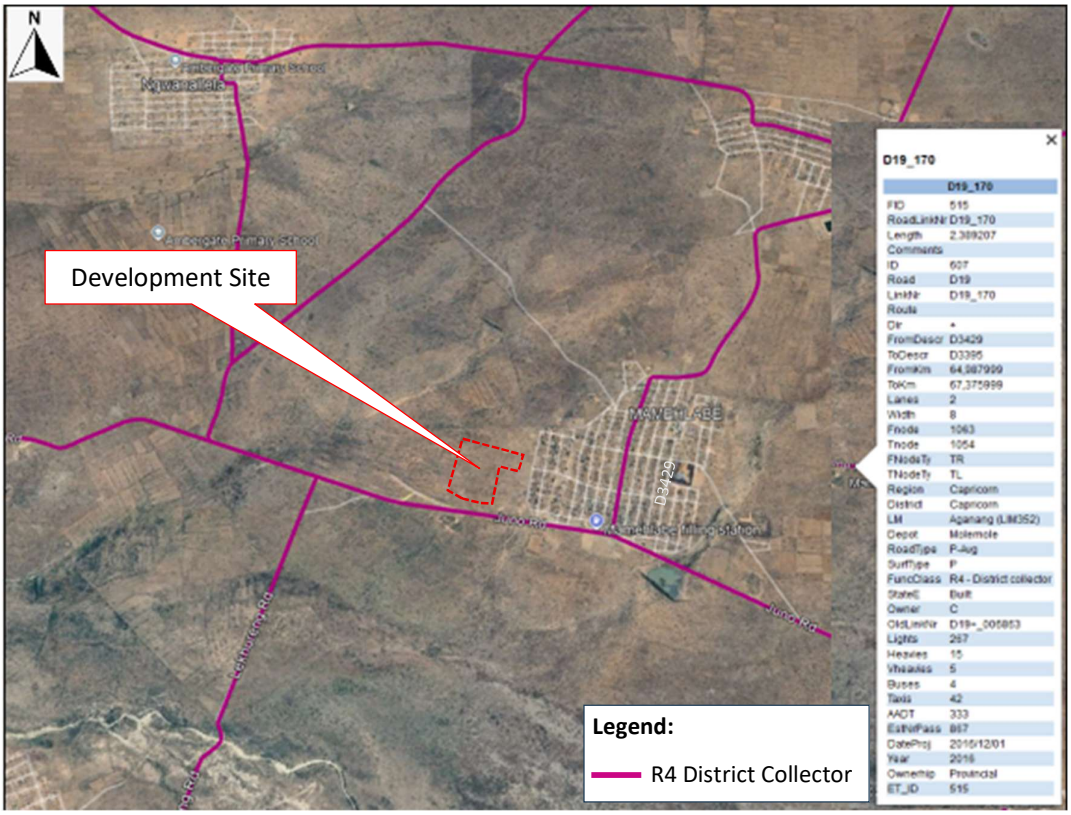


Figure 5-1: Existing Road Network (Source: RAL - Google Earth)

5.2 Future Road Network

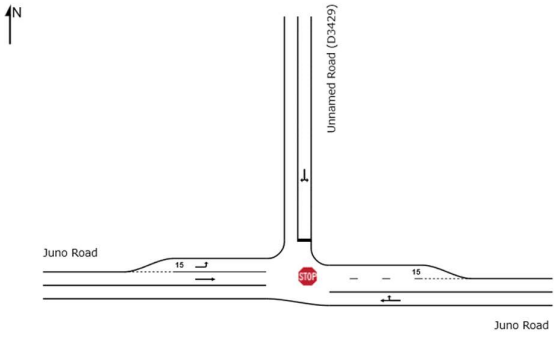
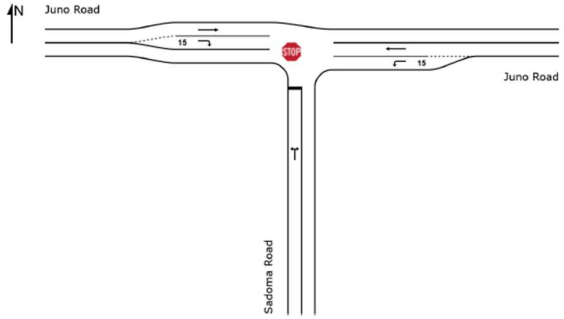
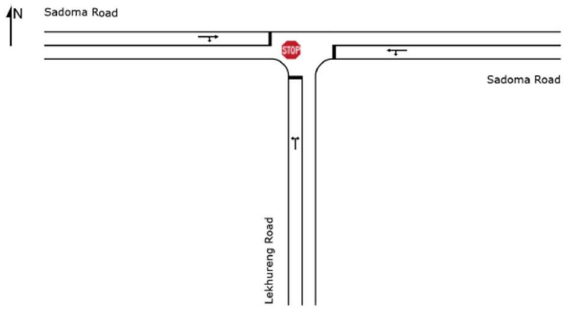
At the time of this study, no information on the proposed road master plan for the Blouberg Local Municipality was available. Consequently, there are no planned future roads identified in the vicinity of the proposed development site. However, it is recommended that Blouberg Local Municipality consider paving the following gravel-surfaced roads in the future:

- Sadoma Road
- Lekhureng Road

5.3 Existing Intersection Geometry

The existing intersection geometry and control for the external intersections to be analysed in this traffic assessment are summarised in Table 5-2 below.

Table 5-2: Existing Intersection Geometry and Control

Nr	Intersection Name	Existing Layout	Description
1.	Juno Road / Unnamed Road (D3429)		This priority stop-controlled T-intersection features an exclusive left-turn lane and a dedicated through lane on the western approach, while the northern and eastern approaches each is provided with a single shared lane. Road markings are slightly visible, and the road surface at the intersection is in good condition. Adequate sight distance is available.
2.	Juno Road/ Sadoma Road		This priority stop-controlled T-intersection includes separate turning lanes on the eastern and western approaches, while Sodoma Road operates as a single shared lane. Road markings and surfacing on Juno Road are faintly visible, whereas Sodoma Road is currently gravel-surfaced. Adequate sight distance is available at the intersection.
3.	Sadoma Road / Lekhureng Road		This T-intersection operates as a priority stop-controlled intersection with a single lane on all approaches. All connecting roads are currently gravel-surfaced.

6 ACCESS

6.1 Access Provision

The primary access will be via a partial intersection (Left-in/Left-out/Right-in only) on Juno Road (D19), with three internal, priority stop-controlled accesses from the internal road serving the proposed Rethusheng Special School development. The distance between the Juno Road / Sadoma Road intersection and the eastern edge of the site is 540 m. According to the TRH26 Road Classification and Access Management Manual (2012), the minimum prescribed spacing for intersections on rural access roads (Class 4b) is 600–800 m (Table 4). This partial intersection will be located approximately 540 m from Sadoma Road and 1.06 km from Unnamed Road (D3429).

Although the proposed access spacing of 540 m is below the 600–800 m guideline in TRH26 for Class 4b roads, the partial intersection design (Left-in/Left-out/Right-in) reduces conflict movements and ensures safe operation. With adequate sight distance, moderate traffic volumes and pedestrian access provided through dedicated gates, the access location is practical and is not expected to compromise road safety or functionality.

6.2 Access Control

The proposed internal accesses will be controlled by gates. Security guards will be stationed at these access points to control the entry and exit of individuals to the development site. This comprehensive security measure aims to improve safety by allowing only authorized individuals to enter, while also minimizing potential disruptions or negative effects on the surrounding neighbourhood by efficiently controlling traffic flow.

According to TMH 16 Volume 2 guidelines, a minimum ingress length of 10 meters and a minimum egress length of 6 meters for driveways will be adopted in this study to ensure compliance with the prescribed standards.

Table 6-1 below shows the queue storage lane length provided.

Table 6-1: Access Queue Storage Length

Access	Number of Lanes Entering	Number of Lanes Exiting	Storage Length Required
Proposed Full Access off Juno Road	1	1	20 meters

7 TRAFFIC COUNTS AND FLOW DATA

Classified traffic counts were conducted on Tuesday, 12th of August 2025 at the intersections identified in **Section 5.3**.

7.1 Base Year Volumes (2024)

The Tuesday morning, afternoon and midday peak hours, were identified once the traffic counts were completed and the data was analysed. According to *TMH 16 Volume 2, The South African Traffic Impact and Site Traffic Assessment Standards and Requirements Manual*, the peak hour should be one hour, assuming the peak 15-minute traffic volume occurs over the entire hour.

Twelve-hour counting sessions were conducted for each identified critical intersection to ensure accurate traffic capacity calculations. Light vehicles, taxis and heavy vehicle data were obtained during the count.

From the traffic counts, the Tuesday morning, afternoon and midday peak hours were determined to be:

Juno Road / Unnamed Road (D3429) Intersection:

- Morning peak hour – 07:45 to 08:45
- Afternoon peak hour – 15:00 to 16:00
- Midday peak hour – 12:45 to 13:45

Juno Road/ Sadoma Road Intersection:

- Morning peak hour – 07:45 to 08:45
- Afternoon peak hour – 15:00 to 16:00
- Midday peak hour – 12:00 to 13:00

Sadoma Road / Lekhureng Road Intersection:

- Morning peak hour – 08:00 to 09:00
- Afternoon peak hour – 15:00 to 16:00
- Midday peak hour – 12:00 to 13:00

7.1.1 Base Year (2025) Peak Hour Traffic Volumes

The base year (2025) traffic volumes for both the Tuesday morning and afternoon peak hours can be observed in **Appendix B**, **Figures B1** and **B2,** respectively.

7.2 Latent Right Traffic Volumes

At the time of this study, no information on approved projects within the adjacent area was available. Therefore, there were no latent rights to be considered.

7.3 Horizon Year Volumes

The *Manual for Traffic Impact Studies (TRH 16, Vol. 1)* states that transportation improvements must be designed for a horizon year of five years. Therefore, it was decided to use a five-year horizon for the development.

The *TMH 17 (South African Trip Data Manual)* specifies that the typical growth rate for an area with an expected low to average traffic growth fall from 3% to 4%. To make provision for traffic growth on the affected collector roads, applying a 3% per annum growth factor was considered appropriate.

7.3.1 Horizon Year (2030) Peak Hour Traffic Volumes

The horizon year (2030) traffic volumes for both the Tuesday morning and afternoon peak hours were calculated according to the peak hour traffic in **Section 7.1** and can be observed in the **Appendix B**, **Figures B3** and **B4,** respectively.

7.4 Trip Distribution and Assignments

The proposed development trips were distributed and assigned on the adjacent road network based on the expected origins and destinations to and from the development. This was done based on the existing land use rights in the area.

Refer to **Appendix B**, **Figures B5** and **B6** for the trip distribution and assignment of the proposed development.

7.5 Background and Development Traffic Volumes

To obtain the 2030 background and development peak hour traffic volumes, the development trips were added to the 2030 background traffic volumes as shown in **Appendix B**, **Figures B7** and **B8,** respectively.

8 TRAFFIC IMPACT AND CAPACITY ANALYSIS

8.1 Capacity Analysis Results

The capacity analysis for the proposed development was done using Sidra Intersection 8.0 software package to determine the level of service (LOS), V/C ratios and the total delay experienced at the analysed intersections. The analysis was performed based on the Highway Capacity Manual (2010) method.

The acceptable Level of Service (LOS) for an intersection is A to D, according to The South African Traffic Impact and Site Traffic Assessment Standards and Requirements Manual.

During the traffic analyses, three scenarios were evaluated. The capacity analysis results are summarised in Table 8-1.

The following scenarios were analysed as part of this assessment.

- Scenario 1: 2025 Tuesday Morning and Afternoon Peak Hour Background Traffic Volumes;
- Scenario 2: 2030 Tuesday Morning and Afternoon Peak Hour Background Traffic Volumes;
- Scenario 3: 2030 Tuesday Morning and Afternoon Peak Hour Background and Development Traffic Volumes.

The capacity analysis results are summarised and discussed in the following section. The detailed capacity analysis results for Scenarios 1, 2, and 3 are included in **Annexure C, D** and **E**, respectively.

Table 8-1: Capacity Analysis Results for the Proposed Development

Intersection		Juno Road / Unnamed Road (D3429) Intersection			Juno Road/ Sadoma Road Intersection			Sadoma Road / Lekhureng Road Intersection		
		LOS	Del (s)	v/c	LOS	Del (s)	v/c	LOS	Del (s)	v/c
Intersection Control		**Priority Control**			**Priority Control**			**Priority Control**		
Scenario 1: Base Year (2025) Peak Hour Existing Traffic Volumes	**AM**	A	3.4	0.029	A	6.0	0.015	B	10.7	0.024
	PM	A	4.2	0.027	A	6.7	0.027	B	10.1	0.029
Intersection Control		**Priority Control**			**Priority Control**			**Priority Control**		
Scenario 2: Horizon Year (2030) Peak Hour Background Traffic Volumes	**AM**	A	3.4	0.034	A	6.1	0.017	B	10.6	0.027
	PM	A	4.2	0.030	A	6.7	0.032	B	10.1	0.033
Intersection Control		**Priority Control**			**Priority Control**			**Priority Control**		
Scenario 3: Horizon Year (2030) Peak Hour Background Traffic Volumes with Development Traffic Volumes	**AM**	A	3.8	0.076	A	6.7	0.099	C	14.6	0.207
	PM	A	4.1	0.046	A	6.8	0.059	B	12.8	0.084

The intersections were assessed based on their existing geometric layouts and current control types under Scenarios 1 and 2. The capacity analysis for the base year scenario (2025) and projected scenario (2030) indicates that all intersections currently operate at an acceptable level of service (LOS A) and volume-to-capacity (v/c) ratios. This indicates that no congestion and delays are and will be experienced at these intersections.

The capacity analysis results show that in 2030 when traffic generated by the proposed school development is added on the road network, the intersections will continue to function efficiently without delays. Therefore, no road improvements are required, as the development does not substantially impact intersection performance under the assessed projected (2030) and development traffic scenario 3.

9 SITE ACCESS ANALYSIS

The site will obtain primary access from Juno Road as outlined in **Section 6** of this report. It is the developers responsibility to construct the proposed access off Juno Road as shown in Figure 9-1 below.

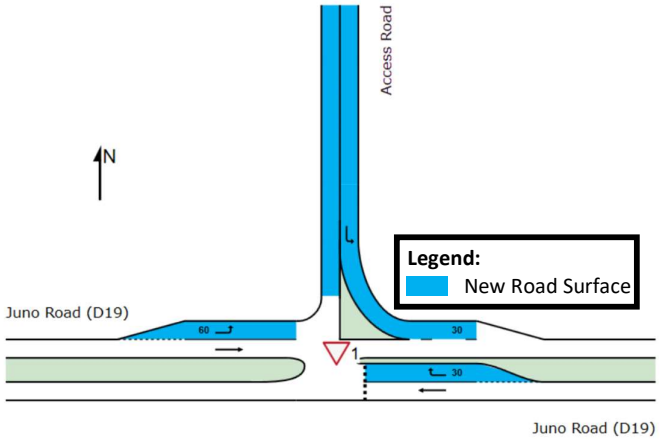


Figure 9-1: Proposed Access off Juno Road

The capacity analysis results for the proposed access off Juno Road can be observed in Table 9-1. The detailed capacity analyses results for the access can be found in **Annexure F**.

Table 9-1: Access traffic analyses summary

Access Name		Scenario 3U: 2029 Background and Development Traffic Volumes		
		LOS	Del (s)	v/c
Juno Road / Access to Site	AM	A	4.0	0.087
	PM	A	2.9	0.034

10 PUBLIC TRANSPORT (PT) AND NON-MOTORIZED TRANSPORT (NMT) FACILITIES

10.1 Existing PT facilities

10.1.1 Bus Services

According to the Blouberg Local Municipality Final Draft Reviewed Integrated Development Plan (IDP)/Budget, 2024/2025–2027, formal bus services (Great North Transport and MMabi Bus Services) have been suspended. Currently, no formal bus operations exist in the municipal area.

10.1.2 Minibus Taxi Services

Based the Municipal's IDP Minibus taxis represent the backbone of public transport in Blouberg. They operate from several ranks across the municipality, with formal facilities available only at Senwabarwana, Kromhoek and Alldays and they are equipped with shelters. In contrast, ranks at Windhoek, Avon, Buffelshoek, Vivo, Letswatla and Mamehlabe remain informal and lack adequate infrastructure.

Taxis provide vital connections between local nodes such as Senwabarwana while also linking the municipality with major destinations such as Polokwane, Johannesburg and etc. However, services are only available between 06h00 and 20h00, which restricts mobility for commuters outside these hours.

Taxis have been observed using Juno Road, Unnamed Road (D3429), Sodoma Road and the remaining road in close vicinity of the site to transport passengers from the surrounding area.

10.1.3 Public transport lay-bys and bus stops

The Blouberg Local Municipality Final Draft Reviewed IDP/Budget 2024/2025–2027 notes that taxi and bus shelters have been constructed along major routes to support commuters. These include the D1200 (Senwabarwana–Windhoek Road), the Wegdraai to Eldorado Road, the Letswatla to Windhoek Road, and the D1598 (Kibi to Schiermonikoog Road).

During the site investigation, a lay-by was observed approximately 45 m west of Juno Road / Unnamed Road (D3429) Intersection, as shown in Figure 10-1.

Figure 10-1: Existing Lay-by along Juno Road

10.2 PT Lay-bys and Bus Stops

The Municipal Final Draft Reviewed IDP/Budget 2024/2025–2027, further states that non-motorised transport modes such as donkey carts and bicycles are commonly used. These modes provide affordable mobility for communities where access to formal public transport is limited. However, there were no formal infrastructure such as designated cycling lanes, pedestrian walkways or NMT infrastructure facilities observed in the vicinity of the development site.

10.3 Proposed PT facilities

10.3.1 Bus Services

The IDP notes that bus services such as Great North Transport and MMabi Bus Services have been suspended, leaving no formal bus operations in the municipal area. No intervention for restoring bus operations is outlined in the document.

It is recommended that the municipality, in collaboration with the Limpopo Department of Transport, explore the reinstatement of affordable and reliable bus services, either through re-engagement with suspended operators or by attracting new service providers. Introducing scheduled bus services would improve long-distance connectivity, reduce dependence on taxis and provide alternative mobility for commuters, especially students and workers.

10.3.2 PT Lay-bys

To support efficient and safe access to the development, well-designed public transport lay-bys need to be implemented at the access point (upstream and downstream of Juno Road) as shown in Figure 10-2, facilitating convenient pick-up and drop-off operations for taxis. This will improve public transport functionality, reduce congestion at entrances and enhance overall accessibility to the site.

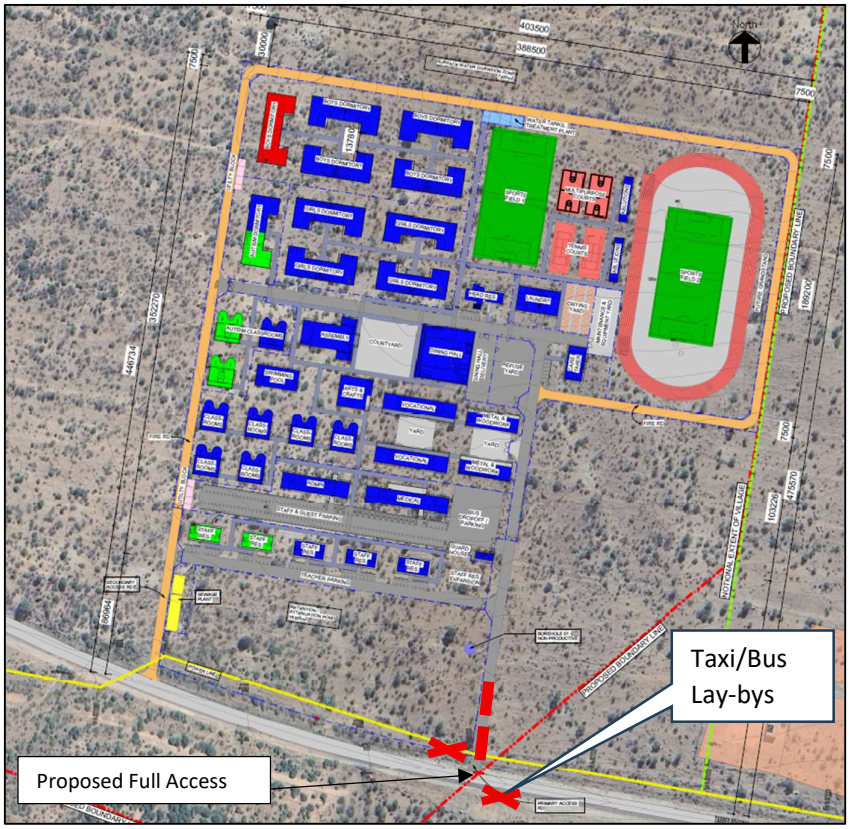


Figure 10-2: Proposed Public Transport Lay-bys along Juno Road

10.4 Proposed NMT facilities

It is proposed that the municipality formally integrate NMT into its future Integrated Transport Plan by providing safe walking and cycling paths and improved pedestrian crossings along busy roads. These measures would enhance safety, reduce accidents and ensure inclusivity for low-income and rural residents who depend on NMT.

Accommodation for pedestrians should be provided at the access to the development, therefore, pedestrian crossing facilities (tactile paving and ramps) should be provided at the proposed access to the development to ensure easy and accessible movement for pedestrians walking to and from the development. Additionally, the developer should construct sidewalks along the site boundary.

11 PARKING PROVISION

11.1 Parking Provision

Parking will be provided within the development site as required by Blouberg Local Municipality and in accordance with Blouberg Local Municipality Land Use Scheme, 2022. Table 11-1 below illustrates the parking requirements for the proposed land use.

Table 11-1: Parking Requirements

Land Use TMH17 Code		Extent	Parking Rate	Parking Bays Required
Place of Education (520)	Classroom	26	1 space per classroom	26
	Office	525 m^2	2 spaces per 100 m^2 office floor area	11
	Students	332	5 drop-off spaces for passenger vehicle per 100 students	17
TOTAL PARKING BAYS REQUIRED				**54**

Provision has been made for a dedicated bus drop-off area within the development site, as shown on the Site Layout Plan included in **Annexure A**.

11.2 Loading Provision

Provision has been made for a refuse area within the development site, as indicated on the Site Layout Plan. Refuse trucks can access the designated area via the internal road. Accommodation for vehicles such as fire trucks, ambulances and other emergency vehicles as well as private vehicles will be made on the development site. Sufficient internal circulation is available on the site to ensure that these vehicles are able to enter and exit the development without causing safety hazards to themselves or to other vehicles and objects on the development site.

Loading and off-loading facility for goods will be provided on site to the satisfaction of the Municipality.

12 CONCLUSION AND RECOMMENDATION

12.1 Conclusions

This traffic study analysed the impact of a proposed Rethusheng Special School development that is expected to accommodate up to 322 boarding students, maximum of 58 boarding staff and 53 daily staff on site.

It is anticipated that the proposed development may generate maximum of **141** for both inbound and outbound trips, during the weekday morning peak hour, **50** for both inbound and outbound trips, during the weekday afternoon peak hour, as well as **52** and **64** inbound and outbound trips, respectively during Midday peak hour. No trip reduction was applied to this development's trips.

The report recommended the creation of a partial intersection (Left-in/Left-out/Right-in only) on Juno Road (D19) to serve as a primary access. Three internal priority stop-controlled accesses will be provided from the internal road to serve the proposed Rethusheng Special School development. The partial intersection will be located approximately 540 m from Sadoma Road and 1.06 km from Unnamed Road (D3429).

The capacity analysis included three scenarios namely, base year (2025), horizon year (2030) traffic with and without the development. The intersections were analysed based on the existing geometry and control. The analysis indicated that all the intersections operate under an acceptable level of service for all three scenarios.

The developer will have to provide public transport lay-by at the development access point (along Juno Road). Pedestrian crossing facilities (tactile paving and ramps) will be provided at the access, and the developer should construct pedestrian walkways on the development site boundary (along Juno Road) and within the development site to accommodate non-motorised transport users.

A total of 54 parking bays should be provided on the development site as per the Blouberg Local Municipality Land Use Scheme 2022 parking requirements for place of education land-use. It is recommended that the refuse trucks do not enter the development site, since the dustbins used by the development, will be put outside the access gate.

12.2 Recommendations

This report recommends the following:

The developer:

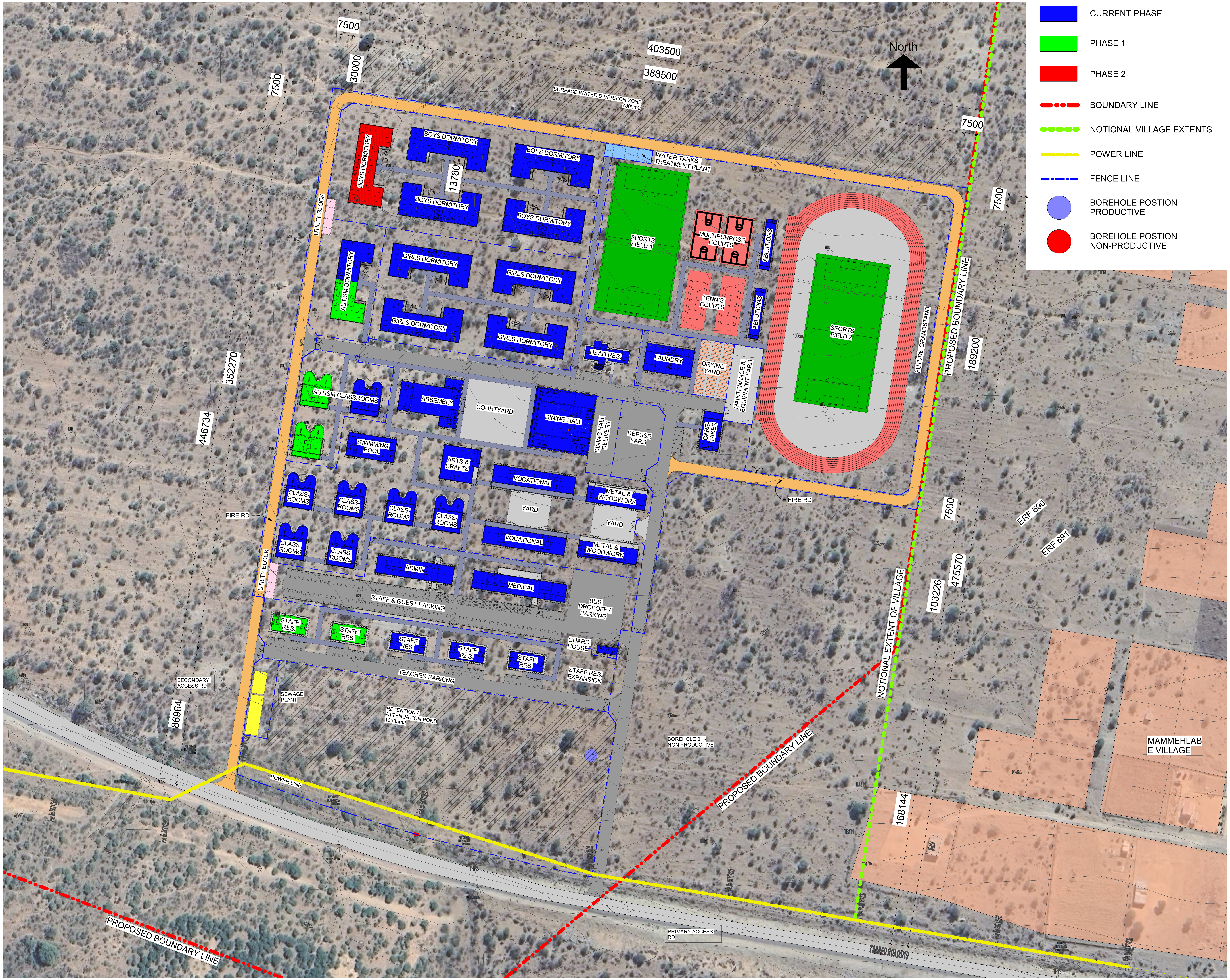
- To construct the proposed development access (along Juno Road) as outlined in Section 6 of this traffic study;
- The developer provides public transport lay-bys, pedestrian walkways and pedestrian crossing facilities as outlined in Section 10 of this report and in consultation with relevant departments of Blouberg Local Municipality; and
- This Traffic Impact Assessment (TIA) in support of the proposed Rethusheng Special School to be located on Part of Portion 2 of Farm Cromford 690-LR, Blouberg Local Municipality, Limpopo Province be approved.

13 REFERENCES

1. Akcelik & Associates Pty Ltd, (October 2020) **aaSIDRA 8.0**, Greythorn, Australia.
2. Committee of Transport Officials, (September 2013) **TMH17 - South African Trip Data Manual**, Version 1.01, Pretoria, South Africa.
3. Committee of Transport Officials, (August 2012) **THM16 Volume 1 – South African Traffic Impact and Site Traffic Assessment Standards and Requirements Manual**, Version 1.0, Pretoria, South Africa.
4. Committee of Transport Officials, (August 2012) **THM16 Volume 2 – South African Traffic Impact and Site Traffic Assessment Standards and Requirements Manual**, Version 1.0, Pretoria, South Africa.
5. Committee of Transport Officials (COTO), (August 2012) **TRH26 – South African Road Classification and Access Management Manual**, Version 1.0, SANRAL, South Africa.
6. **Blouberg Local Municipality Land Use Scheme,** (2022), Blouberg Local Municipality, Limpopo, South Africa.
7. **Draft Reviewed Intergrated Development Plan (IDP)/BUDGET,** (2025/2026/2027), Blouberg Local Municipality, Limpopo, South Africa.

ANNEXURE A

Copy of the Site Layout Plan



- CURRENT PHASE
- PHASE 1
- PHASE 2
- BOUNDARY LINE
- NOTIONAL VILLAGE EXTENTS
- POWER LINE
- FENCE LINE
- BOREHOLE POSTION PRODUCTIVE
- BOREHOLE POSTION NON-PRODUCTIVE

SIGNATURES:

PROFESSIONAL:	PR. NR.	SIGNATURE:
ARCHITECT		
CIVIL ENGINEER		
STRUCTURAL ENGINEER		
MECHANICAL ENGINEER		
ELECTRICAL ENGINEER		
FIRE ENGINEER		

REVISIONS

REV	DATE	DRAWN	DESCRIPTION
A	2025-08-22	MJF	Issued For Information
B	2025-08-29	MJF	Issued For Information

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF
EDUCATION

IDC Architects
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REGISTRATION NUMBER: PrArch 4849
ARCHITECT NAME: B Ilori

CLIENT: LIMPOPO PUBLIC WORKS

CLIENT SIGNATURE:

PROJECT DESCRIPTION

RETHUSHENG SPECIAL NEEDS SCHOOL

Erf 1962 Pietersburg Ext 7

DRAWING DESCRIPTION: Site Plan - Detail

SCALE / SHEET SIZE	DATE
SCALE: As indicated @ A1	08/22/25
PROJECT No.	SHEET NUMBER
063 - 17	00-011

OCCUPANCY	PHASE	DISCIPLINE	REVISION
A3	1	ARCH	B

DRAWING STATUS: INFO | TENDER | COUNCIL | CONSTRUCTION

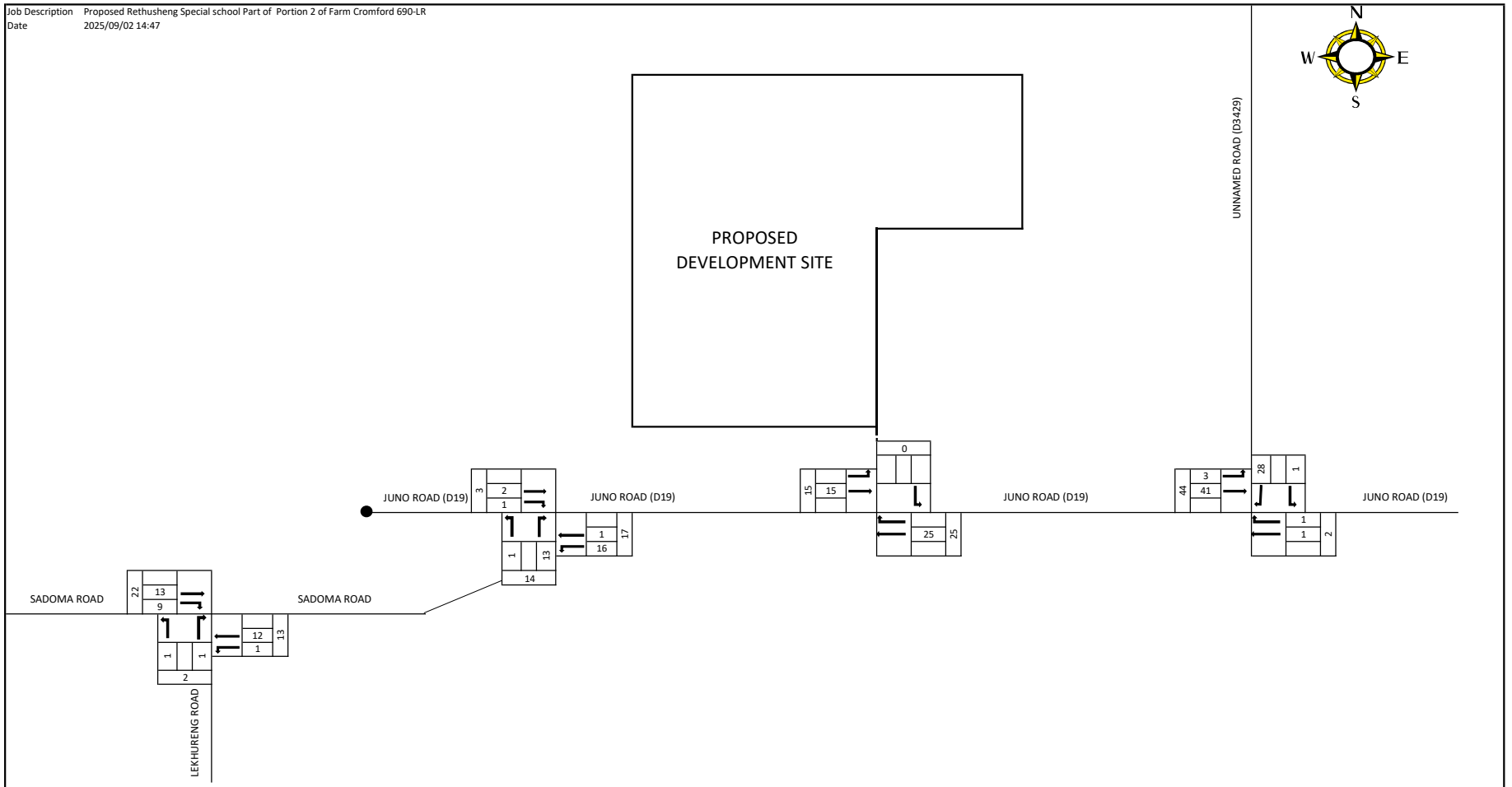
DRAWN BY: Author | CHECKED: Checker

C:\Users\ROG WORKSTATION 2\Documents\2025-08-31 Rethusheng_CENTRAL_detached_detached_669316.rvt

ANNEXURE B

Traffic Volumes

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



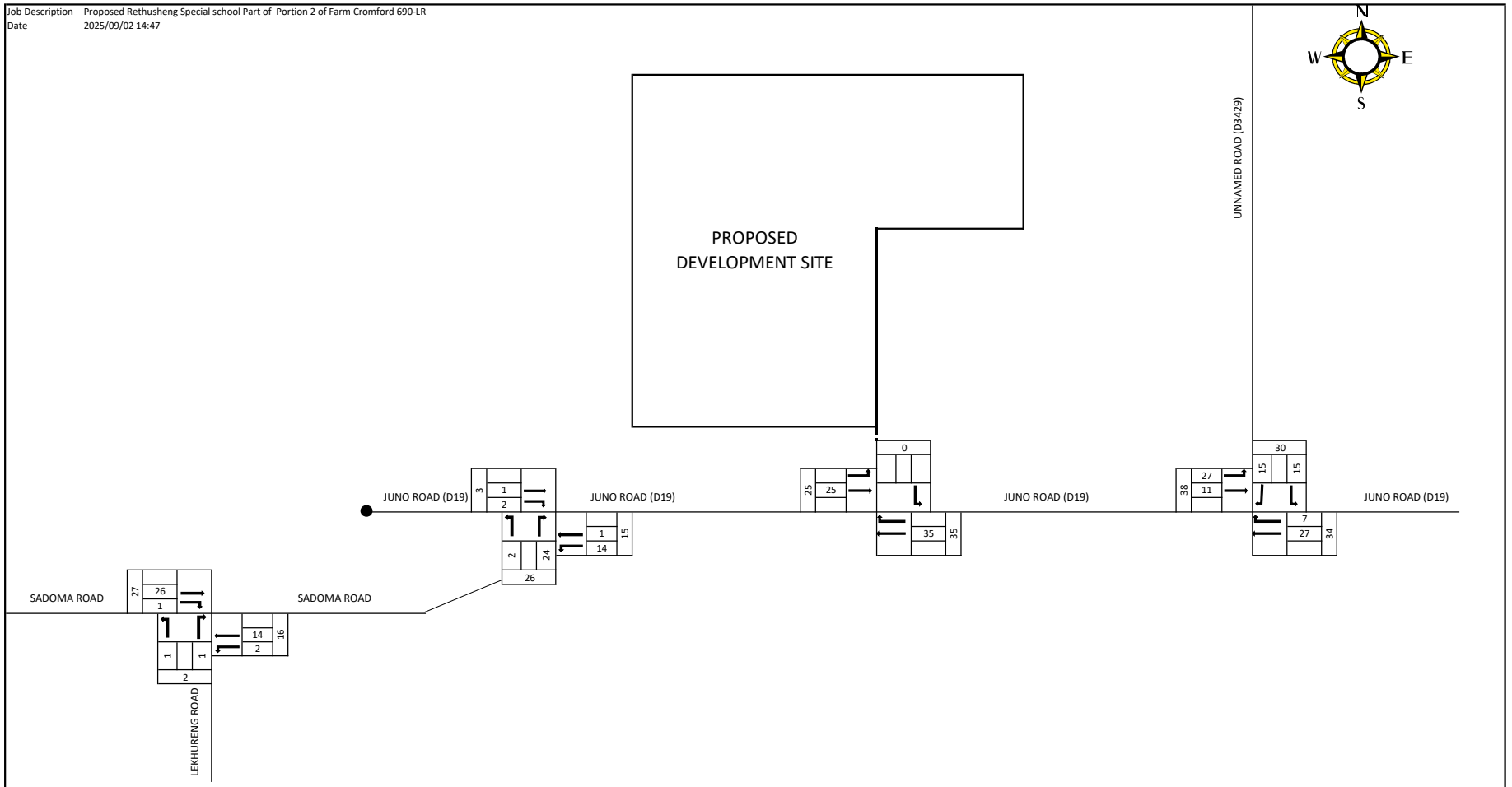
TRANSDATA CONSULT

2025 WEEKDAY MORNING PEAK HOUR TRAFFIC COUNTS

FIGURE 1

ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



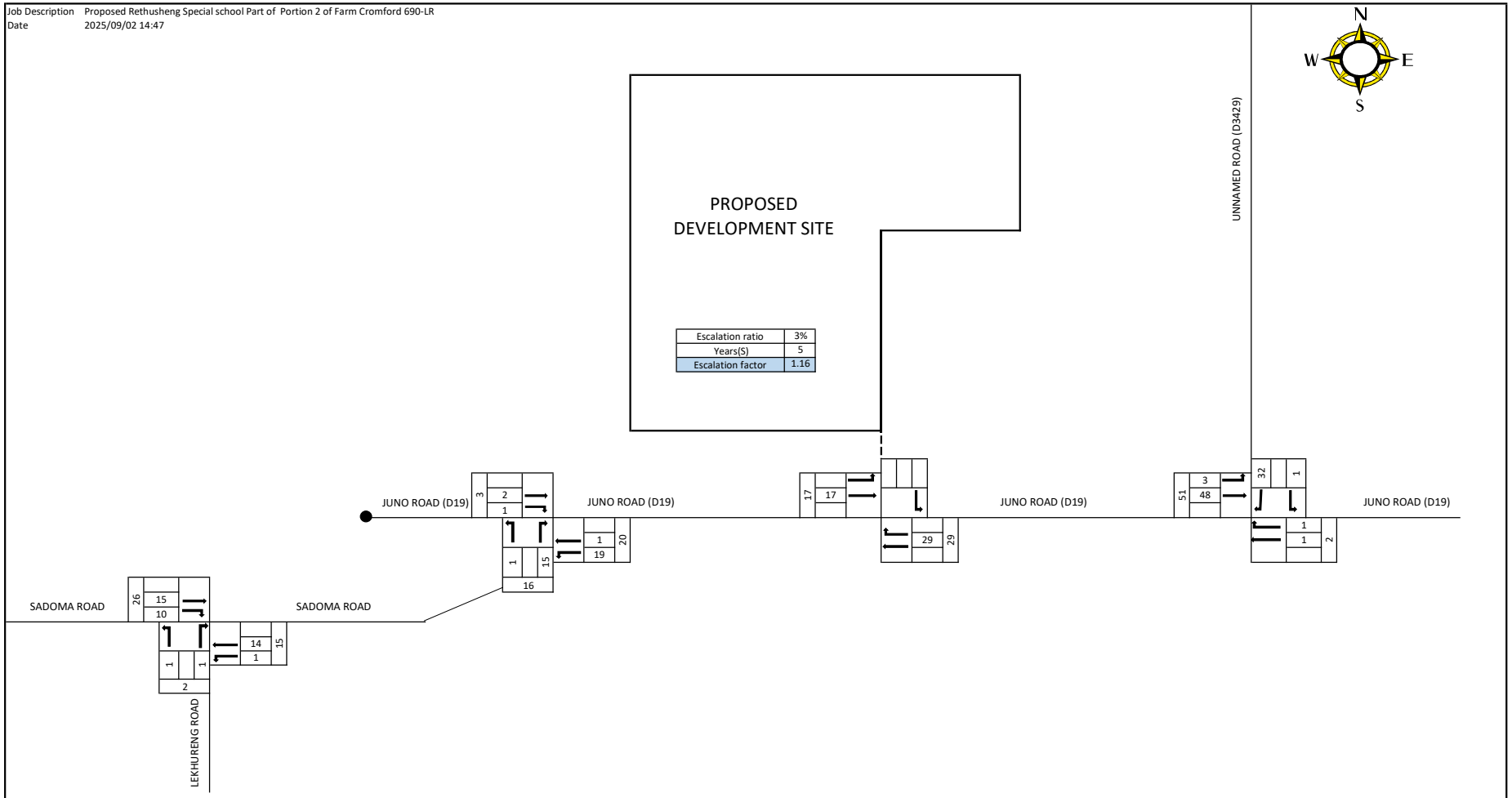
TRANSDATA CONSULT

2025 WEEKDAY AFTERNOON PEAK HOUR TRAFFIC COUNTS

FIGURE 2

ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



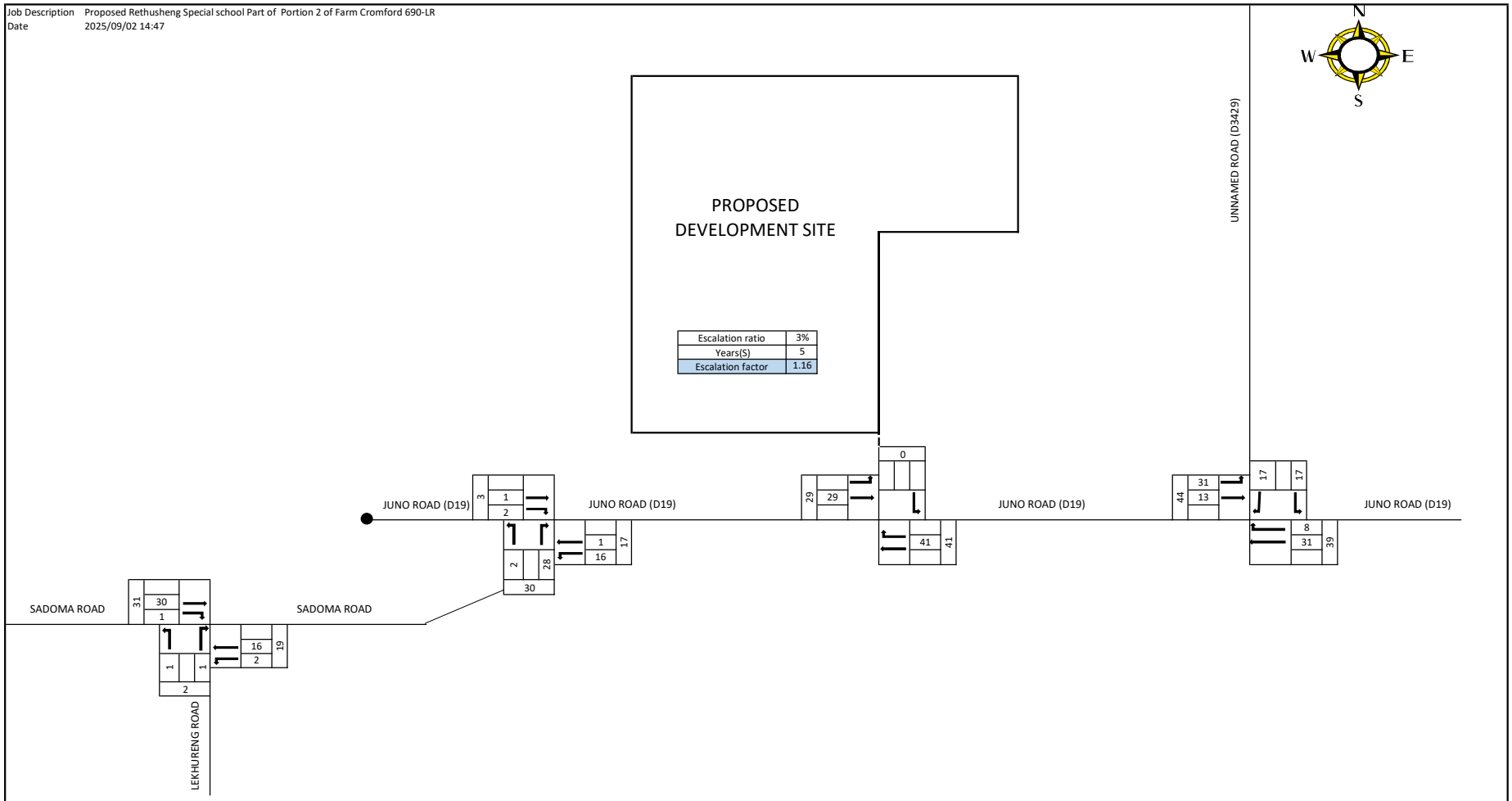
TRANSDATA CONSULT

2030 WEEKDAY MORNING PEAK HOUR ESCALATED BACKGROUND TRAFFIC VOLUMES

FIGURE 3

ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



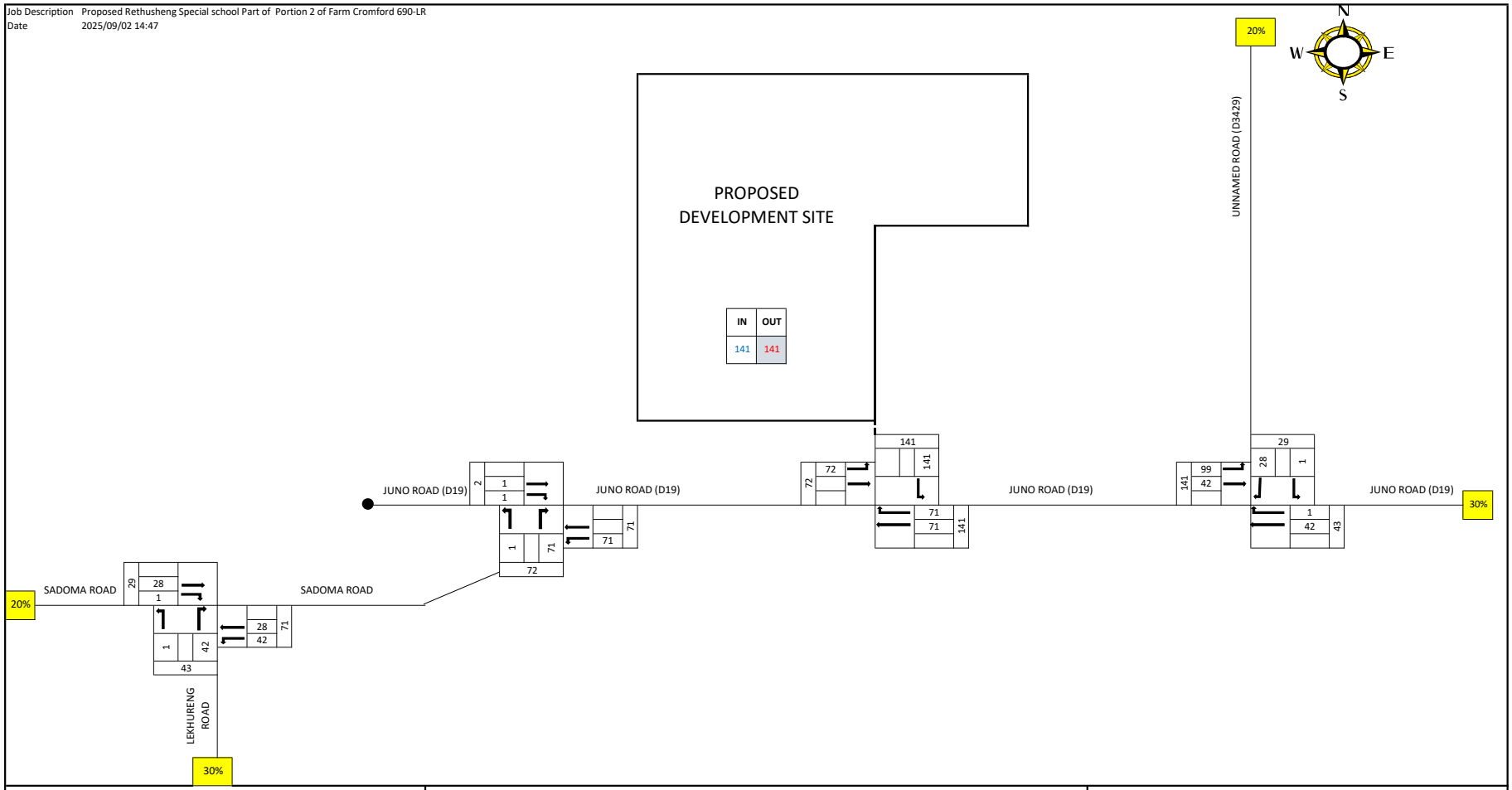
TRANSDATA CONSULT

2030 WEEKDAY AFTERNOON PEAK HOUR ESCALATED BACKGROUND TRAFFIC VOLUMES

FIGURE 4

ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



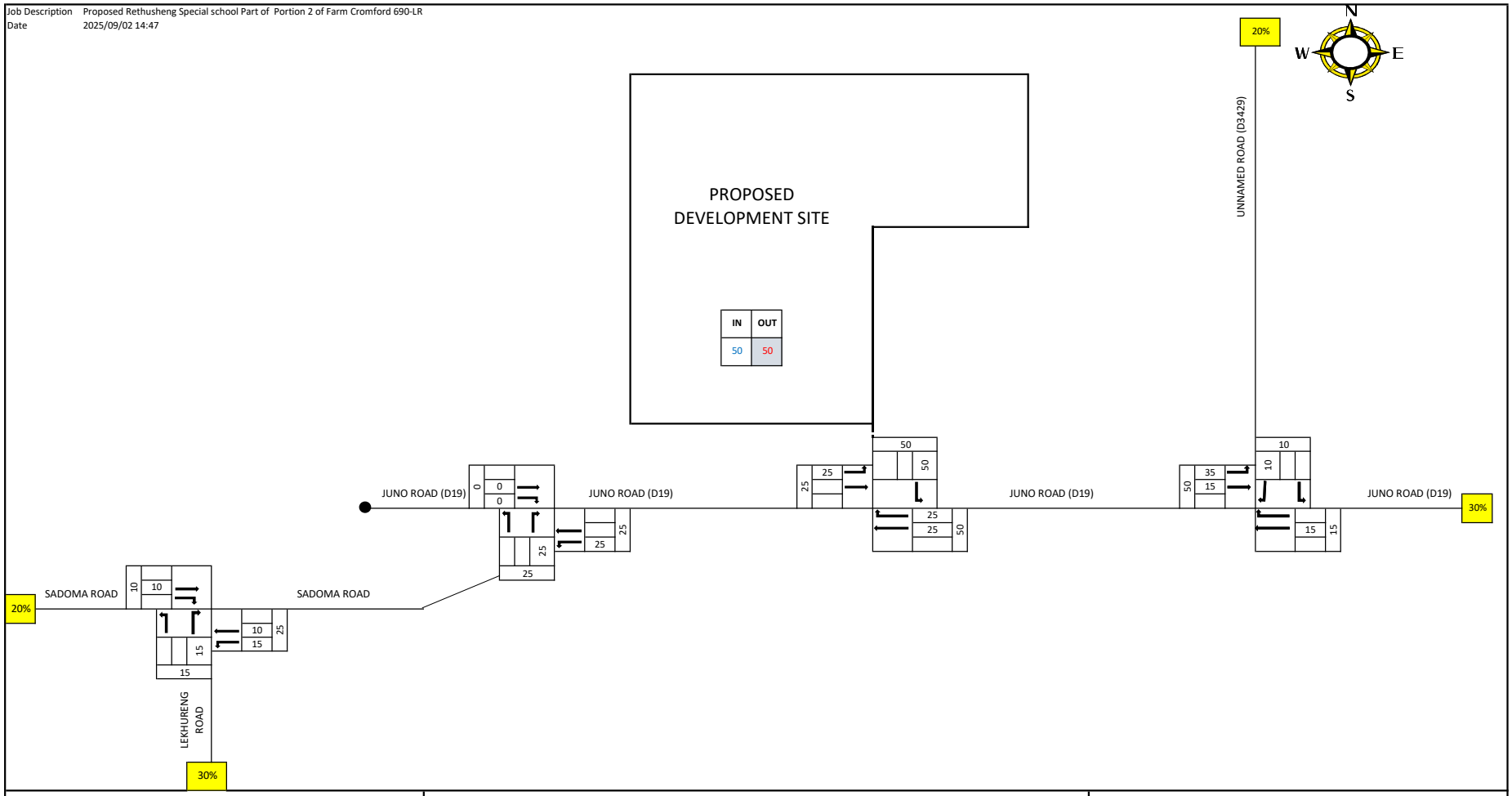
TRANSDATA CONSULT

WEEKDAY MORNING PEAK HOUR DEVELOPMENT TRIPS AND ASSIGNMENTS

FIGURE 5

ANNEXURE

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



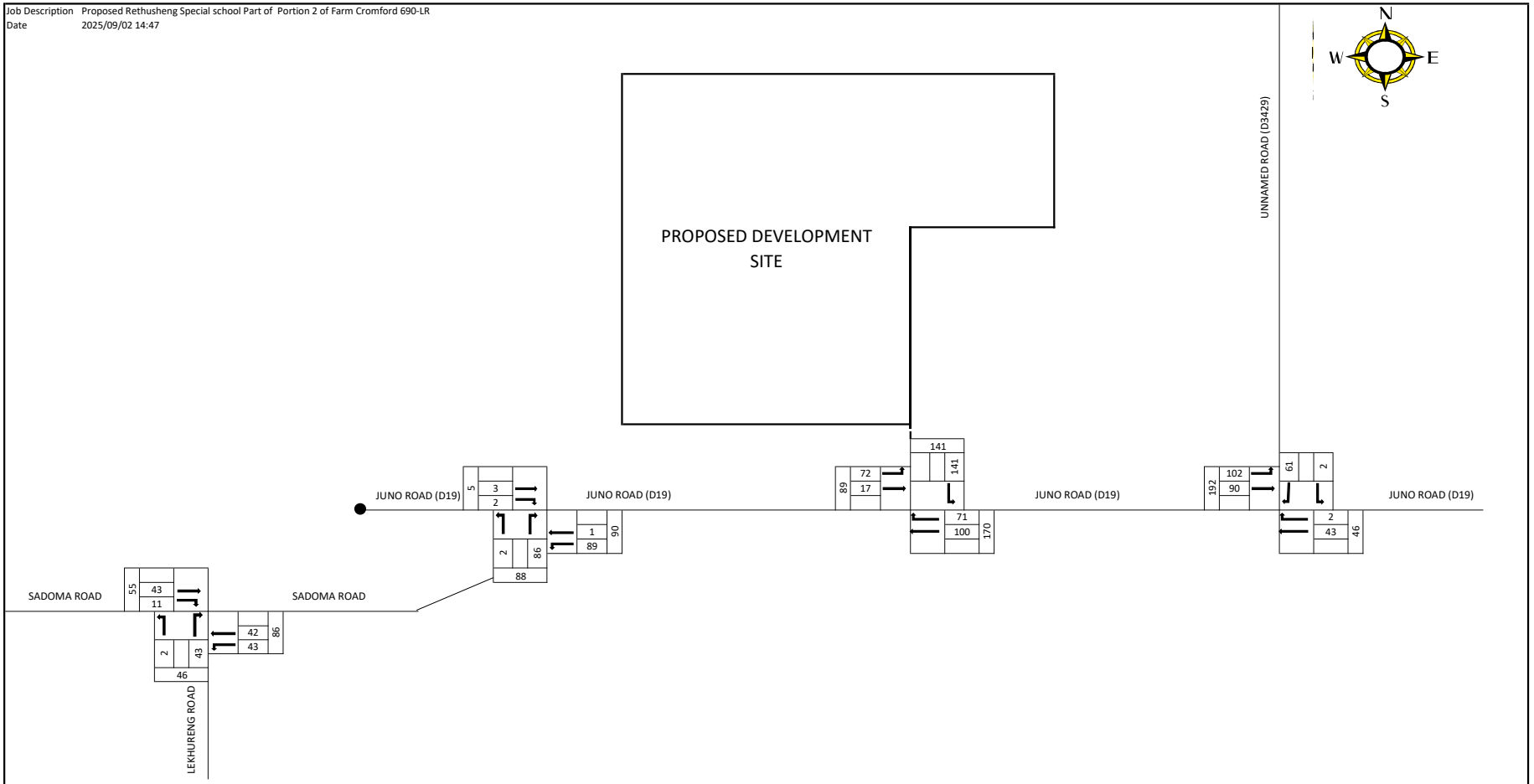
TRANSDATA CONSULT

WEEKDAY AFTERNOON PEAK HOUR DEVELOPMENT TRIPS AND ASSIGNMENTS

FIGURE 6

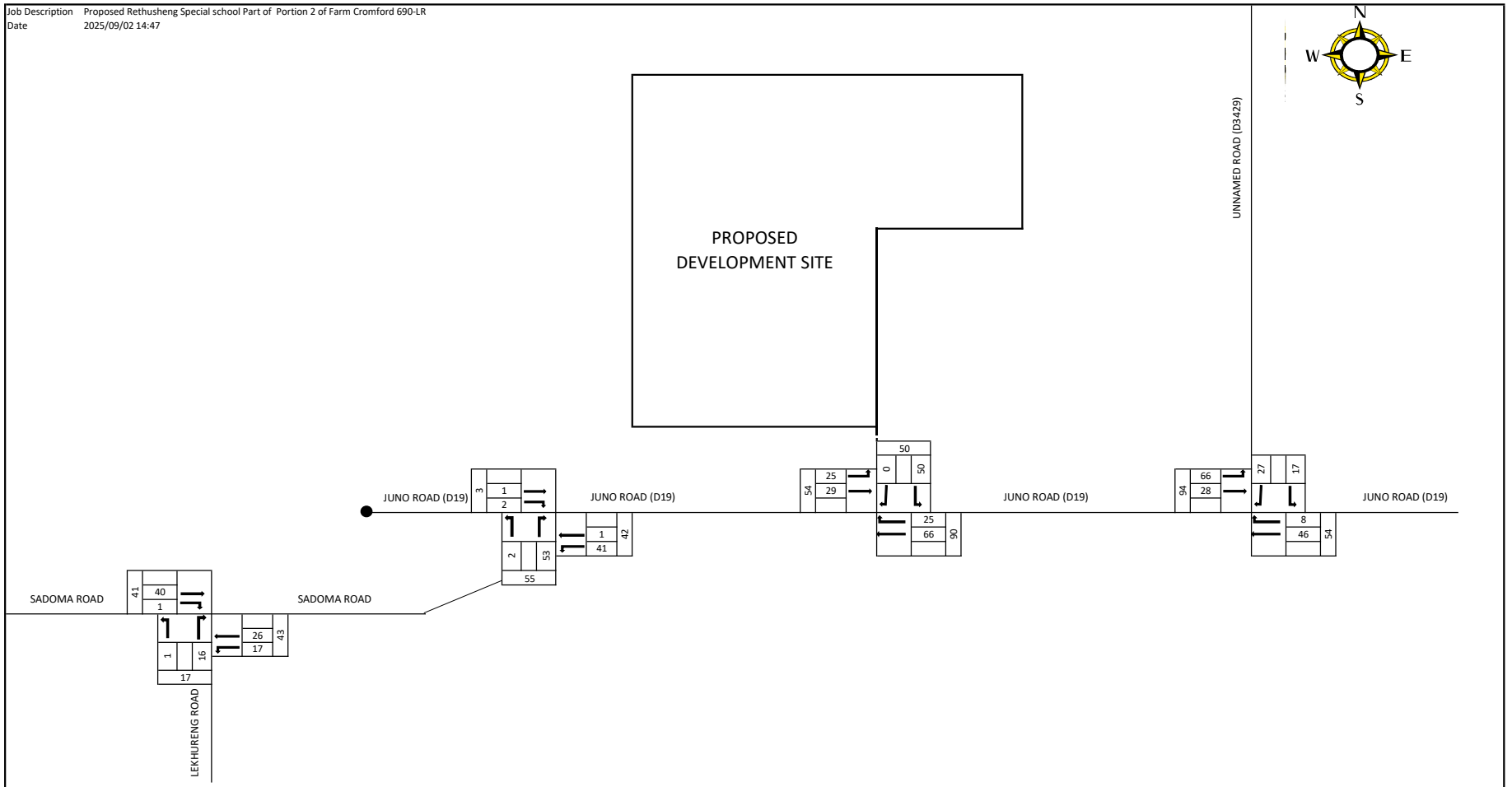
ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



TRANSDATA CONSULT	2030 WEEKDAY MORNING PEAK HOUR BACKGROUND (ESCALATED) AND DEVELOPMENT TRAFFIC VOLUMES	FIGURE 7 ANNEXURE B

Job Description Proposed Rethusheng Special school Part of Portion 2 of Farm Cromford 690-LR
Date 2025/09/02 14:47



TRANSDATA CONSULT

2030 WEEKDAY AFTERNOON PEAK HOUR BACKGROUND (ESCALATED) AND DEVELOPMENT TRAFFIC VOLUMES

FIGURE 8

ANNEXURE B

ANNEXURE C

Capacity Analysis Results (Scenario 1: 2025 Weekday Morning and Afternoon Peak Hour Background Traffic Volumes)

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2025 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	1	0,0	0,001	0,1	LOS A	0,0	0,0	0,11	0,28	0,11	57,0
6	R2	1	0,0	0,001	5,6	LOS A	0,0	0,0	0,11	0,28	0,11	55,3
Approach		2	0,0	0,001	2,9	NA	0,0	0,0	0,11	0,28	0,11	56,1
North: Unnamed Road (D3429)												
7	L2	1	0,0	0,029	8,2	LOS A	0,1	0,8	0,14	0,90	0,14	51,9
9	R2	29	0,0	0,029	8,0	LOS A	0,1	0,8	0,14	0,90	0,14	51,7
Approach		31	0,0	0,029	8,0	LOS A	0,1	0,8	0,14	0,90	0,14	51,7
West: Juno Road (D19)												
10	L2	3	0,0	0,002	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	43	0,0	0,021	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		46	0,0	0,021	0,4	NA	0,0	0,0	0,00	0,04	0,00	59,5
All Vehicles		79	0,0	0,029	3,4	NA	0,1	0,8	0,06	0,38	0,06	56,1

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2025 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	1	0,0	0,015	8,0	LOS A	0,1	0,4	0,04	0,97	0,04	51,9
3	R2	14	0,0	0,015	7,9	LOS A	0,1	0,4	0,04	0,97	0,04	51,7
Approach		15	0,0	0,015	7,9	LOS A	0,1	0,4	0,04	0,97	0,04	51,7
East: Juno Road (D19)												
4	L2	17	0,0	0,011	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		18	0,0	0,011	5,2	NA	0,0	0,0	0,00	0,54	0,00	54,0
West: Juno Road (D19)												
11	T1	2	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	1	0,0	0,001	5,5	LOS A	0,0	0,0	0,07	0,57	0,07	52,9
Approach		3	0,0	0,001	1,8	NA	0,0	0,0	0,02	0,19	0,02	57,4
All Vehicles		36	0,0	0,015	6,0	NA	0,1	0,4	0,02	0,69	0,02	53,3

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2025 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	1	0,0	0,011	25,6	LOS D	0,0	0,3	0,99	1,23	2,00	42,4
3	R2	1	0,0	0,011	25,1	LOS D	0,0	0,3	0,99	1,23	2,00	42,1
Approach		2	0,0	0,011	25,4	LOS D	0,0	0,3	0,99	1,23	2,00	42,3
East: Sadoma Road												
4	L2	1	0,0	0,018	10,9	LOS B	0,1	0,4	0,65	1,26	1,67	50,9
5	T1	13	0,0	0,018	10,6	LOS B	0,1	0,4	0,65	1,26	1,67	50,7
Approach		14	0,0	0,018	10,6	LOS B	0,1	0,4	0,65	1,26	1,67	50,7
West: Sadoma Road												
11	T1	14	0,0	0,024	9,5	LOS A	0,1	0,4	0,52	1,26	1,55	51,2
12	R2	9	0,0	0,024	9,3	LOS A	0,1	0,4	0,52	1,26	1,55	51,0
Approach		23	0,0	0,024	9,4	LOS A	0,1	0,4	0,52	1,26	1,55	51,1
All Vehicles		39	0,0	0,024	10,7	LOS B	0,1	0,4	0,59	1,26	1,61	50,4

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2025 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	28	0,0	0,023	0,0	LOS A	0,0	0,3	0,05	0,12	0,05	58,7
6	R2	7	0,0	0,023	5,6	LOS A	0,0	0,3	0,05	0,12	0,05	56,9
Approach		36	0,0	0,023	1,2	NA	0,0	0,3	0,05	0,12	0,05	58,3
North: Unnamed Road (D3429)												
7	L2	16	0,0	0,027	8,1	LOS A	0,1	0,7	0,06	0,95	0,06	51,8
9	R2	16	0,0	0,027	8,1	LOS A	0,1	0,7	0,06	0,95	0,06	51,6
Approach		32	0,0	0,027	8,1	LOS A	0,1	0,7	0,06	0,95	0,06	51,7
West: Juno Road (D19)												
10	L2	28	0,0	0,019	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	12	0,0	0,006	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		40	0,0	0,019	3,9	NA	0,0	0,0	0,00	0,41	0,00	55,3
All Vehicles		107	0,0	0,027	4,2	NA	0,1	0,7	0,03	0,47	0,03	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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2025 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	2	0,0	0,027	8,0	LOS A	0,1	0,7	0,04	0,97	0,04	51,9
3	R2	25	0,0	0,027	7,8	LOS A	0,1	0,7	0,04	0,97	0,04	51,7
Approach		27	0,0	0,027	7,9	LOS A	0,1	0,7	0,04	0,97	0,04	51,7
East: Juno Road (D19)												
4	L2	15	0,0	0,010	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		16	0,0	0,010	5,2	NA	0,0	0,0	0,00	0,54	0,00	54,0
West: Juno Road (D19)												
11	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	2	0,0	0,001	5,5	LOS A	0,0	0,0	0,06	0,57	0,06	53,0
Approach		3	0,0	0,001	3,7	NA	0,0	0,0	0,04	0,38	0,04	55,1
All Vehicles		46	0,0	0,027	6,7	NA	0,1	0,7	0,03	0,78	0,03	52,7

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2025 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	1	0,0	0,008	20,5	LOS C	0,0	0,2	0,95	1,23	1,96	45,1
3	R2	1	0,0	0,008	19,9	LOS C	0,0	0,2	0,95	1,23	1,96	44,8
Approach		2	0,0	0,008	20,2	LOS C	0,0	0,2	0,95	1,23	1,96	44,9
East: Sadoma Road												
4	L2	2	0,0	0,019	10,3	LOS B	0,1	0,4	0,58	1,27	1,60	51,3
5	T1	15	0,0	0,019	9,9	LOS A	0,1	0,4	0,58	1,27	1,60	51,0
Approach		17	0,0	0,019	10,0	LOS A	0,1	0,4	0,58	1,27	1,60	51,1
West: Sadoma Road												
11	T1	27	0,0	0,029	9,5	LOS A	0,1	0,5	0,51	1,28	1,54	51,3
12	R2	1	0,0	0,029	9,3	LOS A	0,1	0,5	0,51	1,28	1,54	51,0
Approach		28	0,0	0,029	9,5	LOS A	0,1	0,5	0,51	1,28	1,54	51,3
All Vehicles		47	0,0	0,029	10,1	LOS B	0,1	0,5	0,56	1,27	1,58	50,9

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ANNEXURE D

Capacity Analysis Results (Scenario 2: 2030 Weekday Morning and Afternoon Peak Hour Background Traffic Volumes)

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2030 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	1	0,0	0,001	0,1	LOS A	0,0	0,0	0,12	0,28	0,12	57,0
6	R2	1	0,0	0,001	5,7	LOS A	0,0	0,0	0,12	0,28	0,12	55,2
Approach		2	0,0	0,001	2,9	NA	0,0	0,0	0,12	0,28	0,12	56,1
North: Unnamed Road (D3429)												
7	L2	1	0,0	0,034	8,2	LOS A	0,1	0,9	0,16	0,90	0,16	51,9
9	R2	34	0,0	0,034	8,1	LOS A	0,1	0,9	0,16	0,90	0,16	51,7
Approach		35	0,0	0,034	8,1	LOS A	0,1	0,9	0,16	0,90	0,16	51,7
West: Juno Road (D19)												
10	L2	3	0,0	0,002	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	51	0,0	0,025	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		54	0,0	0,025	0,3	NA	0,0	0,0	0,00	0,03	0,00	59,6
All Vehicles		91	0,0	0,034	3,4	NA	0,1	0,9	0,06	0,37	0,06	56,2

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2030 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	1	0,0	0,017	8,0	LOS A	0,1	0,4	0,04	0,97	0,04	51,9
3	R2	16	0,0	0,017	7,9	LOS A	0,1	0,4	0,04	0,97	0,04	51,7
Approach		17	0,0	0,017	7,9	LOS A	0,1	0,4	0,04	0,97	0,04	51,7
East: Juno Road (D19)												
4	L2	20	0,0	0,013	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		21	0,0	0,013	5,3	NA	0,0	0,0	0,00	0,55	0,00	53,9
West: Juno Road (D19)												
11	T1	2	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	1	0,0	0,001	5,5	LOS A	0,0	0,0	0,08	0,57	0,08	52,9
Approach		3	0,0	0,001	1,8	NA	0,0	0,0	0,03	0,19	0,03	57,4
All Vehicles		41	0,0	0,017	6,1	NA	0,1	0,4	0,02	0,69	0,02	53,2

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2030 Morning Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	1	0,0	0,012	26,2	LOS D	0,0	0,3	0,99	1,23	2,00	42,2
3	R2	1	0,0	0,012	25,7	LOS D	0,0	0,3	0,99	1,23	2,00	41,8
Approach		2	0,0	0,012	26,0	LOS D	0,0	0,3	0,99	1,23	2,00	42,0
East: Sadoma Road												
4	L2	1	0,0	0,021	10,9	LOS B	0,1	0,4	0,64	1,26	1,67	51,0
5	T1	15	0,0	0,021	10,5	LOS B	0,1	0,4	0,64	1,26	1,67	50,7
Approach		16	0,0	0,021	10,6	LOS B	0,1	0,4	0,64	1,26	1,67	50,7
West: Sadoma Road												
11	T1	16	0,0	0,027	9,5	LOS A	0,1	0,5	0,52	1,26	1,55	51,2
12	R2	11	0,0	0,027	9,3	LOS A	0,1	0,5	0,52	1,26	1,55	51,0
Approach		26	0,0	0,027	9,4	LOS A	0,1	0,5	0,52	1,26	1,55	51,1
All Vehicles		44	0,0	0,027	10,6	LOS B	0,1	0,5	0,59	1,26	1,61	50,5

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2030 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	33	0,0	0,027	0,0	LOS A	0,1	0,4	0,05	0,12	0,05	58,7
6	R2	8	0,0	0,027	5,7	LOS A	0,1	0,4	0,05	0,12	0,05	56,8
Approach		41	0,0	0,027	1,2	NA	0,1	0,4	0,05	0,12	0,05	58,3
North: Unnamed Road (D3429)												
7	L2	18	0,0	0,030	8,1	LOS A	0,1	0,8	0,07	0,95	0,07	51,8
9	R2	18	0,0	0,030	8,2	LOS A	0,1	0,8	0,07	0,95	0,07	51,5
Approach		36	0,0	0,030	8,1	LOS A	0,1	0,8	0,07	0,95	0,07	51,7
West: Juno Road (D19)												
10	L2	33	0,0	0,021	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	14	0,0	0,007	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		46	0,0	0,021	3,9	NA	0,0	0,0	0,00	0,41	0,00	55,4
All Vehicles		123	0,0	0,030	4,2	NA	0,1	0,8	0,04	0,47	0,04	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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2030 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	2	0,0	0,032	8,0	LOS A	0,1	0,8	0,04	0,97	0,04	51,9
3	R2	29	0,0	0,032	7,9	LOS A	0,1	0,8	0,04	0,97	0,04	51,7
Approach		32	0,0	0,032	7,9	LOS A	0,1	0,8	0,04	0,97	0,04	51,7
East: Juno Road (D19)												
4	L2	17	0,0	0,011	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		18	0,0	0,011	5,2	NA	0,0	0,0	0,00	0,54	0,00	54,0
West: Juno Road (D19)												
11	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	2	0,0	0,001	5,5	LOS A	0,0	0,0	0,07	0,57	0,07	52,9
Approach		3	0,0	0,001	3,7	NA	0,0	0,0	0,05	0,38	0,05	55,1
All Vehicles		53	0,0	0,032	6,7	NA	0,1	0,8	0,03	0,79	0,03	52,6

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2030 Afternoon Peak Hour Background Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	1	0,0	0,009	20,8	LOS C	0,0	0,2	0,95	1,23	1,96	44,9
3	R2	1	0,0	0,009	20,2	LOS C	0,0	0,2	0,95	1,23	1,96	44,6
Approach		2	0,0	0,009	20,5	LOS C	0,0	0,2	0,95	1,23	1,96	44,8
East: Sadoma Road												
4	L2	2	0,0	0,022	10,3	LOS B	0,1	0,4	0,58	1,27	1,60	51,3
5	T1	17	0,0	0,022	9,9	LOS A	0,1	0,4	0,58	1,27	1,60	51,0
Approach		19	0,0	0,022	9,9	LOS A	0,1	0,4	0,58	1,27	1,60	51,1
West: Sadoma Road												
11	T1	32	0,0	0,033	9,5	LOS A	0,1	0,6	0,51	1,28	1,55	51,3
12	R2	1	0,0	0,033	9,3	LOS A	0,1	0,6	0,51	1,28	1,55	51,0
Approach		33	0,0	0,033	9,5	LOS A	0,1	0,6	0,51	1,28	1,55	51,3
All Vehicles		54	0,0	0,033	10,1	LOS B	0,1	0,6	0,55	1,27	1,58	50,9

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ANNEXURE E

Capacity Analysis Results (Scenario 3: 2030 Weekday Morning and Afternoon Peak Hour Background and Development Traffic Volumes)

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2030 Morning Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	45	0,0	0,030	0,0	LOS A	0,0	0,1	0,03	0,03	0,03	59,6
6	R2	2	0,0	0,030	6,3	LOS A	0,0	0,1	0,03	0,03	0,03	57,7
Approach		47	0,0	0,030	0,3	NA	0,0	0,1	0,03	0,03	0,03	59,5
North: Unnamed Road (D3429)												
7	L2	2	0,0	0,076	8,4	LOS A	0,3	2,1	0,33	0,87	0,33	51,5
9	R2	64	0,0	0,076	9,1	LOS A	0,3	2,1	0,33	0,87	0,33	51,2
Approach		66	0,0	0,076	9,1	LOS A	0,3	2,1	0,33	0,87	0,33	51,2
West: Juno Road (D19)												
10	L2	107	0,0	0,070	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	95	0,0	0,046	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		202	0,0	0,070	2,9	NA	0,0	0,0	0,00	0,31	0,00	56,4
All Vehicles		316	0,0	0,076	3,8	NA	0,3	2,1	0,07	0,38	0,07	55,7

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2030 Morning Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	2	0,0	0,099	8,0	LOS A	0,4	2,8	0,09	0,95	0,09	51,7
3	R2	91	0,0	0,099	8,2	LOS A	0,4	2,8	0,09	0,95	0,09	51,5
Approach		93	0,0	0,099	8,2	LOS A	0,4	2,8	0,09	0,95	0,09	51,5
East: Juno Road (D19)												
4	L2	94	0,0	0,061	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		95	0,0	0,061	5,5	NA	0,0	0,0	0,00	0,57	0,00	53,7
West: Juno Road (D19)												
11	T1	3	0,0	0,002	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	2	0,0	0,002	5,8	LOS A	0,0	0,0	0,19	0,54	0,19	52,6
Approach		5	0,0	0,002	2,3	NA	0,0	0,0	0,08	0,22	0,08	56,8
All Vehicles		193	0,0	0,099	6,7	NA	0,4	2,8	0,04	0,74	0,04	52,7

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2030 Morning Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	2	0,0	0,092	13,7	LOS B	0,3	2,1	0,81	1,25	1,91	49,1
3	R2	45	0,0	0,092	13,2	LOS B	0,3	2,1	0,81	1,25	1,91	48,7
Approach		47	0,0	0,092	13,2	LOS B	0,3	2,1	0,81	1,25	1,91	48,7
East: Sadoma Road												
4	L2	45	0,0	0,207	16,5	LOS C	0,7	5,2	0,88	1,29	2,13	47,5
5	T1	44	0,0	0,207	16,1	LOS C	0,7	5,2	0,88	1,29	2,13	47,2
Approach		89	0,0	0,207	16,3	LOS C	0,7	5,2	0,88	1,29	2,13	47,4
West: Sadoma Road												
11	T1	45	0,0	0,104	13,0	LOS B	0,3	2,3	0,79	1,27	1,91	49,2
12	R2	12	0,0	0,104	12,8	LOS B	0,3	2,3	0,79	1,27	1,91	49,0
Approach		57	0,0	0,104	13,0	LOS B	0,3	2,3	0,79	1,27	1,91	49,2
All Vehicles		194	0,0	0,207	14,6	LOS B	0,7	5,2	0,84	1,27	2,01	48,2

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Unnamed Road (D3429) Intersection]

Juno Road (D19) / Unnamed Road (D3429) Intersection
2030 Afternoon Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	48	0,0	0,037	0,1	LOS A	0,1	0,4	0,06	0,09	0,06	58,9
6	R2	8	0,0	0,037	5,9	LOS A	0,1	0,4	0,06	0,09	0,06	57,1
Approach		57	0,0	0,037	0,9	NA	0,1	0,4	0,06	0,09	0,06	58,7
North: Unnamed Road (D3429)												
7	L2	18	0,0	0,043	8,1	LOS A	0,2	1,2	0,13	0,92	0,13	51,7
9	R2	28	0,0	0,043	8,5	LOS A	0,2	1,2	0,13	0,92	0,13	51,5
Approach		46	0,0	0,043	8,4	LOS A	0,2	1,2	0,13	0,92	0,13	51,5
West: Juno Road (D19)												
10	L2	69	0,0	0,046	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	29	0,0	0,014	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		99	0,0	0,046	3,9	NA	0,0	0,0	0,00	0,40	0,00	55,4
All Vehicles		202	0,0	0,046	4,1	NA	0,2	1,2	0,05	0,43	0,05	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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Sadoma Road Intersection]

Juno Road (D19) / Sadoma Road Intersection
2030 Afternoon Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Sadoma Road												
1	L2	2	0,0	0,059	8,0	LOS A	0,2	1,6	0,06	0,96	0,06	51,9
3	R2	56	0,0	0,059	8,0	LOS A	0,2	1,6	0,06	0,96	0,06	51,6
Approach		58	0,0	0,059	8,0	LOS A	0,2	1,6	0,06	0,96	0,06	51,7
East: Juno Road (D19)												
4	L2	43	0,0	0,028	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
5	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		44	0,0	0,028	5,4	NA	0,0	0,0	0,00	0,56	0,00	53,8
West: Juno Road (D19)												
11	T1	1	0,0	0,001	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
12	R2	2	0,0	0,002	5,6	LOS A	0,0	0,0	0,12	0,56	0,12	52,8
Approach		3	0,0	0,002	3,7	NA	0,0	0,0	0,08	0,37	0,08	55,0
All Vehicles		105	0,0	0,059	6,8	NA	0,2	1,6	0,04	0,77	0,04	52,6

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Sadoma Road / Lekhureng Road Intersection]

Sadoma Road / Lekhureng Road Intersection
2030 Afternoon Peak Hour Background and Development Traffic Volumes
Stop Control Intersection
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Lekhureng Road												
1	L2	1	0,0	0,042	14,8	LOS B	0,1	0,9	0,85	1,24	1,89	48,5
3	R2	17	0,0	0,042	14,3	LOS B	0,1	0,9	0,85	1,24	1,89	48,0
Approach		18	0,0	0,042	14,3	LOS B	0,1	0,9	0,85	1,24	1,89	48,0
East: Sadoma Road												
4	L2	18	0,0	0,084	13,3	LOS B	0,3	1,9	0,79	1,26	1,88	49,4
5	T1	27	0,0	0,084	13,0	LOS B	0,3	1,9	0,79	1,26	1,88	49,2
Approach		45	0,0	0,084	13,1	LOS B	0,3	1,9	0,79	1,26	1,88	49,3
West: Sadoma Road												
11	T1	42	0,0	0,070	11,9	LOS B	0,2	1,5	0,74	1,27	1,81	49,9
12	R2	1	0,0	0,070	11,7	LOS B	0,2	1,5	0,74	1,27	1,81	49,7
Approach		43	0,0	0,070	11,9	LOS B	0,2	1,5	0,74	1,27	1,81	49,9
All Vehicles		106	0,0	0,084	12,8	LOS B	0,3	1,9	0,78	1,26	1,86	49,3

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.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

ANNEXURE F

Proposed Capacity Analysis Results for Access along Juno Road (D19)

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Access Road Intersection]

Juno Road (D19) / Access Road Intersection
2030 Morning Peak Hour Background and Development Traffic Volumes
Partial Intersection (Left-in/Left-out/Right-in only)
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	105	0,0	0,052	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
6	R2	75	0,0	0,057	5,8	LOS A	0,2	1,6	0,20	0,55	0,20	52,8
Approach		180	0,0	0,057	2,4	NA	0,2	1,6	0,08	0,23	0,08	56,8
North: Access Road												
7	L2	148	0,0	0,087	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
Approach		148	0,0	0,087	5,6	NA	0,0	0,0	0,00	0,53	0,00	54,9
West: Juno Road (D19)												
10	L2	76	0,0	0,050	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	18	0,0	0,010	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		94	0,0	0,050	4,5	NA	0,0	0,0	0,00	0,47	0,00	54,7
All Vehicles		422	0,0	0,087	4,0	NA	0,2	1,6	0,03	0,39	0,03	55,7

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: [Juno Road (D19) / Access Road Intersection]

Juno Road (D19) / Access Road Intersection
2030 Afternoon Peak Hour Background and Development Traffic Volumes
Partial Intersection (Left-in/Left-out/Right-in only)
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Juno Road (D19)												
5	T1	69	0,0	0,034	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
6	R2	26	0,0	0,019	5,7	LOS A	0,1	0,5	0,14	0,55	0,14	53,0
Approach		96	0,0	0,034	1,6	NA	0,1	0,5	0,04	0,15	0,04	57,9
North: Access Road												
7	L2	53	0,0	0,031	5,6	LOS A	0,0	0,0	0,00	0,53	0,00	54,9
Approach		53	0,0	0,031	5,6	NA	0,0	0,0	0,00	0,53	0,00	54,9
West: Juno Road (D19)												
10	L2	26	0,0	0,017	5,5	LOS A	0,0	0,0	0,00	0,58	0,00	53,6
11	T1	31	0,0	0,015	0,0	LOS A	0,0	0,0	0,00	0,00	0,00	60,0
Approach		57	0,0	0,017	2,6	NA	0,0	0,0	0,00	0,27	0,00	56,9
All Vehicles		205	0,0	0,034	2,9	NA	0,1	0,5	0,02	0,28	0,02	56,8

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.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.