R45 COMMERCIAL DEVELOPMENT

Land use planning applications on the Farm Meerlust No. 1006/4, Division Paarl (3884-P)

17 October 2024

tv3 ARCHITECTS TOWN PLANNERS URBAN DESIGNERS

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PLANNING MOTIVATION REPORT

1. Pre-submission consultation

We refer to our pre-submission consultation and the Directorate: Planning and Economic Development's pre-application scrutiny feedback (dated 29 February 2024) regarding the proposed tourist-orientated commercial development on Farm Meerlust No. 1006/4, Paarl [*hereafter referred to as the subject property*].

The feedback we received from the Directorate: Planning & Economic Development regarding the proposed commercial development, was positive and stated:

> Your intended land use application as depicted in the submission represents on face value an accurate approach to the prevailing provisions in the Stellenbosch Land Use Planning Bylaw (2023) [SLUPB] and Stellenbosch Zoning Scheme Bylaw (2019) [SZSB].

A copy of the Directorate: Planning and Economic Development's feedback is included in this submission.

2. Land use planning applications

As instructed by the landowner:

(i) Application is made i.t.o. Section 15.2(a) of the Stellenbosch Municipality Planning By-Law, 2023 for the rezoning of Farm 1006/4, Paarl from Agriculture and Rural Zone to Local Business Zone and Public Roads and Parking Zone.

(ii) Application is made i.t.o. Section 15.2(o) of the Stellenbosch Municipality Planning By-Law, 2024 for a consent use for a filling station and a liquor store on Farm 1006/4, Paarl.

(iii) Application is made i.t.o. Section 15(2)(g) of the Stellenbosch Municipal Land Use Planning By-Law, 2023 for a permission required i.t.o. the zoning scheme to approve the Site Development Plan on Farm 1006/4, Paarl.

(iv) Application is made i.t.o. Section 15.2(d) of the Stellenbosch Municipality Planning By-Law, 2023 for the subdivision of Farm 1006/4, Paarl into a Portion A (±7 990m²), a Portion B (±8 883m²), and a Portion C (±3 059m²).

A power of attorney to this affect is included in this submission.

3. Purpose of the applications

The subject property is a vacant piece of land which has not been actively farmed. It is located in the Rhodes Fruit Farm industrial node on the corner of Helshoogte Road (R310) and Simondium Road (R45), in Groot Drakenstein – see image below.

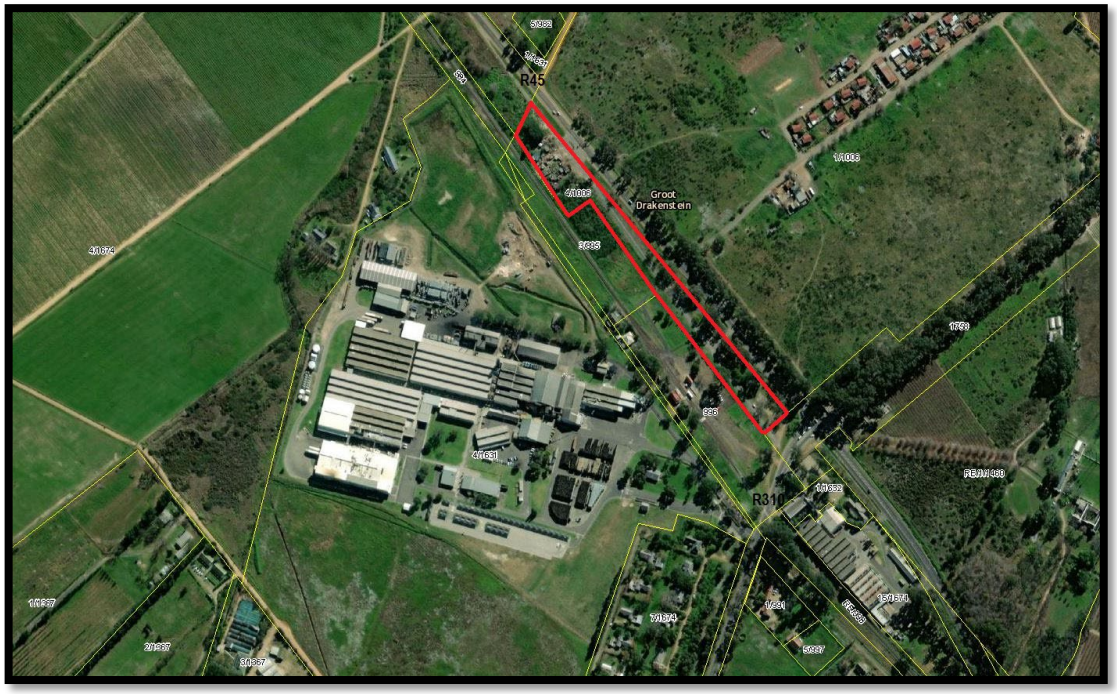


Figure 1: The locality of Farm 1006/4, Paarl in Groot Drakenstein

It is the landowner's intention to develop tourist-orientated commercial facilities on this very narrow piece of land in Groot Drakenstein – see image below.

Figure 2: Aerial view of the proposed urban development (south to north)

4. Details of the subject property

The subject property is described in Deed of Transfer No. T5655/2011 as Portion 4 of the Farm Meerlust No. 1006, Division Paarl and is 1.9934ha in extent. The R45 Trust is the registered owner. A copy of the farm's Title Deed and SG Diagram is included in this submission.

The subject property is primarily vacant. A portion of the site was used as an informal settlement and the old provincial road traversed the property – see images below.

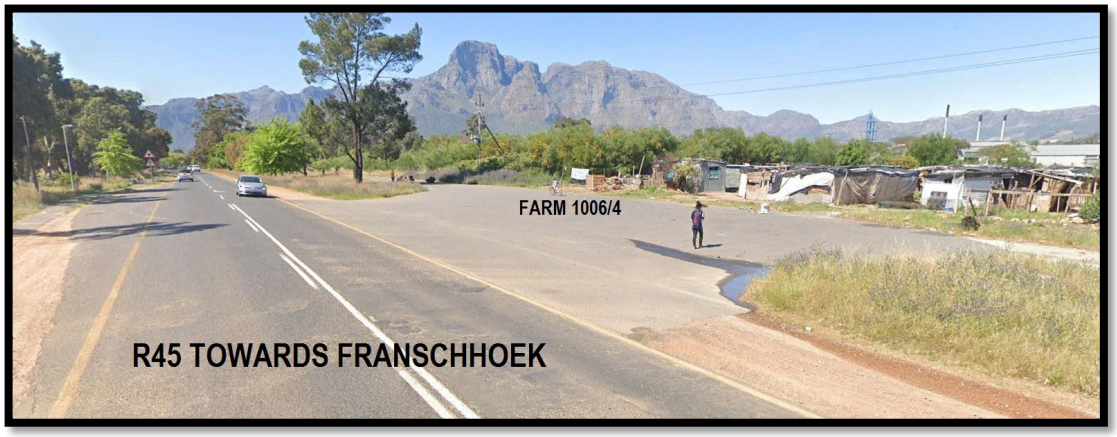


Figure 4: Farm 1006/4, Paarl as seen from the R45

Figure 5: Farm 1006/4, Paarl as seen from the R310

Figure 6: Previous land uses on Farm 1006/4, Paarl

5. Development proposal

The R45 between Paarl and Franschhoek is a popular tourist route with many tourist facilities located along this route. The proposed development will orimarily consist of the following tourist-orientated commercial facilities such as shops, offices, liquor store, and a service station. The proposed commercial facilities will be aimed at tourists and visitors on the R45 and visiting the Franschhoek Wine Tram Station (which is located next to the subject property).

The proposed development will have a coverage of ±4 057m² (±24%) and a bulk of ±4 712m² (±0.28). A minimum of 163 on-site parking bays are required, and with the proposed development a total of 173 parking bays will be provided

on-site.

A Site Development Plan – illustrating the locality and sizes of all the proposed buildings, structures, land uses, access, parking, etc. – is included in this submission for your approval.

6. Planning motivation for the proposed tourist development

6.1 Compliance with Stellenbosch Municipality's Spatial Development Framework

According to the Stellenbosch Municipality's Spatial Development Framework (MSDF) Farm 1006/4 is located inside the Groot Drakenstein urban edge and is earmarked for future urban development (such as the proposed commercial land uses). The proposed urban development of Farm 1006/4 will therefore be in line with the Stellenbosch Municipality's spatial planning policies – see images below.

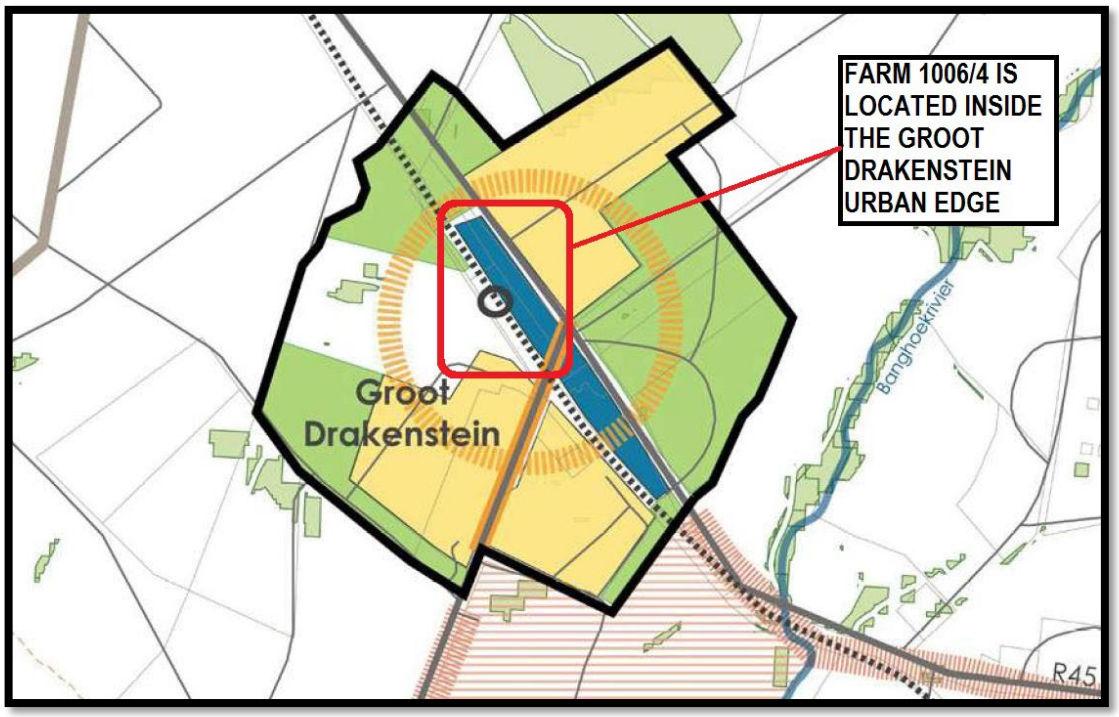


Figure 7: Extract of the Stellenbosch MSDF

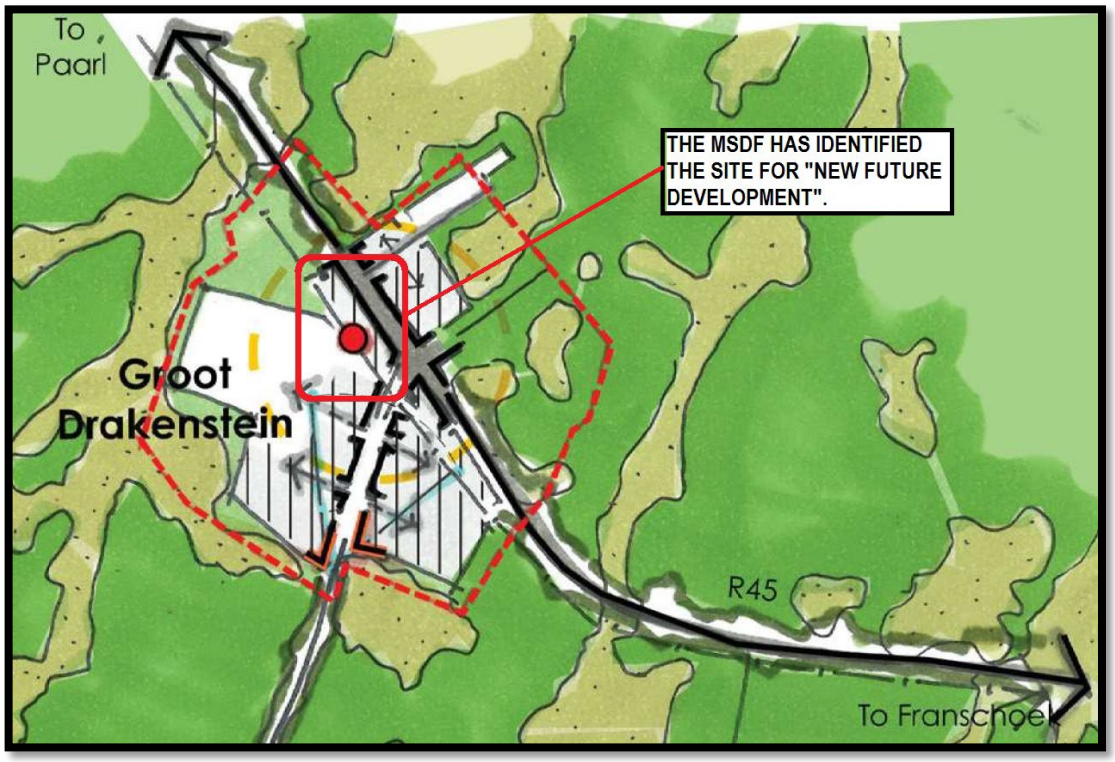


Figure 8: Extract of the Stellenbosch MSDF

6.2 Not a viable agricultural land unit

The subject property is located in the Groot Drakenstein hamlet, it is not a viable agricultural land unit (only ±1.9ha in size) and it has no water use rights. The urban development thereof will consequently not lead to the loss of agricultural land but rather help establish a “hard” urban edge between Groot Drakenstein and the agricultural hinterland.

6.3 Benefits of tourist-orientated developments

Tourist facilities are considered desirable land uses i.t.o. the Stellenbosch MSDF. According to the Stellenbosch MSDF, tourism that reinforces the Municipality’s sense of place should been encouraged. The proposed land uses will therefore be in line with Council’s spatial planning policy and the Spatial Development Framework’s recommendations for tourism orientated

developments in the winelands.

6.4 Economic benefits of tourist-orientated developments

Tourism and tourist-orientated developments have become an important sector that have an impact on the development of the country's economy. The main benefits of tourism are income creation and job generation. For many regions it is the most important source of welfare. Stellenbosch and Franschhoek are major tourist destinations and tourism is a driving force behind the towns economies.

The subject property is surrounded by similar tourist facilities that are also located on the R45 / Franschhoek Road, such as the Allee Bleue Wine Estate, Groot-Drakenstein Terminal (Franschhoek Wine Tram), Lekkerwijn Historic Country Guest House, Ou Meul Simondium, Simondiums Country Lodge, etc. In other words, the proposed land uses will be compatible with the surrounding desirable (tourist-orientated) land uses.

Tourism is a key driver of South Africa's national economy and contributes to job creation. The tourism industry is a major contributor to the South African economy and employment of citizens. The proposed development will support the (major) tourist industry that drives the Western Cape economy and it will also benefit the local community by creating new employment opportunities for residents.

6.5 Departmental comments and approvals obtained

The development proposal has been submitted to the following government departments for their comments and approvals, namely:

- Mr. Cor van der Walt (Western Cape Department of Agriculture). In his letter Mr. Van der Walt stated:

> The Western Cape Department of Agriculture: Land Use Management has no objection to the proposed application.

- Mr. Kobus Munro (Director: Development Management Region 2). In his letter Mr. Munro stated:

> The subject property is located within the boundaries of the urban edge as indicated in the approved Municipal Spatial Development Framework, 2019, and is earmarked as a site for potential Local Economic Diversification within a proposed Settlement Centre. The proposal for a service station and tourist orientated shops is, therefore, considered to be consistent with the SDF designation.
>
> The subdivision of Portion 6 of Farm 1004, Paarl was supported by the Western Cape Department of Agriculture and this Department has no objection to the application for consent to enlarge the area of jurisdiction of Stellenbosch Municipality.

- Department of Agriculture, Land Reform and Rural Development. In their letter the Department stated:

> With reference to the above-mentioned matter, the Department has no objection against the proposed rezoning on the property.

- Department of Transport and Public Works. In their letter the Department stated:

> At the meeting held on 19 August 2022 this Branch agreed that both Farm 996 and Portion 3 of Farm 895 have existing legal and unfettered access off Main Road 172 and Main Road 191(via Minor Road 5231) over Farm 984.
>
> Herewith this Branch agrees to the removal of Condition 13.13 as listed in its letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021 subject to all the other conditions listed in the letter being adhered to.

Copies of all these letters of support are included in this submission.

6.6 Impact on heritage and the environment

Mr. Henry Aikman has undertaken a heritage impact assessment and submitted his report to Heritage Western Cape. A copy of their decision letter will be submitted to Council with receipt thereof.

GNEC environmental consultants have undertaken the prescribed environmental impact assessment process, and the Environmental Authorisation will be submitted to Council with receipt thereof.

7. Orderly planning

The development proposal was submitted to the following engineering consultants for their assessments, namely:

- Impact on civil engineering services

  BSI civil engineers were instructed to investigate the provision of services for the proposed development. According to their civil engineering services report (which is included in this submission) the proposed development can be serviced with certain infrastructure upgrades.

- Impact on electrical engineering services

  Power Partners electrical engineers were instructed to investigate the provision of electrical services for the proposed development. According to their electrical engineering services report (which is included in this submission) the proposed development can be serviced with certain

infrastructure upgrades.

- Impact on transport

  Sturgeon transport engineers were instructed to undertake a transport impact study. According to their transport report (which is included in this submission) the proposed development is acceptable from a transport point of view with certain transport infrastructure upgrades.

8. Conclusion

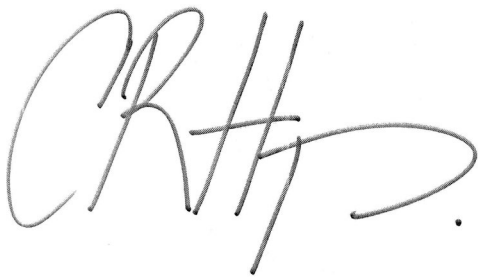
The proposed development will be aimed at further expanding the Winelands tourism infrastructure. According to Statista, in 2021, travel and tourism contributed nearly 3.2% to the Gross Domestic Product (GDP) of South Africa. The share declined notably from 6.4 percent in 2019, reflecting the impact of the coronavirus (COVID-19) pandemic on the sector. For this reason, opportunities to further develop the tourism sector must be supported.

Tourism-orientated developments bring many benefits, including but not limited to the following: growth and boost in economic activities, boost wide scale industry revenues, infrastructure development, country's improved brand image, source of foreign exchange earnings and source of employment generation. The proposed development will contribute to these benefits that will benefit the broader community of Stellenbosch.

The proposed tourist facility is considered an acceptable land use i.t.o. the Stellenbosch MSDF and for this reason, we respectfully request the land use planning applications be granted.

We trust that you will find the above in order. Should you have any queries or require any additional information, please feel free to contact the undersigned at 021-861 3800 or clifford@tv3.co.za.

9. Signature of applicant



CLIFFORD HEYS

PR. PLANNER (SA): A/1158/2000

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Broad Locality

Date created: 2024/09/26

0 0.65 1.3 2 2.6 3.3 km

Western Cape Government FOR YOU

Local Locality

Date created: 2024/09/26

km

0 0.085 0.17 0.26 0.34 0.43

Western Cape Government
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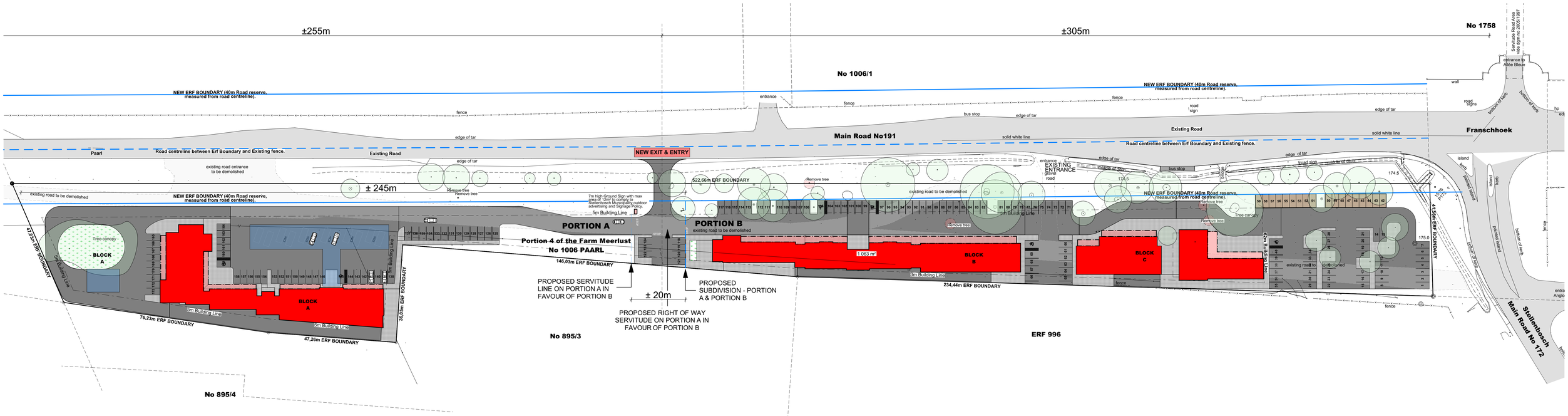

PROPOSED SITE DEVELOPMENT PLAN

Scale1:500

PORTION 4 of the Farm MEERLUST No. 1006

AREA CALCULATIONS:	Area (m²)	%	Factor
Area of Farm	16873		
Proposed Coverage	4057	24,04%	
Proposed Bulk (excl. Open Balconies)	4712		0,28

DESCRIPTION:	AREA (m²)	GLA (m²)
GENERAL: (Measured to outside of wall)		
Total Ground Storey (Incl. Ablution Areas):		
BLOCK A	1137	
BLOCK B	1063	
BLOCK C	761	
Total	**2961**	
Total First Storey		
BLOCK A	0	
BLOCK B	302	
BLOCK C	353	
Total	**655**	
Covered Walkways	533	
Fore-court Canopies (Filling Station)	563	
Open Balconies	125	
Total (excluding open balconies)	**1096**	
	652	

PARKING REQUIREMENTS:

1-1500m²	4/100m² (GLA)
>1500m²	6/100m² (G¹ A¹ 162

Required	Supplied
163	173

* Parking bays to be 2,5x50m

GLA Calculations	
Zone Name	Calculated Area
SHOP 01	28
	28 m²
SHOP 02	26
	26 m²
SHOP 03	26
	26 m²
SHOP 04	55
	55 m²
SHOP 05	145
	145 m²
SHOP 06	58
	58 m²
SHOP 07	89
	89 m²
SHOP 08	46
	46 m²
SHOP 09	80
	80 m²
SHOP 10	483
	483 m²
SHOP 11	91
	91 m²
SHOP 12	73
	73 m²
SHOP 13 (First)	73
	73 m²
SHOP 13 (Ground)	62
	62 m²
SHOP 14 (First)	81
	81 m²
SHOP 14 (Ground)	66
	66 m²
SHOP 15	66
	66 m²
SHOP 16 (First)	127
	127 m²
SHOP 16 (Ground)	62
	62 m²
SHOP 17 (First)	81
	81 m²
SHOP 17 (Ground)	66
	66 m²
SHOP 18	80

GLA Calculations	
Zone Name	Calculated Area
	80 m²
SHOP 19	80
	80 m²
SHOP 20	80
	80 m²
SHOP 21	123
	123 m²
SHOP 22	88
	88 m²
SHOP 23	185
	185 m²
SHOP 24	87
	87 m²
SHOP 25	86
	86 m²
SHOP 26	40
	40 m²
SHOP 27	31
	31 m²
SHOP 28	50
	50 m²
SHOP 29	50
	50 m²
SHOP 30	50
	50 m²
SHOP 31	86
	86 m²
SHOP 32	64
	64 m²
SHOP 33	50
	50 m²
SHOP 34	50
	50 m²
SHOP 35	50
	50 m²
	3 214 m²

SITE DEVELOPMENT PROPOSAL

ISSUE DATE : 2024/09/09

IMPORTANT NOTES:

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2. Written measurements enjoy preference above scaled measurements.
3. This drawing must be read in conjunction with the approved plan and any discrepancies must be reported immediately to the architect before construction proceeds.
4. The contractor must check all measurements and levels on site and any discrepancies must be reported immediately to the Architect before construction proceeds.
5. All drawings to be printed / copied in colour. Important information may be lost if printed / copied in black & white.
6. No building work to encroach over erf boundaries.
7. Any information contained within this document does NOT indemnify the contractor from regulations as set out in SANS 10400 and NHBRC codes.
8. **If construction takes place within an ESTATE, all materials and finishes to comply with Estate guidelines and rules.**
9. All products and materials specified must be installed strictly in accordance with the manufacturers details and specifications. Any discrepancies with this documentation must be reported to the Architect.

REVISIONS:

Rev nr.	Change	Description	Date
01			2023/01/17
02	Ch-01	Added Ground Sign	2023/03/06
	Ch-02	Amended Parking lay-outs	
03	Ch-03	Amended Filling Station Lay-out	2023/11/13
	Ch-04	Amended Building Design	
04	Ch-05	Updated Facades & Renders	2024/09/09

BIRD'S EYE PERSPECTIVE OF DEVELOPMENT

DRAWING TITLE:
PROPOSED SITE DEVELOPMENT PLAN

ERF NUMBER:
Portion 4 Of the Farm Meerlust No. 1006

PROJECT NAME:
R45 Development

CLIENT:
R45 TRUST

PROJECT DESCRIPTION:	Proposed Commercial Development
PROJECT LOCATION:	c/o Main Road 172 and Main Road 191
MUNICIPALITY:	---
SCALE:	As per Drawing @ A0.
PROJECT START DATE:	---

a.d. muller Architect (PR), PL Arch, SACAP (MA, CM)
SACAP Reg. 6142

bernard frey Architect (CAT), B. Tech (SACAP (MAP))
SACAP Reg. ST 1641

SIGN:

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Vat nr. 4800249965 Indemnity Insurance nr. CTAS15/1072

PROJECT NUMBER: **1537**

SHEET NUMBER: **SDP01**

REVISION NUMBER: **04**

Traffic Engineering & Transport Planning
STURGEON CONSULTING

Traffic Impact Assessment

for the

PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006 MEERLUST, STELLENBOSCH, WESTERN CAPE

Project No: STUR0088

February 2024
Draft Report

PREPARED BY:
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DOCUMENT CONTROL SHEET

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March 2016	Draft for comment	**NAME** Sarah Larratt, Pr Tech Eng	**NAME** Barend du Preez, Pr Eng
		SIGNATURE 	**SIGNATURE**
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		SIGNATURE 	**SIGNATURE**
February 2024	Draft for comment	**NAME** Lize Neethling	**NAME** Annebet Krige Pr Eng
		SIGNATURE 	**SIGNATURE**
		NAME	**NAME**
		SIGNATURE	**SIGNATURE**

TITLE:
PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006 MEERLUST, STELLENBOSCH, WESTERN CAPE: TRAFFIC IMPACT ASSESSMENT

CARRIED OUT BY:	COMMISSIONED BY:
Sturgeon Consulting 7 Waterberg Crescent Clara Anna Fontein Durbanville 7550 Mrs Annebet Krige Tel: +27 84 610 0233 Email: annebet@sturgeonsa.co.za	R45 Trust PO Box 57 Simondium 7670 Mr Henri Droomer Tel: +27 76 303 9336 Email: henri@kooperasiestories.co.za

SYNOPSIS:

This report assesses the key transportation issues pertaining to the proposed commercial development which will consist of retail space and a filling station on Portion 4 of Farm 1006 Meerlust in Stellenbosch, Western Cape.

SUMMARY SHEET

Report Type	Traffic Impact Assessment
Title	Proposed Commercial Development, Portion 4 of Farm 1006 Meerlust
Location	Stellenbosch, Western Cape
Client	Mr Henri Droomer
Reference Number	STUR0088
Project Team	Annebet Krige Sarah Larratt Lize Neethling
Contact Details	084 610 0233 | annebet@sturgeonsa.co.za 083 418 4241 | sarah@sturgeonsa.co.za 079 399 6333 | lize@sturgeonsa.co.za
Date	February 2024
Report Status	Draft for comment

This transport impact assessment has been prepared by a suitable qualified and registered professional traffic engineer. Details of any of the calculations on which the results of this report are based will be made available on request.

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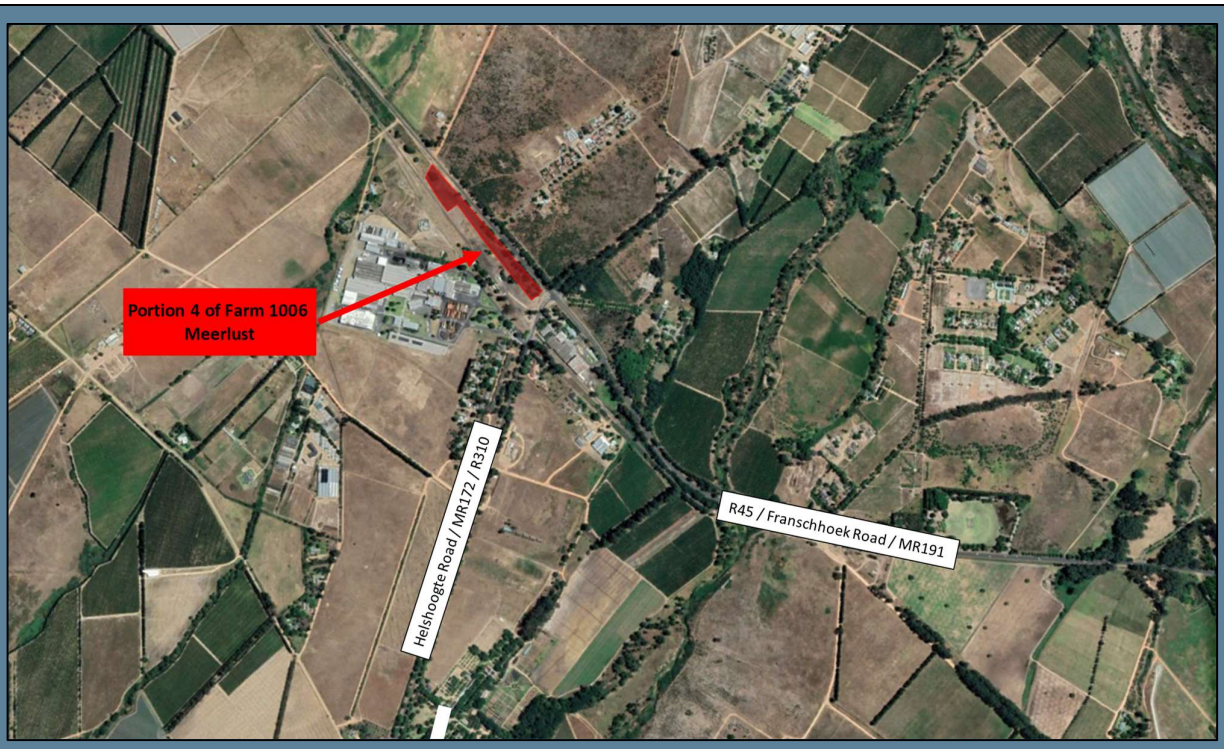
Acronyms

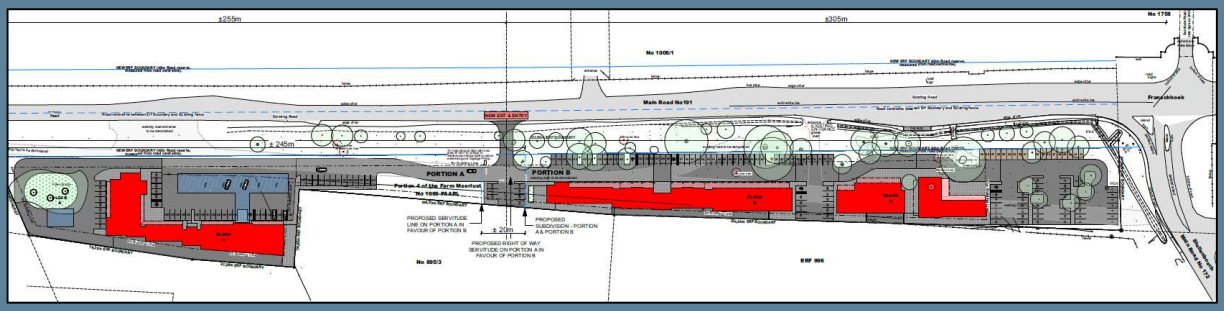
AMG – Access Management Guidelines
RAG- Road Access Guidelines
TIA – Traffic Impact Assessment
TIS – Traffic Impact Statement
SDP – Site Development Plan
LOS – Level of Service
IPTN – Integrated Public Transport Network
WCG – Western Cape Government
NMT – Non-Motorised Transport
PHF – Peak Hour Factor
AM – Morning
PM – Afternoon
d – Average delay in seconds
v/c – Volume/capacity ratio

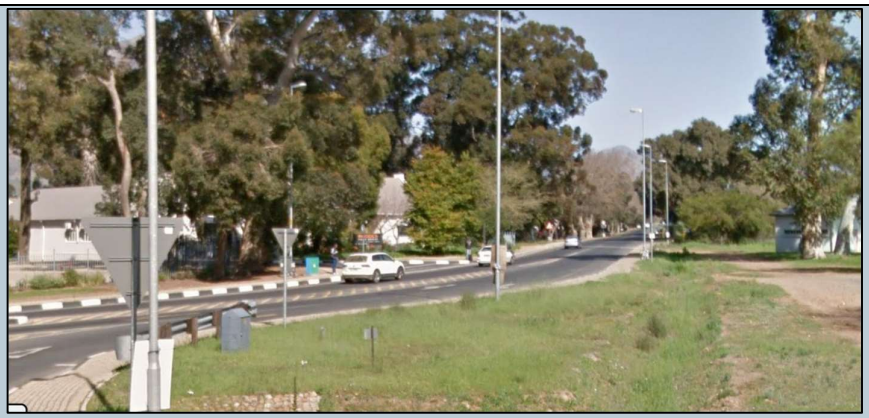
vph – vehicles per hour
vpd – vehicles per day

Traffic Impact Assessment (TIA) Proposed Commercial Development on Portion 4 of Farm 1006, Stellenbosch, Western Cape	
1. Purpose of Report	Sturgeon Consulting (Pty) Ltd was appointed by the R45 Trust to undertake the Update of the Traffic Impact Assessment for the proposed commercial development on Portion 4 of Farm 1006 Meerlust, Stellenbosch. The proposed development will consist of retail space and a filling station. The purpose of the report is to determine the expected transport related impacts of the proposed development on the surrounding road network. This TIA is submitted as part of the application for the rezoning of Portion 4 of Farm 1006 Meerlust, Stellenbosch from Agriculture Zone I to Business Zone II and Business Zone V for the purposes of shops and a filling station with associated facilities. A draft TIA was submitted in March 2016 by Sturgeon Consulting and since then an update of the TIA was done in December 2020. Due to the time lapse and amendments to the layout of the SDP, this report is an update and amendment of the 2020 TIA. **Please note that although amendments were made to the SDP in terms of the layout and internal circulation, the land use and size is exactly the same as the 2020 TIA.**
2. Locality *Reference: Figure 1*	Portion 4 of Farm 1006 Meerlust, Stellenbosch, Western Cape **Description:** The site is located on the western corner of the R45 (MR191 & Franschhoek Road) / Helshoogte Road (MR172 & R310) intersection and south of the R45. Refer to **Figure 1** in **Appendix A** for the Locality Plan.



3. Scope of Work	The scope of work included in this TIA covers the following traffic engineering aspects: • Site observations; • Existing traffic flows in the vicinity of the development; • Existing & future road network planning; • Trip generation for the proposed development; • Traffic flow analysis; • Recommended road upgrades if necessary; • Non-motorised Transport (NMT) and Public Transport; • Access assessment; and • Parking requirements.
4. Proposed Development *Reference: Figure 2*	An existing vacant farm store building is located on the southern portion of the property as well as a few informal shacks on the northern side of the property. The informal shacks have however been removed since the date of the previous TIA. There are no other permanent structures on the property. **The proposed commercial development will consist of a new filling station and convenient store (483m² GLA) as well as retail / line shops (2 731m² GLA).**

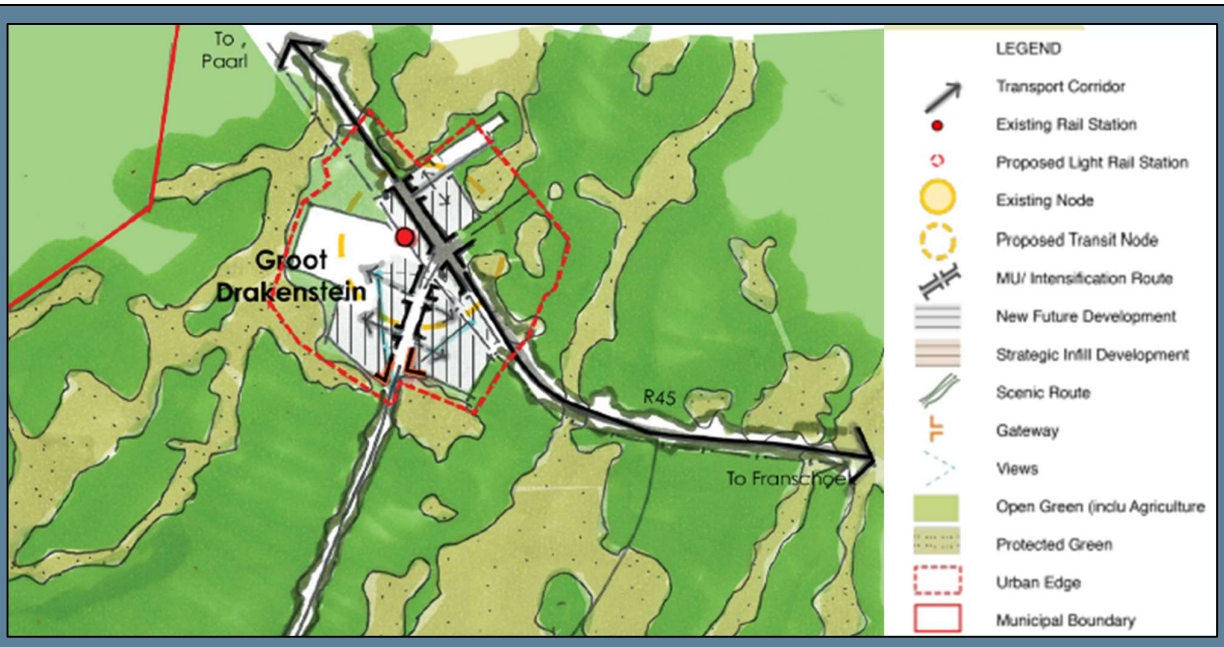
	The site will have good exposure to traffic along the R45 and Helshoogte Road. Refer to **Figure 2** in **Appendix A** for the Site Development Plan.
	
5. Land Use/Zoning	**Current Zoning:** Agriculture I **Proposed Zoning:** Business Zone II and Business Zone V
6. Existing Access	Current access to the farm is directly from the R45 via various existing erf entrances, there are no boundary fences along the R45 or Helshoogte Road. The existing accesses to the site will all be closed permanently during the construction of the future access which will be discussed in more detail later in **Section 17.**
7. Existing Roadways	The major roads in the vicinity of the site are as follows: **Helshoogte Road (Main Road 172):** Helshoogte Road is a Class 2 Major Arterial (primary distributor) and is a proclaimed main road for which the Western Cape Government is the road authority. It is a two-lane undivided road with 1.5m surfaced shoulders and is approximately 10.4m wide in the vicinity of the site. The posted speed limit is 60km/h as you approach the site just south of the railway crossing. Helshoogte Road is a major road link between the R45 and Stellenbosch.



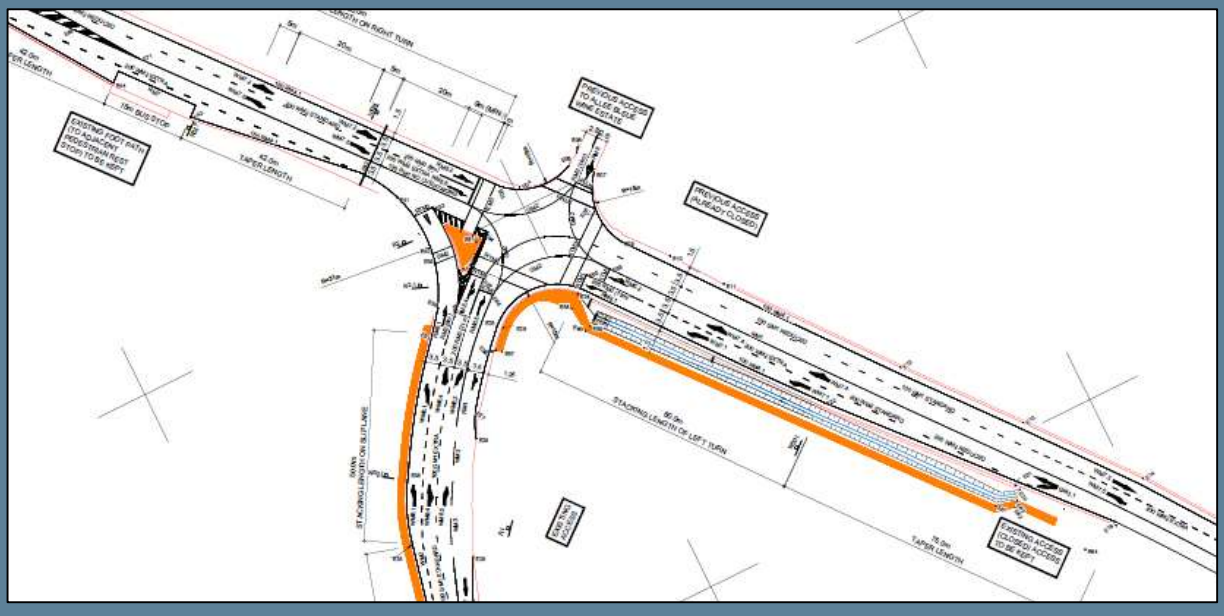
R45 (Main Road 191): The R45 is a Class 2 Major Arterial (primary distributor) and is a proclaimed main road for which the Western Cape Government is the road authority. It is a two-lane undivided road with 2.0m surfaced shoulders and is approximately 11.4m wide in the vicinity of the site. The posted speed limit is 100km/h.

The R45 links Paarl between the R101 via Simondium with Franschhoek.

8. Future Road Network	The Stellenbosch Municipality Spatial Development Framework (Approved in November 2019) has identified the area around the R45 / Helshoogte Road intersection as a future development node. The site falls within the urban edge for the Groot Drakenstein Area.



As part of the planned upgrading of the R45, the R45 / Helshoogte Road intersection will be signalised in the future. The proposed layout of the future R45 / Helshoogte Road intersection, provided by IX Engineers, is shown below and was used for the capacity analyses as described in **Section 13**.

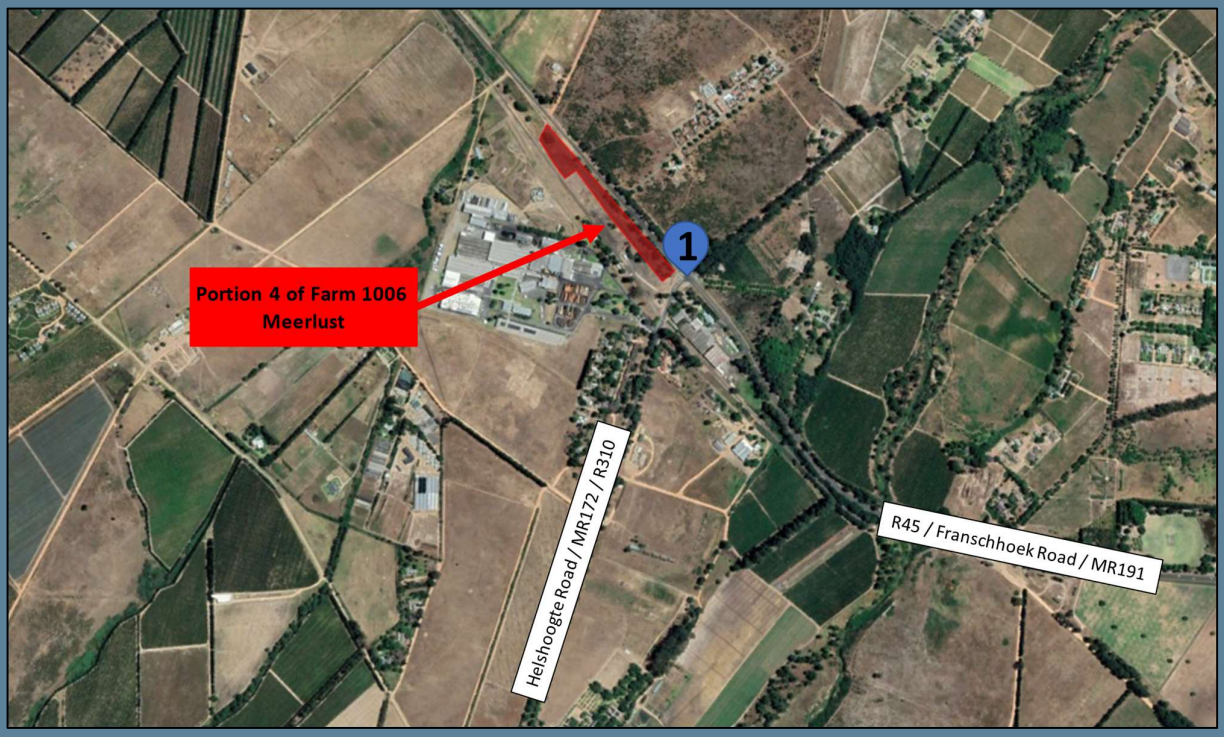


9. Scenarios Analysed

The following scenarios were analysed:

- 2024 Present Traffic Demand

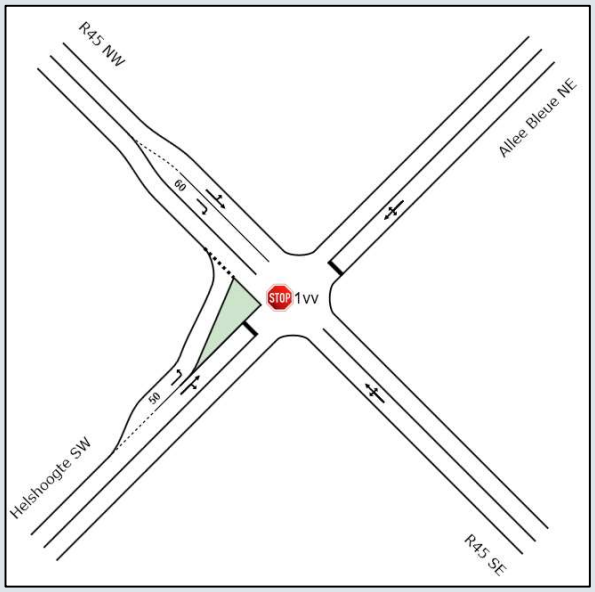
	• 2029 Background Traffic Demand (2024 traffic volumes escalated with a growth rate, as discussed in **Section 13**, plus the latent demand) • 2029 Total Traffic Demand (background traffic volumes including development trips) Intersection analyses were done using SIDRA Intersection 9.0 software.
10. Study Intersections	Based on our experience with similar traffic studies, the anticipated traffic impact on the surrounding road network and its location within the wider road network, the following intersection was included in the scope of the study: 1. R45 / Helshoogte Road (two-way stop controlled)



11. Existing Operations *References: Figure 3 & 4, Table 1*	Peak period traffic counts were undertaken at the above-mentioned study intersection on Friday 19 January 2024 between 16:00 and 19:00 (3 hours) during the PM peak period and on Saturday 20 January 2024 between 10:00 and 14:00 (4 hours) during the midday peak period. The peak hours are as follows: • Friday PM peak hour 16:00 – 17:00 • Saturday midday peak hour 11:45 – 12:45

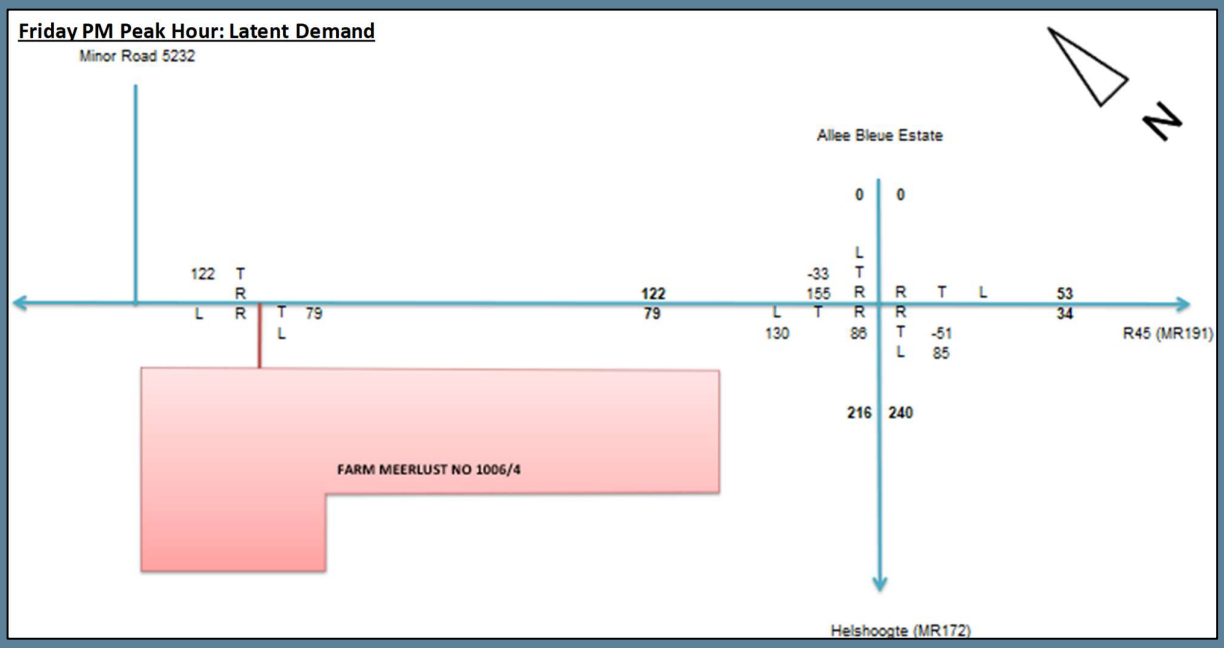
	The present traffic demand on the surrounding road network can generally be described as moderate to high. Refer to **Figure 3** and **Figure 4** for the existing 2024 Friday PM and Saturday midday peak hour traffic volumes. The existing traffic operations at the study intersection was analysed using SIDRA Intersection 9.0 software.

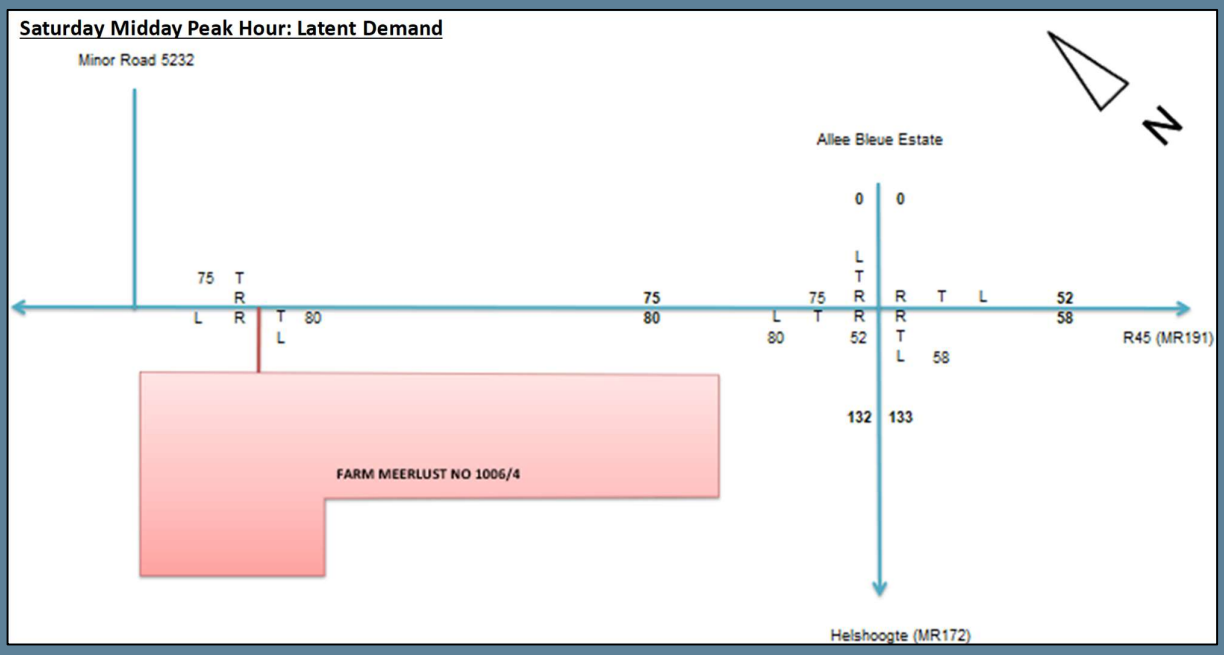
1. <u>R45 / Helshoogte Road (Stop-controlled)</u>

EXISTING GEOMETRY	CAPACITY ANALYSIS RESULTS
	**<u>Friday PM Peak Hour:</u>** Operates at acceptable Level of Service. No capacity constraints along the critical southwestern approach (LOS B). **<u>Saturday Midday Peak Hour:</u>** Operates at acceptable Level of Service. No capacity constraints along the critical southwestern approach (LOS B).

	No upgrades are required in these scenarios at the study intersection. See **Table 1** for the existing capacity analysis. Full details of the SIDRA analysis can be provided if required.
12. Approved Developments (Latent Rights)	Future development in the area, including the Boschendal Estate Development, will drive the need to upgrade the R45 / Helshoogte Road intersection to either signals or a roundabout. As mentioned in **Section 8**, IX Engineers is currently undertaking the design of the upgrading of the R45 / Helshoogte Road intersection to a **signalised** intersection. The *Boschendal Village Updated Transport Impact Assessment, May 2018* that was written by GIBB included the expected trips that will be generated by the proposed development during the weekday AM and PM peak hours. The expected trips during the PM peak hour, as per the

	Boschendal TIA, was therefore included as the Friday PM peak hour's latent demand. The expected trips that will be generated by the development during the Saturday midday peak hour was calculated and distributed along the road network based on the information provided in the Boschendal TIA.





13.2029 Background Traffic	The growth rate determined from the historic growth rate indicated on the Road Network Information System (RNIS) website along the R45 and

References: Figure 5 & 6, Table 1

also the growth rate calculated from previous counts undertaken at the R45 / Helshoogte Road intersection in 2014, indicates an average growth rate of approximately 3.0%. This growth rate relates to traffic growth experienced in average growth rate areas.

To determine the background 2029 traffic volumes, an average growth rate of **3.0% per annum** was therefore used. This growth rate also relates to traffic growth experienced in average growth rate areas and was deemed appropriate for this area, considering that the latent demand from the Boschendal Village TIA, as discussed in **Section 12**, will also be included.

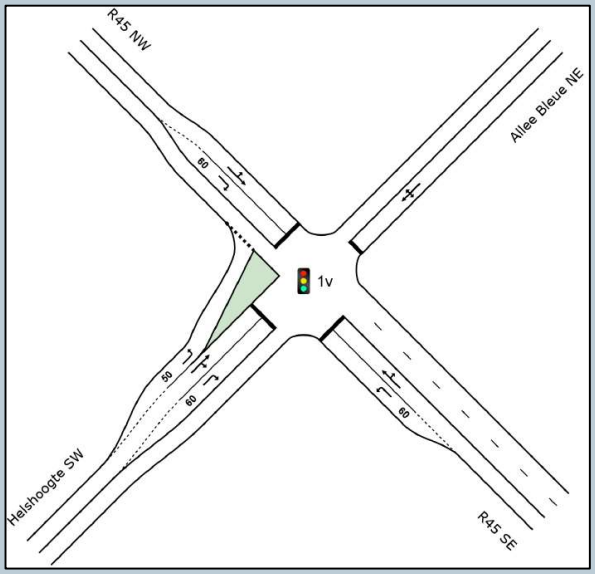
Development Area	Growth Rate
Low growth areas	0 – 3%
Average growth areas	3 – 4%
Above average growth areas	4 – 6%
Fast growing areas	6 – 8%
Exceptionally high growth areas	>8%
Source: City Council of Pretoria (1998)	

The estimated 2029 Friday PM and Saturday midday peak hour background traffic volumes, including the latent demand, are shown in **Figure 5** and **Figure 6**.

Due to the proposed upgrades at the R45 / Helshoogte Road intersection, discussed in **Section 8**, the intersection was analysed as a signalised intersection with the layout and lane disciplines illustrated below as per the proposed intersection layout provided by IX Engineers.

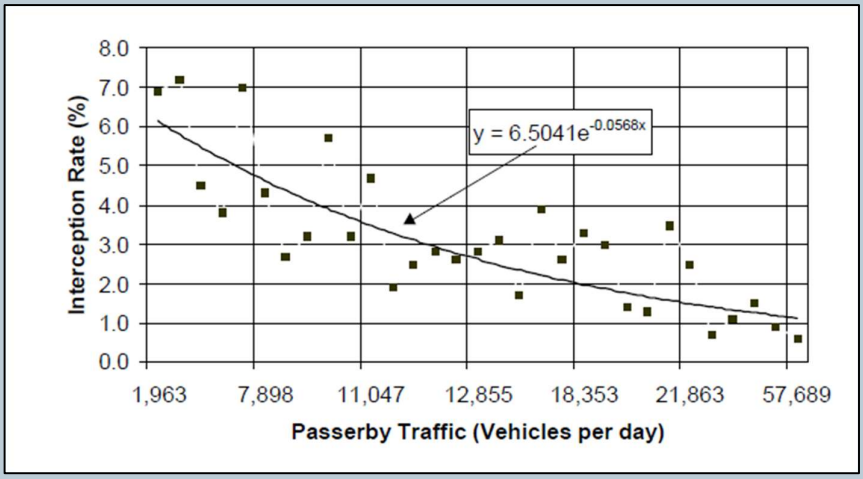
The 2029 background traffic operations at the study intersection were analysed using SIDRA Intersection 9.0 software. The signalised R45 / Helshoogte Road intersection was analysed with optimal signal timings.

1. R45 / Helshoogte Road (Signalised)

EXISTING GEOMETRY	CAPACITY ANALYSIS RESULTS
	**Friday PM Peak Hour:** Operates at acceptable Level of Service B. No capacity constraints along the critical northwestern approach (LOS B). **Saturday Midday Peak Hour:** Operates at acceptable Level of Service B. No capacity constraints along the critical southwestern approach (LOS B).

	No additional upgrades are required in these scenarios at the study intersection. Refer to **Table 1** for a summary of the SIDRA results. Full details of the SIDRA analysis can be provided if required.
14. Trip Generation Rates *References: Table 2*	It should be noted that the proposed filling station and line shops are in competition with other similar facilities nearby. Along the R45 the Total filling station at the Agrimark is approximately 3km north of the proposed facility. Along Helshoogte Road the Caltex filling station is approximately 4km south of the proposed facility. There are also several similar line shops along the R45, and Helshoogte Road located within 5 to 10km of the proposed facility. The additional vehicle trips that will be generated by the proposed development were calculated using the trip generation rates as provided in the *THM17 South African Trip Data Manual (Draft 2.1, August 2020)* published by the Committee of Transport Officials (COTO) and the South African Trip Generation Rates Manual published by the Department of Transport (DoT). The South African trip generation manual suggests that a filling station attracts 4% of passing traffic of the adjacent road's traffic. However, the *Revision of the Guidelines for Access to Filling Stations in the Greater Pretoria Area, JL Coetzee, F van Rensburg, H Schreurs, 2001*, provides a

graph based on 35 studies at filling stations of varying location and with different volumes of pass by traffic to estimate the interception rate.

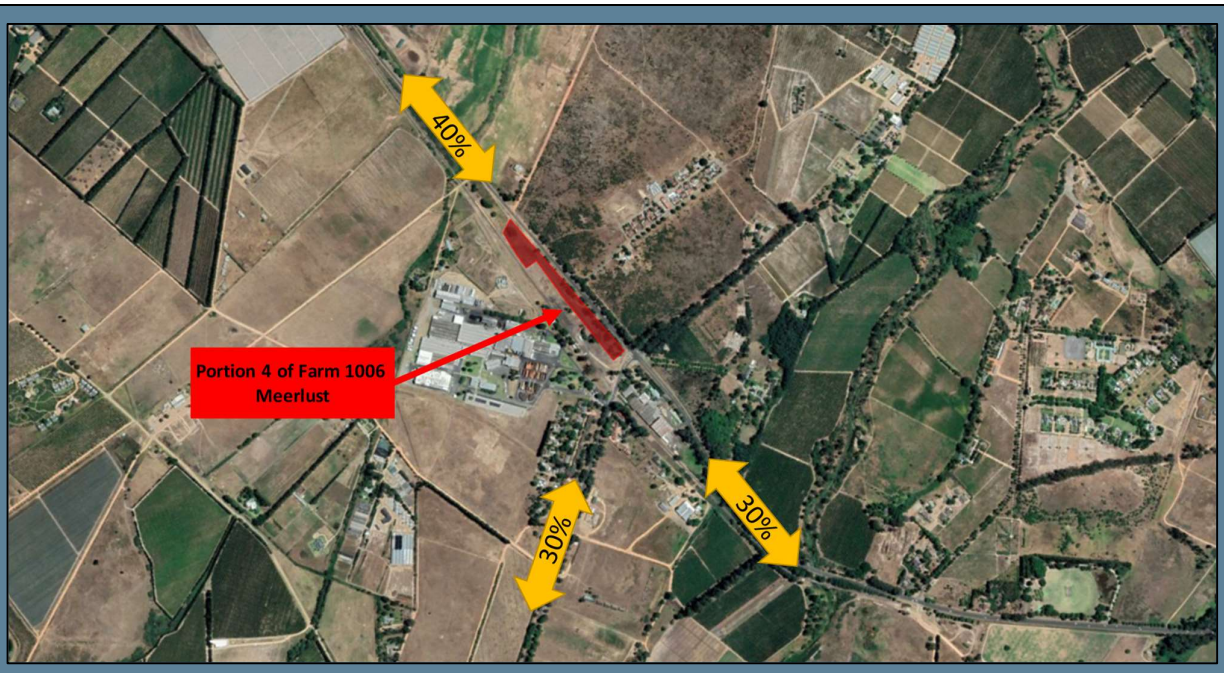


Based on this graph, the expected passer-by traffic (based on the 12-hour traffic counts, performed at the study intersection in 2023, converted to 24-hours by applying a factor of 0.82), the proximity of the other filling stations and the mixed-use nature of the development, it was decided that a **2% interception rate** is more realistic. The filling station will generate very few additional (new / primary) trips. It has therefore been assumed that most of the trips that will visit the filling station are already on the network and can be considered pass-by trips.

There is no specific peak hour trip generation rate for Line or Tourist type shops which will consist of a mix of uses (restaurant / coffee shop, fast food, nursery, arts and crafts and speciality retail). An average rate using various different retail type trip rates from various sources (COTO, DOT, ITE) and our professional opinion has been used as an equivalent in this case which is **5.0 trips per 100m² GLA** with a **directional split of 45% inbound and 55% outbound during the Friday PM peak** and **4.97 trips per 100m GLA** with a **directional split of 50% inbound and 50% outbound during the Saturday midday peak.** Please note that this is in line with the proposed trip generation rates that was used in the previous TIA (December 2020).

It has been assumed that a percentage of these trips will be multi-purpose trips i.e. filling station trips will also visit the shops, therefore a reduction of 10% of the retail / line shop trips during both peak hours has been undertaken to take account of this principle. In addition, 45% and 35% of the trips generated by the retail component of this development have been assumed to be pass-by and diverted trips,

	respectively. These are existing trips that are already on the surrounding road network. In terms of the *TMH 17*, the maximum percentage of background traffic which may be included in pass-by or diverted trips is 20%. The pass-by and diverted trips from both land uses were tested against this threshold and the pass-by or diverted trips account for approximately 9% during the Friday PM peak hour and approximately 11% during the Saturday midday peak hour. The estimated peak hour trips for the filling station and the retail / line shops are summarised in **Table 3** and **Table 4**, respectively.
15.Development Trips *References: Figures 7 & 8, Table 3 & 5*	The total expected peak hour trips likely to be generated by the development, including pass-by and diverted trips, during the Friday PM and Saturday midday peak hours are: • **220 Friday PM trips** (102 inbound, 118 outbound) • **205 Saturday midday trips** (102 inbound, 103 outbound)
16.Traffic Assignment	The generated traffic associated with the proposed development has been distributed onto the surrounding road network taking the following into account: • Present traffic conditions; • The nature of the development; and • Trip attractions within the area. Based on the above, the following distribution was used to assign the development traffic to the surrounding network during both of the peak hours: • 30% of trips to/from Franschhoek along R45 • 40% of trips to/from Paarl along R45 • 30% of trips to/from Stellenbosch along Helshoogte Road



17.Site Access

Reference: Appendix C

The *Western Cape Government Access Management Guidelines, 2020* published by the Western Cape Government's Transport and Public Works Department was used as guidance for the location of the proposed access to the development. Currently, the Roadside Development Environment (RDE) in the vicinity of the R45 / Helshoogte Road intersection is semi-rural. However, Stellenbosch's Spatial Development Framework has identified this area as a development node for which the RDE will change to suburban over time.

For a Class 2 road, an access spacing of 305m is required in a semi-rural RDE and 270m in a Suburban RDE between a signalised – and an unsignalised full intersection as well as between two unsignalised intersections.

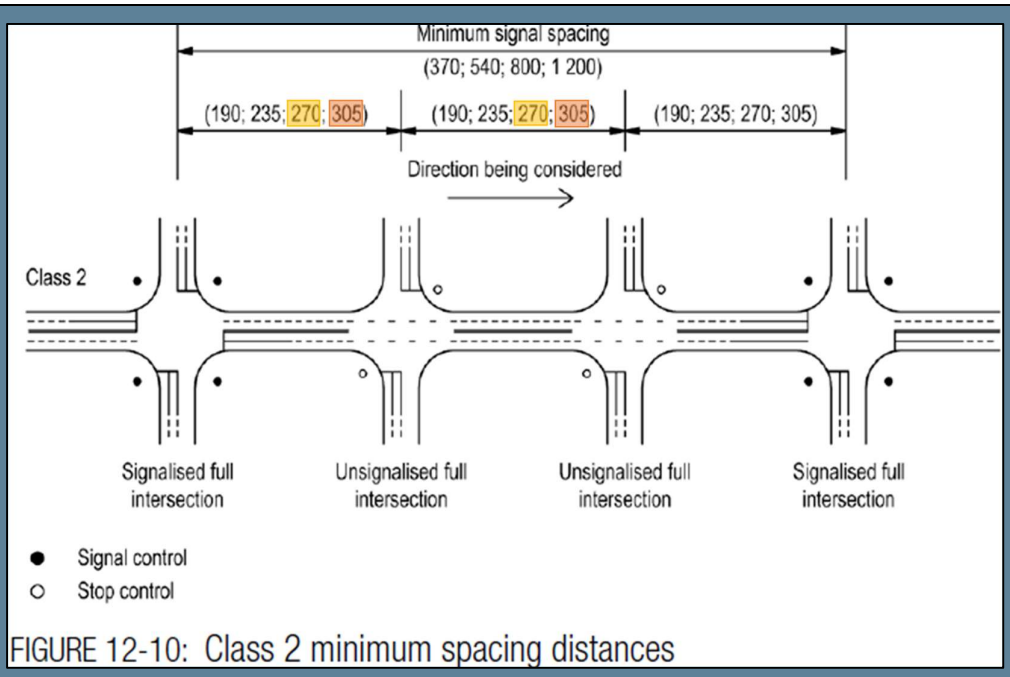
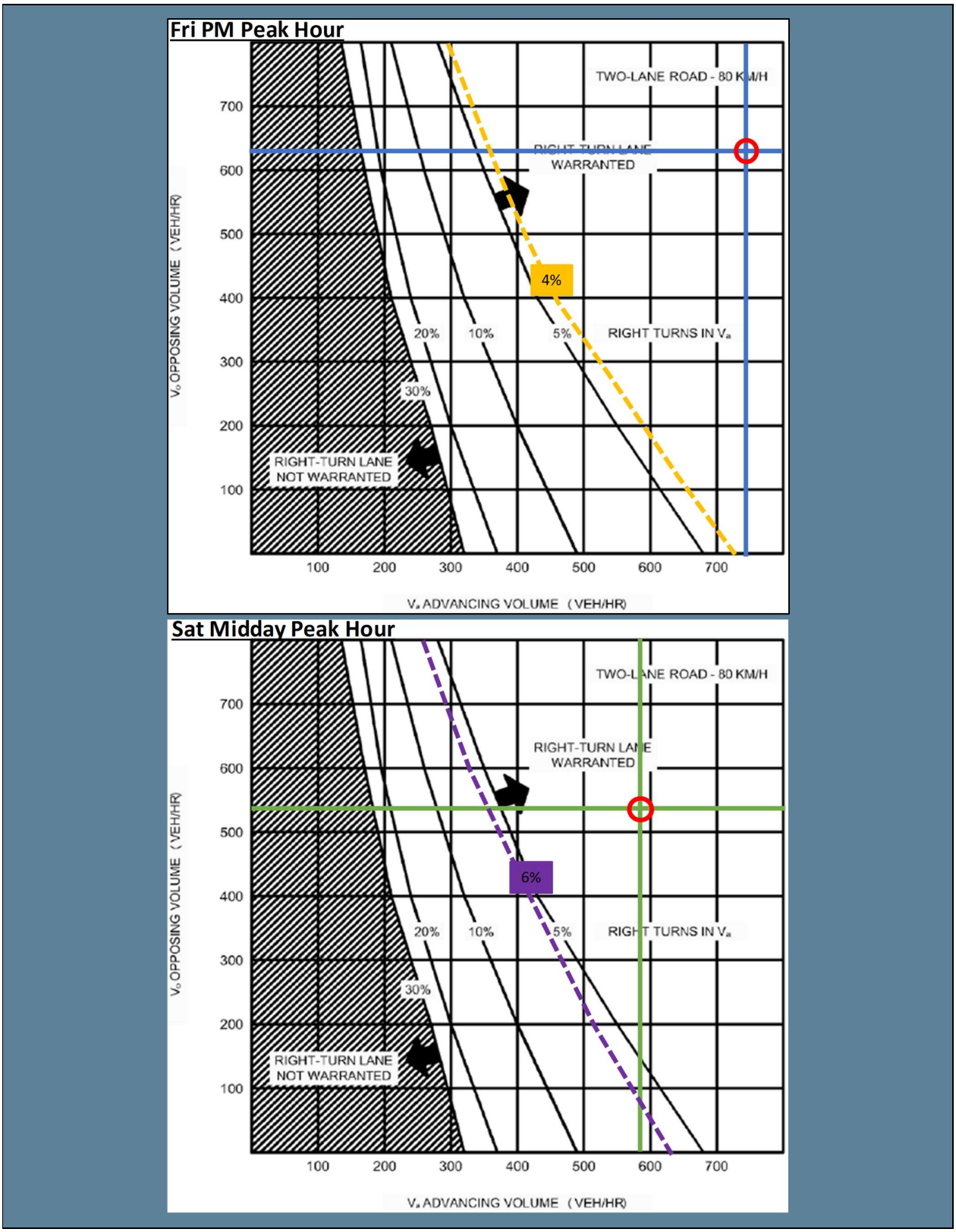


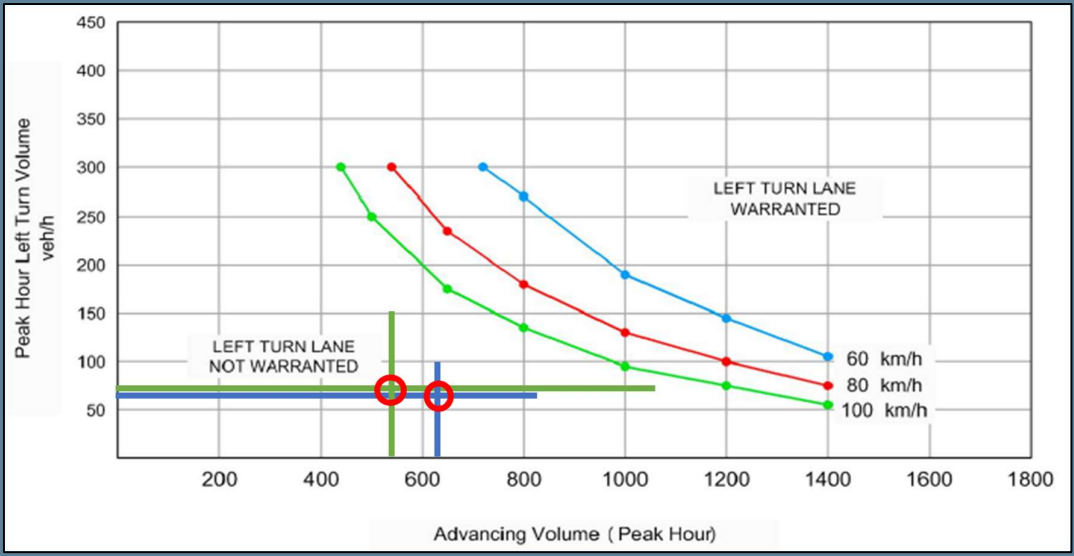
FIGURE 12-10: Class 2 minimum spacing distances

The proposed access point to the site, located 305m northwest of the R45 / Helshoogte Road intersection was approved as part of the previous TIA submission as shown in **Appendix C** (*Reference 16/9/6/1-10/140 Job 23997, dated 7 April 2021*). Furthermore, condition 13.13 was removed from the approval conditions in a subsequent letter from the WCG (*Reference 16/9/6/1-10/140 Job 23997, dated 22 August 2022*). This condition stipulated that the applicant shall register servitudes from Main Road 191 over Portion 4 in favour of Farm 996 and Portion 3 of Farm 895.

The *Access Management Guidelines, 2020* uses different graphs to determine the warrants for right turn lanes on two-lane roads. Once the R45 / Helshoogte Road intersection is upgraded to a signalised intersection the speed limit along the R45 in the vicinity of the proposed access will be reduced to 80km/h. Using the graph below for 80km/h two-lane roads with the opposing and advancing traffic volumes as shown in **Figure 9** and **Figure 10**, a right turn lane is warranted along the western R45 approach at the R45 / proposed access intersection. It is recommended that a short (30m) right turn lane from the R45 into the development be constructed as a traffic safety measure.


Fri PM Peak Hour
TWO-LANE ROAD - 80 KM/H
RIGHT-TURN LANE WARRANTED
4%
20%
10%
5%
RIGHT TURNS IN Va
30%
RIGHT-TURN LANE NOT WARRANTED
Vo OPPOSING VOLUME (VEH/HR)
Va ADVANCING VOLUME (VEH/HR)
100
200
300
400
500
600
700
Sat Midday Peak Hour
TWO-LANE ROAD - 80 KM/H
RIGHT-TURN LANE WARRANTED
6%
20%
10%
5%
RIGHT TURNS IN Va
30%
RIGHT-TURN LANE NOT WARRANTED
Vo OPPOSING VOLUME (VEH/HR)
Va ADVANCING VOLUME (VEH/HR)

The *Access Management Guidelines, 2020* provides Figure 14-4 to determine the warrants for left turn lanes for a 3-leg unsignalised intersection on a two-lane arterial. Using the graph provided with the opposing and left turn traffic volumes as shown in **Figure 9** and **Figure 10**, a left turn lane is not warranted during either of the peak hours at the R45 / proposed access intersection.

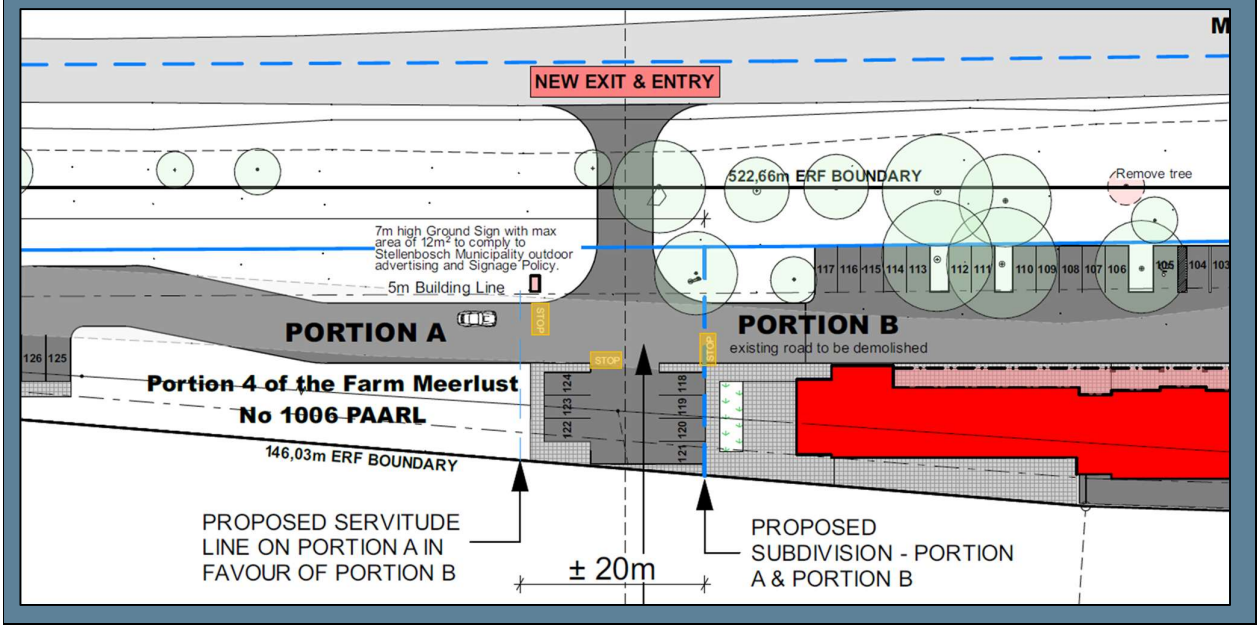


The capacity analysis of the proposed access, with the short dedicated turning lane included, is discussed in **Section 18.**

The *Access Management Guidelines, 2020* provides Table 14-2 to determine the required throat length and total number of inbound lanes for new developments. The proposed development will have a total GLA of 3 214m² and will gain access via the R45, which is a Class 2 Major Arterial, therefore a minimum throat length of 30m and two inbound lanes are required at the proposed access.

Class of public roadway	2	3	4	Total number of inbound lanes summed for all access driveways
Development m²	Throat length m			
< 2 000	20	20	15	1
2 000–5 000	30	25	20	2
5 000–10 000	40	30	20	3
10 000–25 000	50	40	25	3–5
25 000–50 000	75	50	30	4–6
> 50 0000	100	70	40	6 or more

The latest SDP indicates that the proposed access will have a throat length of approximately 21m. Due to space limitations it is not possible to increase the throat length. Furthermore, the entrance to the proposed development will not be stop-controlled and traffic entering the site will be free flowing. As shown on the extract from the SDP below in yellow, the internal circulation of the site will require that the three approaches near the proposed access be stop-controlled to allow vehicles to enter the site without forming a queue. Therefore, the available throat length was deemed sufficient. It is proposed that the access to the site has a three-lane cross-section with two lanes in and one lane out and be stop-controlled on the development side for vehicles existing the site.



18. Impact of Development Traffic

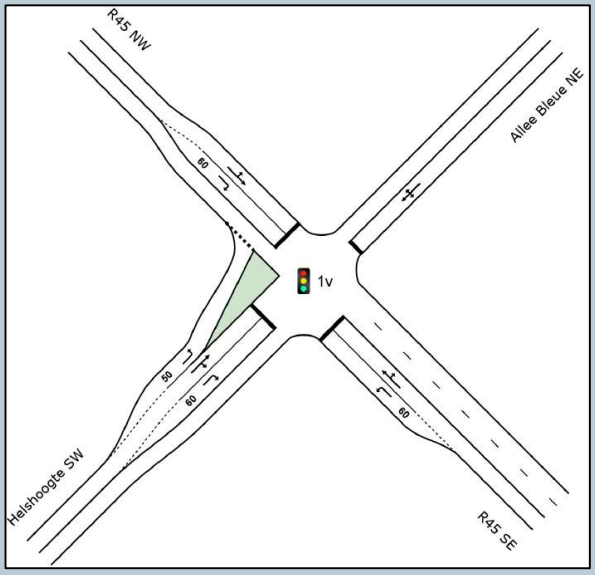
References: Figures 9 & 10, Table 1

The total expected trips that will be generated by the proposed development were added to the 2029 background traffic volumes, including the latent demand, to determine the expected 2029 total traffic volumes. The total 2029 traffic volumes during the Friday PM and Saturday midday peak hours are shown in **Figure 9** and **Figure 10**.

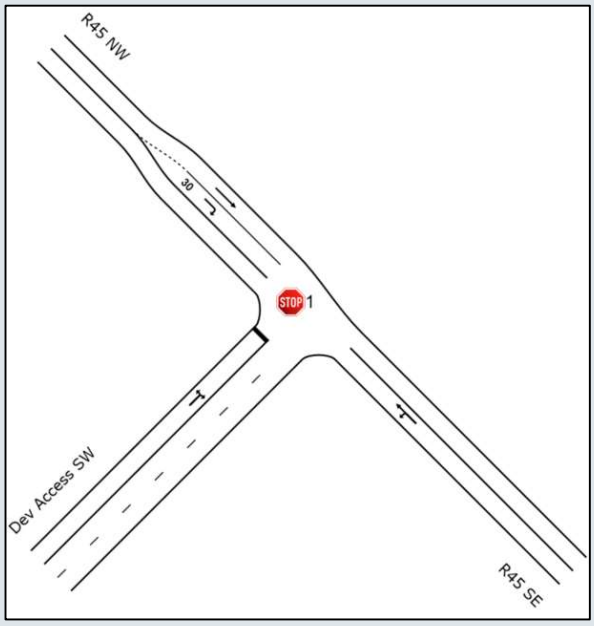
Due to the proposed upgrades at the R45 / Helshoogte Road intersection, discussed in **Section 8**, the intersection was analysed as a signalised intersection with the layout and lane disciplines illustrated below as per the proposed intersection layout provided by IX Engineers.

The 2029 total traffic operations at the study intersection and at the R45 / proposed access intersection were analysed using SIDRA Intersection 9.0 software. The signalised R45 / Helshoogte Road intersection was analysed with optimal signal timings.

1. R45 / Helshoogte Road (Signalised)

EXISTING GEOMETRY	CAPACITY ANALYSIS RESULTS
	**Friday PM Peak Hour:** Operates at acceptable Level of Service B. No capacity constraints along the critical northwestern approach (LOS B). **Saturday Midday Peak Hour:** Operates at acceptable Level of Service B. No capacity constraints along the critical southwestern approach (LOS B).

2. R45 / Proposed Access (Stop-controlled)

EXISTING GEOMETRY	CAPACITY ANALYSIS RESULTS
	**Friday PM Peak Hour:** Operates at acceptable Level of Service. No capacity constraints along the critical southwestern approach (LOS C). **Saturday Midday Peak Hour:** Operates at acceptable Level of Service. No capacity constraints along the critical southwestern approach (LOS B).
	No additional upgrades are required in these scenarios at the study intersection or the R45 / proposed access intersection. Refer to **Table 1** for a summary of the SIDRA results. Full details of the SIDRA analysis can be provided if required.

19. Parking Requirements

Parking provision for the proposed development should satisfy the requirements according to the *Stellenbosch Municipality's Zoning Scheme By-Law (Amended 2023) as per Provincial Gazette Extraordinary 8851 of November 2023, Chapter 5.33 Table A: Off-Street Parking Requirements.*

Filling stations require that a minimum of 4 parking bays be provided per 100m². Shops with a GLA less than 1 000m² require a minimum of 4 parking bays per 100m² while shops with a GLA larger than 1 000m² require a minimum of 6 parking bays per 100m². The following minimum parking is required per block of the proposed development:

Land Use	Extent	Parking Ratio	Parking Required
Block A: Filling Station	483m²	4 bays per 100m²	19 bays
Block A: Shops	553m²	4 bays per 100m²	22 bays
Block B: Shops	1211m²	6 bays per 100m²	73 bays
Block C: Shops	967m²	4 bays per 100m²	39 bays
Total			**153 bays**

The current SDP indicates that a total of **173 parking bays**, including 6 disabled parking bays, will be provided on-site. Sufficient parking will therefore be provided for the proposed development.

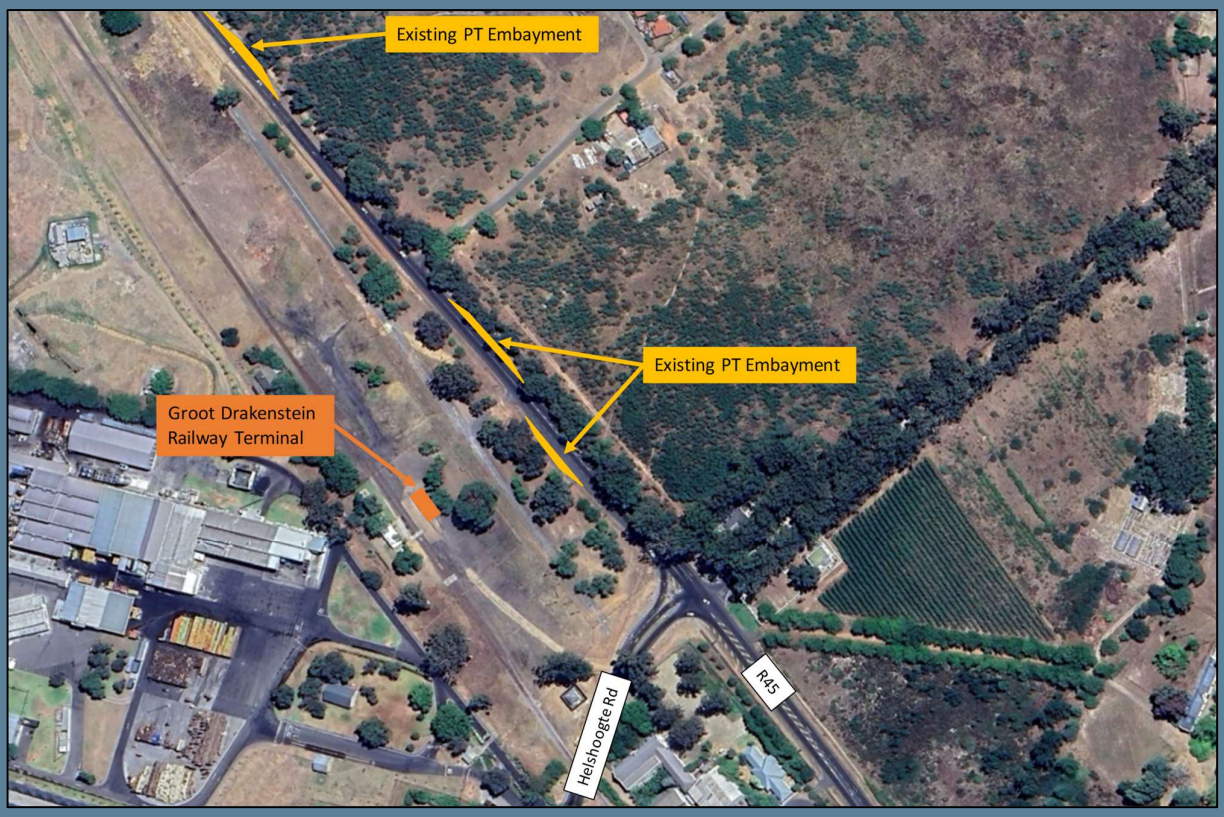
The standard width of a parking bay is 2.5m and 5.0m depth with a minimum 7.0m aisle width.

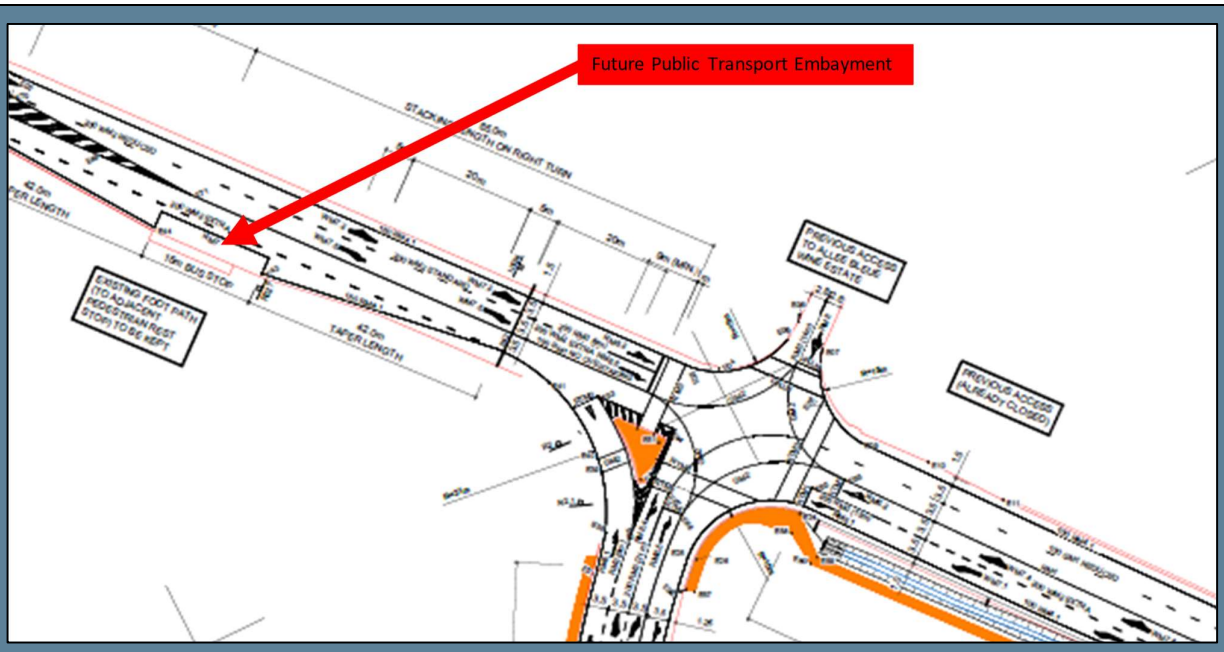
20. Non-Motorised Transport (NMT) and Public Transport

Existing Facilities: Paved sidewalks exist along Helshoogte Road on both sides of the road. Along the R45, there is a paved sidewalk on the southern side to the east of the Helshoogte Road / R45 intersection as well as a paved sidewalk on the northern side starting east of the access to the low income R45 Trust housing scheme (Farm 1006/1) connecting to the existing public transport stop running west. There are no sidewalks on the southern side of the R45 west of the Helshoogte Road / R45 intersection.

Bus and minibus taxi drop-off / pick-up locations were noted along the R45 in the vicinity of the site on both sides of the road and the existing railway station (Groot Drakenstein) is located to the south of the site within walking distance. The location of the existing public transport facilities in the vicinity of the proposed development are shown below.

Approximately 6% of the traffic demand travelling through the R45 / Helshoogte Road intersection during the Friday PM peak hour and the

	Saturday midday peak hour is made up of public transport trips (minibus taxis & buses).
	
	Future Facilities: The upgrading of the R45 / Helshoogte Road intersection will also include the addition of a minibus taxi / bus embayment along the southern side of the northwestern approach.



	Proposed Facilities: It is recommended that a sidewalk be provided along the frontage of the property from the access point to link up with the future bus and minibus taxi drop-off / pick-up embayment, that will be located northwest of the R45 / Helshoogte Road intersection. Furthermore, it is proposed that shelters be constructed at the existing and future bus and minibus taxi drop-off / pick-up locations in the vicinity of the development.
21.Conclusions	This report describes the investigation of transport implications of the proposed development on Portion 4 of Farm 1006 Meerlust, Stellenbosch. It summarises the existing transportation conditions within the site vicinity, provides an assessment of the transportation impacts of the proposed development on the surrounding road network, and recommendations about improvements to mitigate negative impacts, if relevant. The main findings and conclusions are: • This TIA is in support of the application for the proposed commercial development on Portion 4 of Farm 1006 Meerlust in Stellenbosch. • The development will consist of a filling station with convenience store (483m^2 GLA) and retail / line shops (2 731m^2 GLA). • The site falls within the urban edge of the development node identified in the Stellenbosch Spatial Development Framework.

	• Access to the site is currently gained directly from the R45 at various locations. All existing access locations to the site will be closed permanently during the construction of the proposed development. • The R45 / Helshoogte Road intersection is currently operating at acceptable levels of service (LOS) with minimal average delays during both peak hours. • The expected trips that will be generated by the Boschendal Estate Development during the Friday PM and the Saturday midday peak hours were included as the latent demand. • A growth rate of 3.0% per annum was used to determine the background 2029 traffic volumes. • As part of the planned upgrading of the R45, the R45 / Helshoogte Road intersection will be signalised in the future. • Capacity analyses of the 2029 background traffic operations indicated that the signalised R45 / Helshoogte Road intersection is expected to operate at acceptable levels of service (LOS B) with minimal average delays during both peak hours. • With the completion of the proposed development, approximately 2% of the passing traffic is expected to visit the filling station portion of the proposed development. • The passing traffic on the R45 is the primary target, with the secondary market being the Pniel community. • The proposed development has the potential to generate **220 new trips** during the Friday PM peak hour (102 in, 118 out) and **205 new trips** during the Saturday midday peak hour (102 in, 103 out). • Access will be obtained off the R45 via a full unsignalised access approximately ±305m to the northwest of the R45 / Helshoogte Road intersection. • The proposed access location to the site was approved as part of the previous TIA submission (*Reference 16/9/6/1-10/140 Job 23997, dated 7 April 2021*). • A short 30m right turn lane is warranted along the northwestern R45 approach of the R45 / proposed access intersection. • A left turn lane is not warranted at the R45 / proposed access intersection. • The latest SDP indicates that the proposed access will have a throat length of approximately 21m. The available throat length was deemed acceptable.

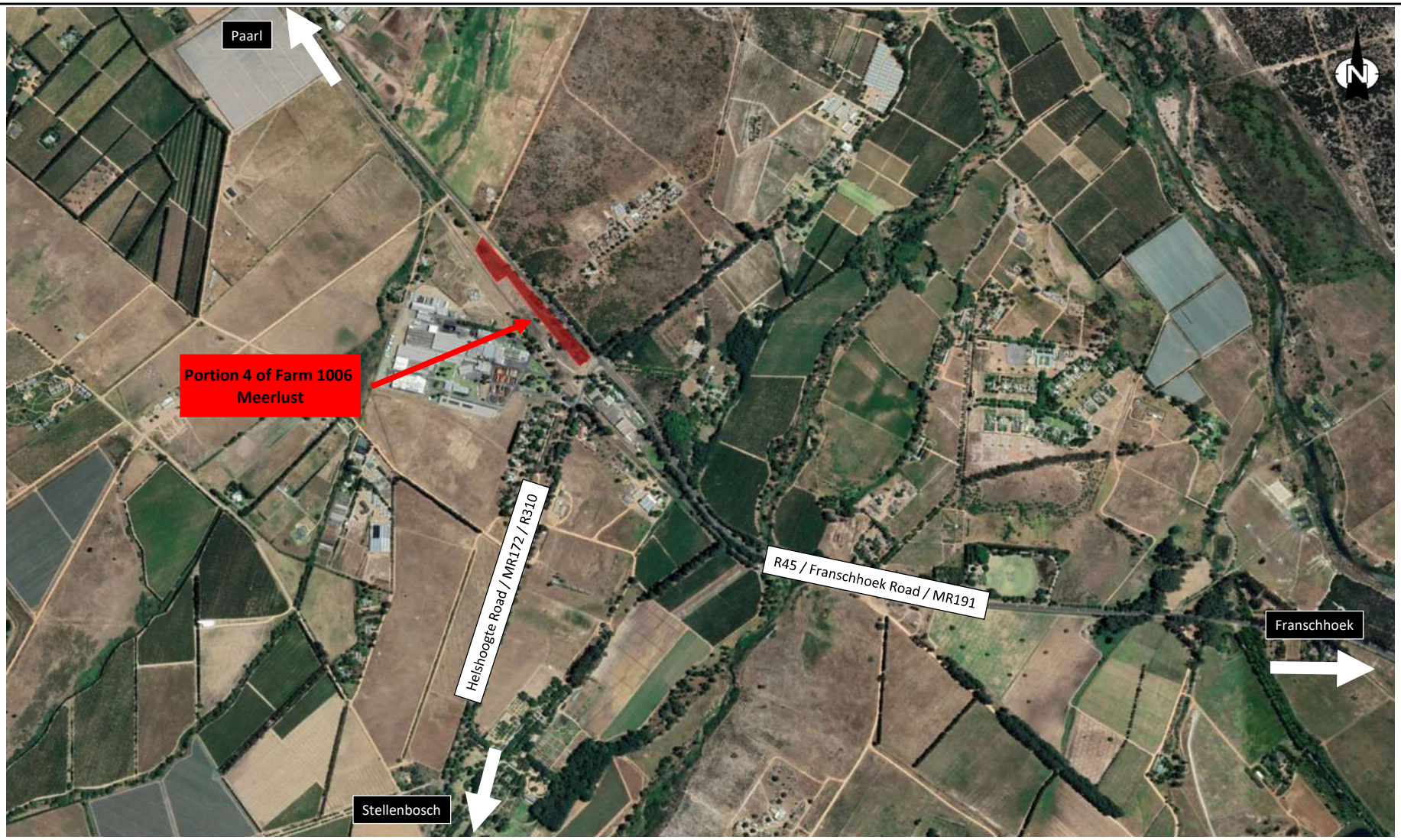
	• It is proposed that the access has a three-lane cross section with two lanes in and one lane out and be stop-controlled on the development side. • The capacity analyses of the 2029 total traffic operations at the signalised R45 / Helshoogte Road intersection indicated that the intersection is expected to operate at acceptable levels of service (LOS B) with minimal average delays during both peak hours. • The R45 / proposed access intersection is expected to operate at acceptable levels of service (LOS) with minimal average delays during both peak hours. • Parking should be provided in accordance with the *Stellenbosch Municipality's Zoning Scheme By-Law (Amended 2023) as per Provincial Gazette Extraordinary 8851 of November 2023, Chapter 5.33 Table A: Off-Street Parking Requirements*. • A total of 153 parking bays are required for the proposed development and the current SDP indicates that 173 parking bays will be provided on-site. Sufficient parking is therefore provided. • Paved sidewalks exist along both sides of Helshoogte Road and along the northern side of the R45 in the vicinity of the site. • Bus and minibus taxi embayments are located along the R45 on both sides of the road in the vicinity of the site. • The proposed upgrading of the R45 includes an additional public transport embayment northwest of the R45 / Helshoogte Road intersection. • A sidewalk is proposed along the site frontage along the R45 to link the access and the future public transport embayment that will be located northwest of the R45 / Helshoogte Road intersection. • Shelters are proposed at the existing and future bus and minibus taxi drop-off / pick-up locations in the vicinity of the development.
22.Recommendations	It is recommended that: • All existing access points to the farm off the R45 must be closed permanently. • The R45 / Helshoogte Road intersection be upgraded to a signalised intersection with the layout provided by IX Engineers, as shown in **Section 8,** before 2029.

	• A short 30m right turn lane be constructed along the northwestern R45 approach at the R45 / proposed access intersection. • The proposed access to the site has a three-lane cross-section with two lanes in and one lane out and be stop-controlled on the development side. • A sidewalk be constructed along the site frontage along the R45 to link the access and the future public transport embayment that will be located northwest of the R45 / Helshoogte Road intersection. • Shelters be constructed at the existing and future bus and minibus taxi drop-off / pick-up locations in the vicinity of the development. • The detailed design of the above-mentioned infrastructure to be approved by the relevant authorities before construction commences. This report has shown that the proposed development can be accommodated by the adjacent transport network, provided the recommendations presented in the report are implemented. From a traffic engineering perspective, the approval of the application for this development is supported.

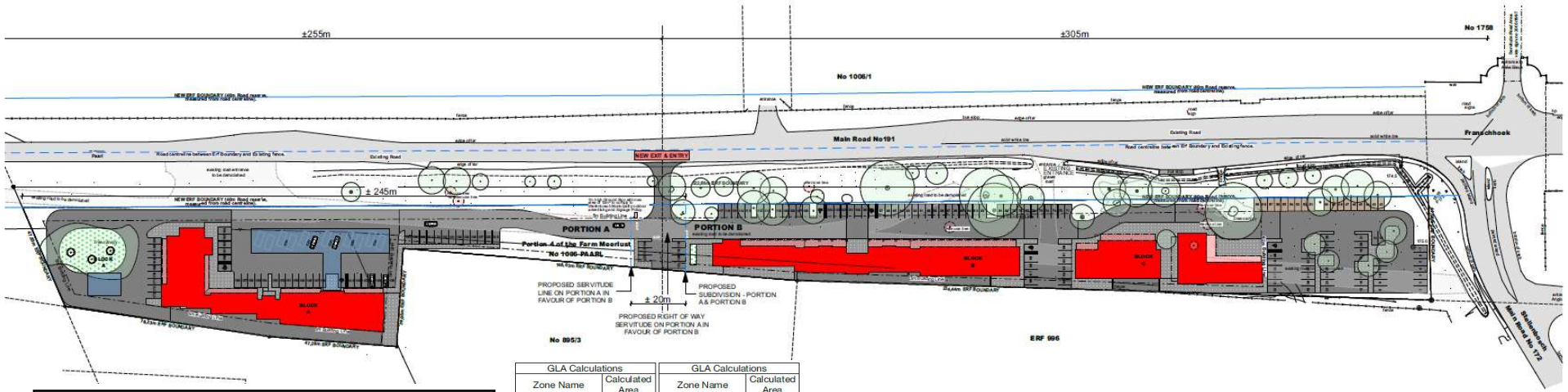
REFERENCES

1. Western Cape Government: Access Management Guidelines, Final AMG, 2020.
2. Department of Transport, Guidelines for Traffic Impact Studies, Report No. PR93/645, Pretoria, 1995.
3. Department of Transport, South African Trip Generation Rates, Report No. RR92/228, Pretoria, 1995.
4. Committee of Transport Officials (COTO), South African Trip Data Manual, TMH 17, Committee Draft 2.2, August 2020.
5. Committee of Transport Officials (COTO), South African Traffic Impact and Site Traffic Assessment Manual Standards and Requirements Manual, Volume 2 TMH 16, Committee Draft 2.0, October 2020.
6. Committee of Transport Officials (COTO), South African Traffic Impact and Site Traffic Assessment Manual, Volume 1 TMH 16, Committee Draft 2.0, May 2018.
7. GIBB Engineering & Architects, Boschendal Village Updated Transport Impact Assessment, May 2018.
8. J.L. Coetzee, F. van Rensburg and H Schreurs, Revision of the Guidelines for Access to Filling Stations in the Greater Pretoria Area, 2001.
9. Stellenbosch Municipality, Zoning Scheme By-Law 2019, Provincial Gazette Extraordinary 8153, 27 September 2019.

APPENDIX A: FIGURES



Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	LOCALITY PLAN	Figure: 1



PORTION 4 of the Farm MEERLUST No. 1006

AREA CALCULATIONS:	Area (m²)	%	Factor
Area of Farm	16873		
Proposed Coverage	4057	24,04%	
Proposed Bulk (excl. Open Balconies)	4712		0,28

DESCRIPTION:	AREA (m²)	GLA (m²)
GENERAL: (Measured to outside of wall)		
Total Ground Storey (Incl. Ablution Areas):		
BLOCK A	1137	
BLOCK B	1063	
BLOCK C	761	
Total	**2961**	
Total First Storey		
BLOCK A	0	
BLOCK B	302	
BLOCK C	353	
Total	**655**	
Covered Walkways	533	
Fore-court Canopies (Filling Station)	563	
Open Balconies	125	
Total (excluding open balconies)	**1096**	

PARKING REQUIREMENTS:	
1-1500m²	4/100m² (GLA)
>1500m²	6/100m² (GLA)

Required	Supplied
163	173

* Parking bays to be 2,5x50m

GLA Calculations	
Zone Name	Calculated Area
SHOP 01	28
	28 m²
SHOP 02	26
	26 m²
SHOP 03	26
	26 m²
SHOP 04	55
	55 m²
SHOP 05	145
	145 m²
SHOP 06	58
	58 m²
SHOP 07	89
	89 m²
SHOP 08	46
	46 m²
SHOP 09	80
	80 m²
SHOP 10	483
	483 m²
SHOP 11	91
	91 m²
SHOP 12	73
	73 m²
SHOP 13 (First)	73
	73 m²
SHOP 13 (Ground)	62
	62 m²
SHOP 14 (First)	81
	81 m²
SHOP 14 (Ground)	66
	66 m²
SHOP 15	66
	66 m²
SHOP 16 (First)	127
	127 m²
SHOP 16 (Ground)	62
	62 m²
SHOP 17 (First)	81
	81 m²
SHOP 17 (Ground)	66
	66 m²
SHOP 18	80

GLA Calculations	
Zone Name	Calculated Area
	80 m²
SHOP 19	80
	80 m²
SHOP 20	80
	80 m²
SHOP 21	123
	123 m²
SHOP 22	88
	88 m²
SHOP 23	185
	185 m²
SHOP 24	87
	87 m²
SHOP 25	86
	86 m²
SHOP 26	40
	40 m²
SHOP 27	31
	31 m²
SHOP 28	50
	50 m²
SHOP 29	50
	50 m²
SHOP 30	50
	50 m²
SHOP 31	86
	86 m²
SHOP 32	64
	64 m²
SHOP 33	50
	50 m²
SHOP 34	50
	50 m²
SHOP 35	50
	50 m²
	3 214 m²

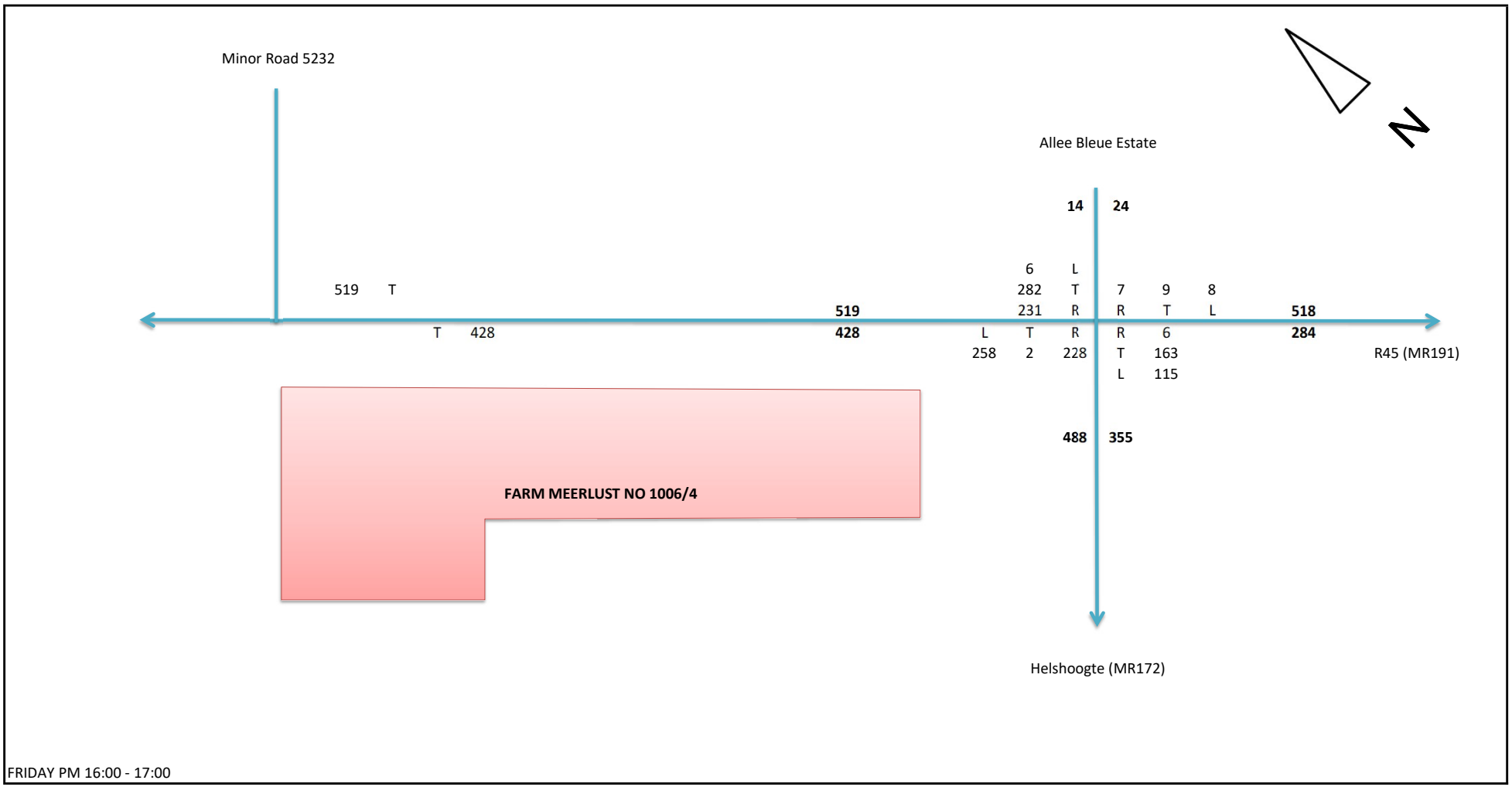
Traffic Engineering & Transport Planning
STURGEON CONSULTING
Transport Planning & Traffic Engineering
021 553 4167 / 083 701 2299

Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA

Job No: STUR0088

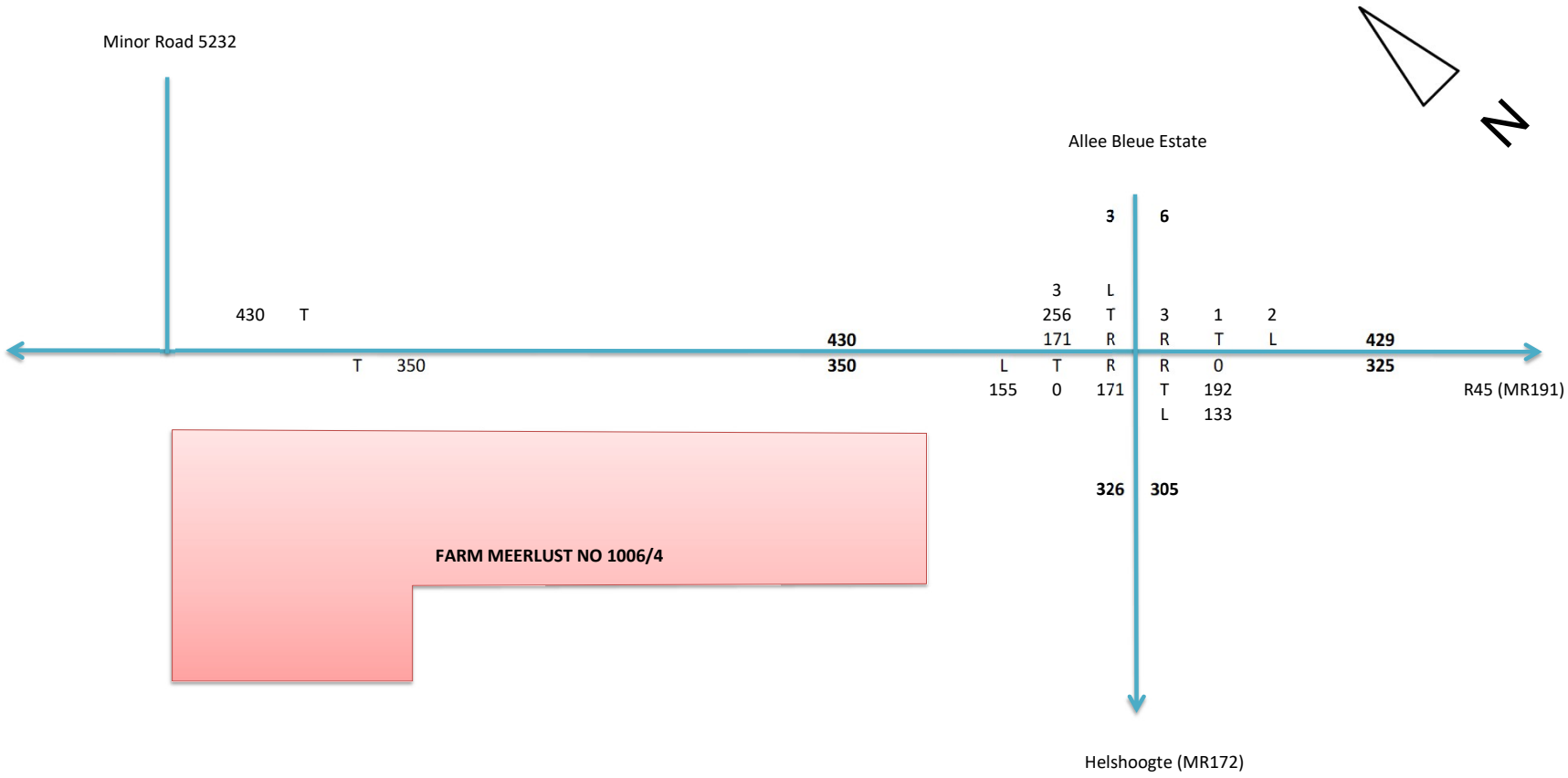
SITE DEVELOPMENT PLAN (N.T.S.)

Figure: 2



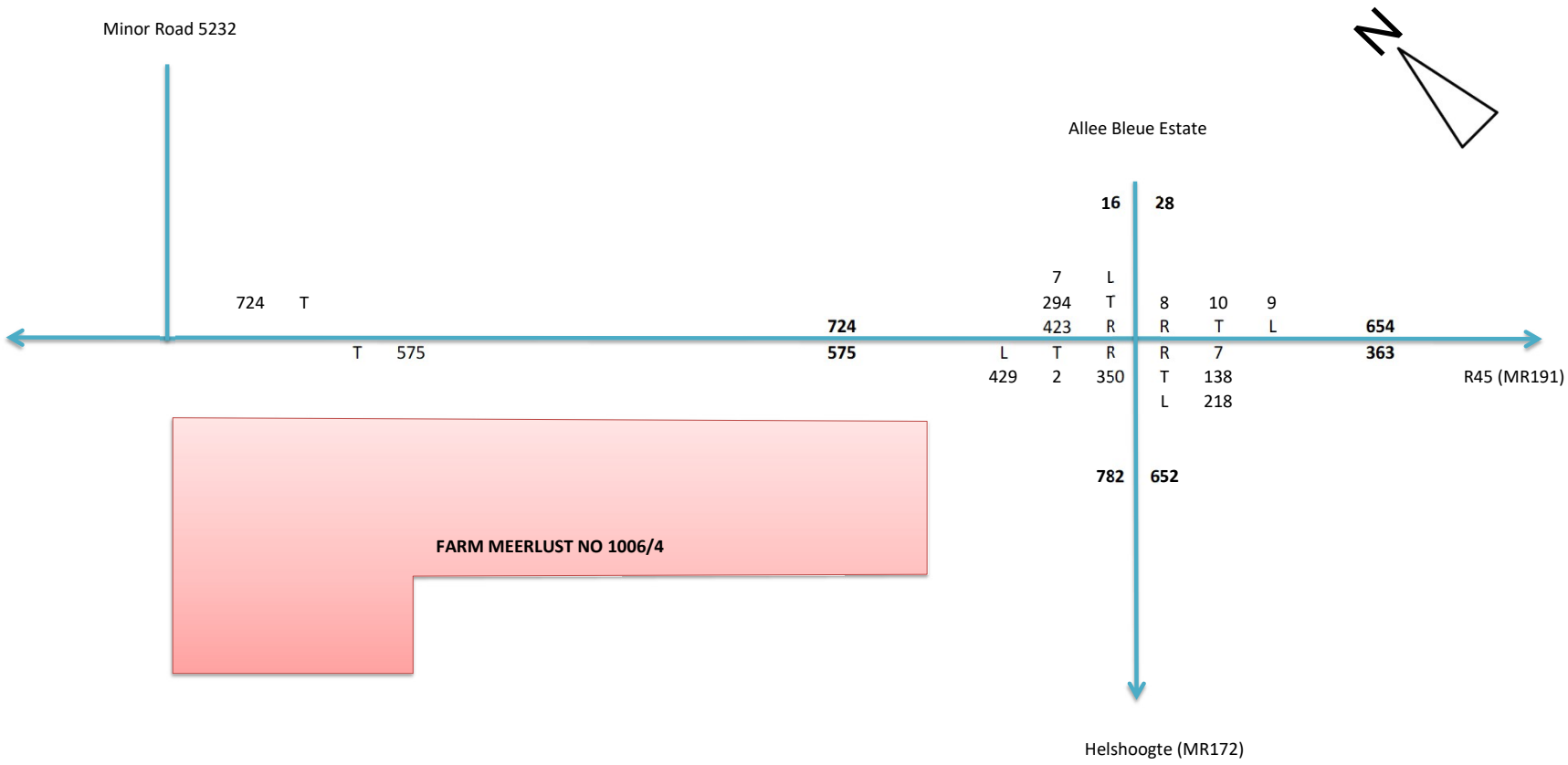
FRIDAY PM 16:00 - 17:00

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	PRESENT FRIDAY PM PEAK HOUR TRAFFIC DEMAND (2024)	Figure: 3



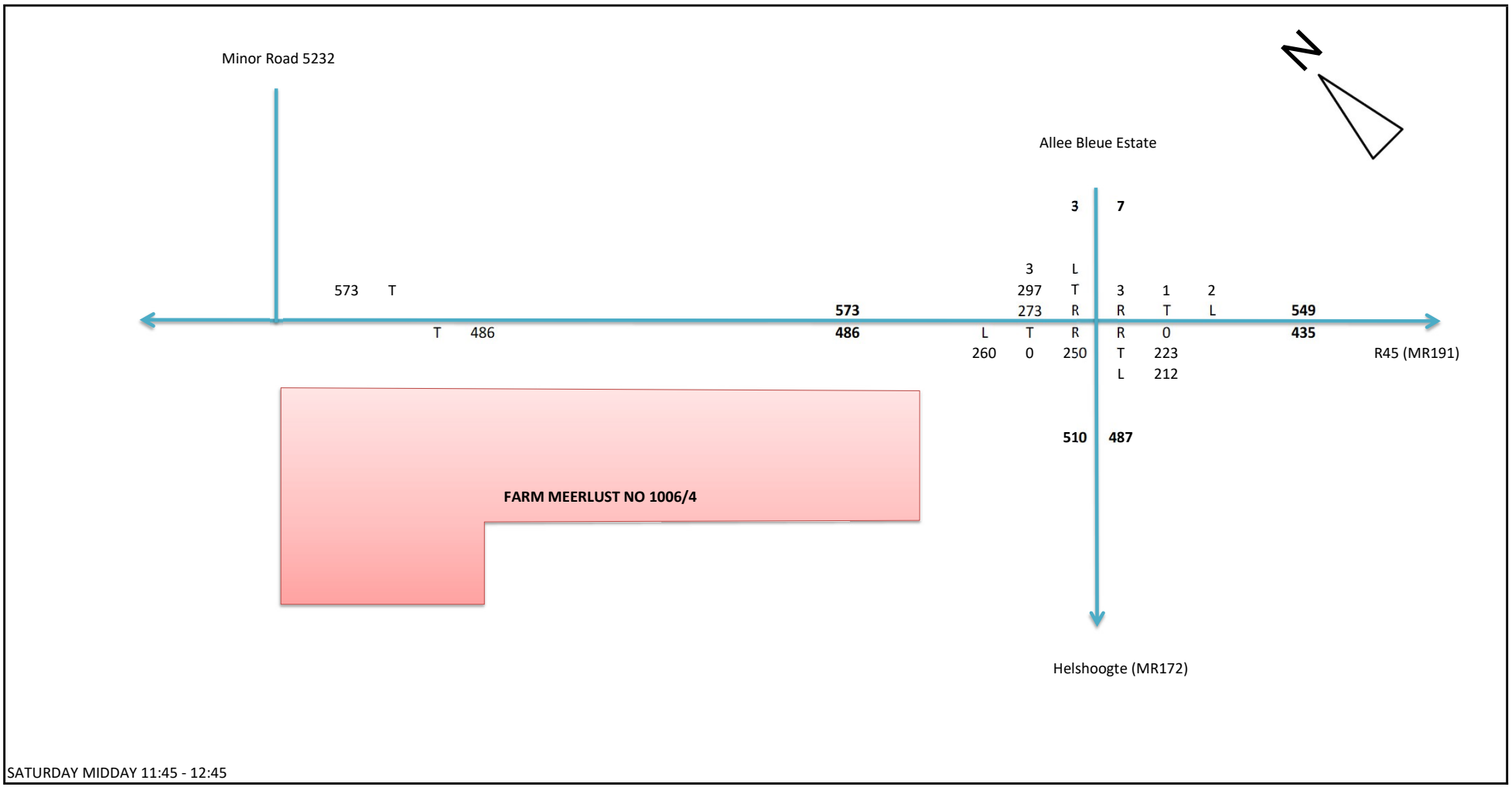
SATURDAY MIDDAY 11:45 - 12:45

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	PRESENT SATURDAY MIDDAY PEAK HOUR TRAFFIC DEMAND (2024)	Figure: 4



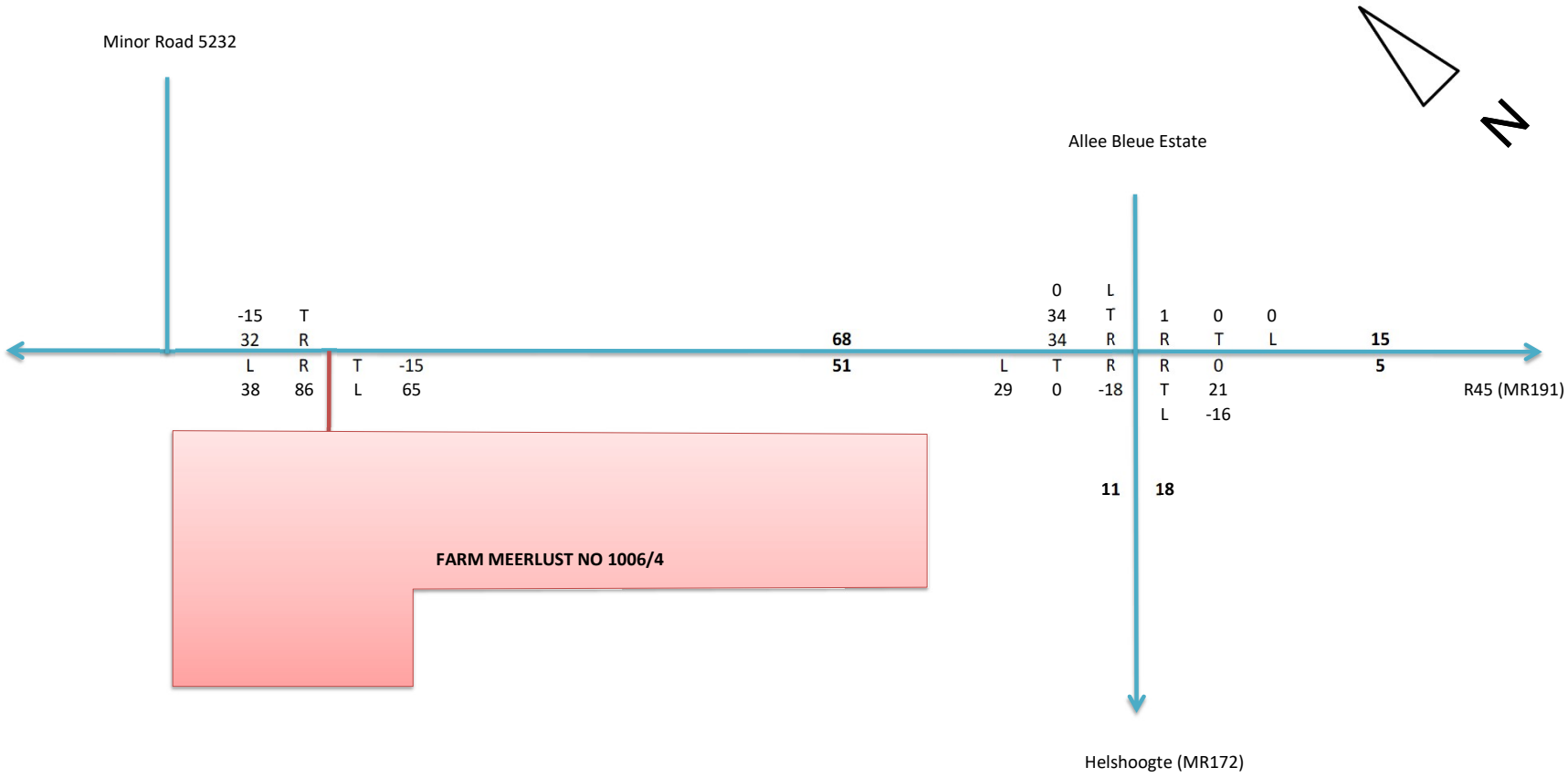
FRIDAY PM 16:00 - 17:00

STURGEEDON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	EXPECTED FRIDAY PM TRAFFIC DEMAND WITH LATENT DEMAND (2029)	Figure: 5



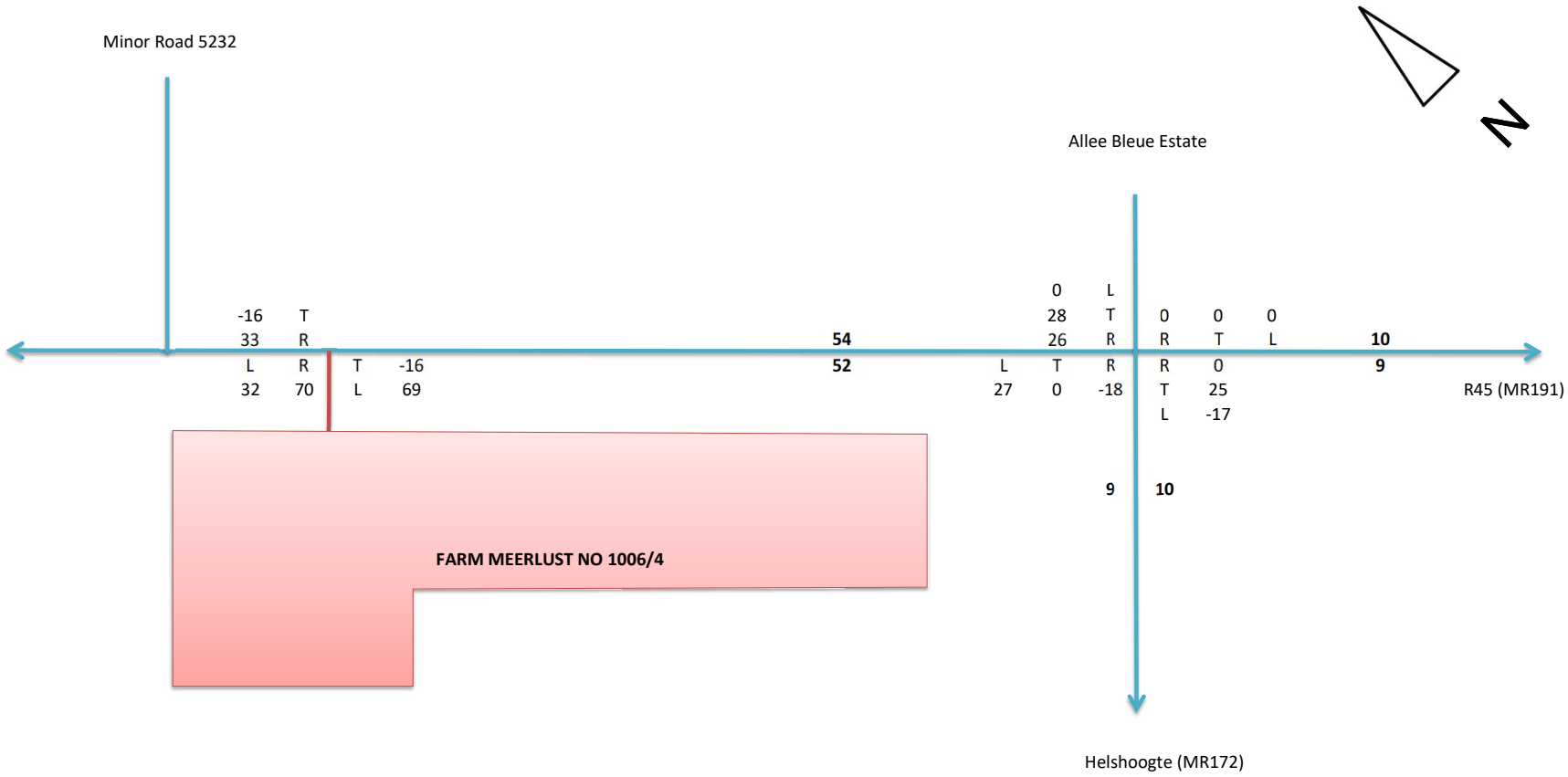
SATURDAY MIDDAY 11:45 - 12:45

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	EXPECTED SATURDAY MIDDAY TRAFFIC DEMAND WITH LATENT DEMAND (2029)	Figure: 6



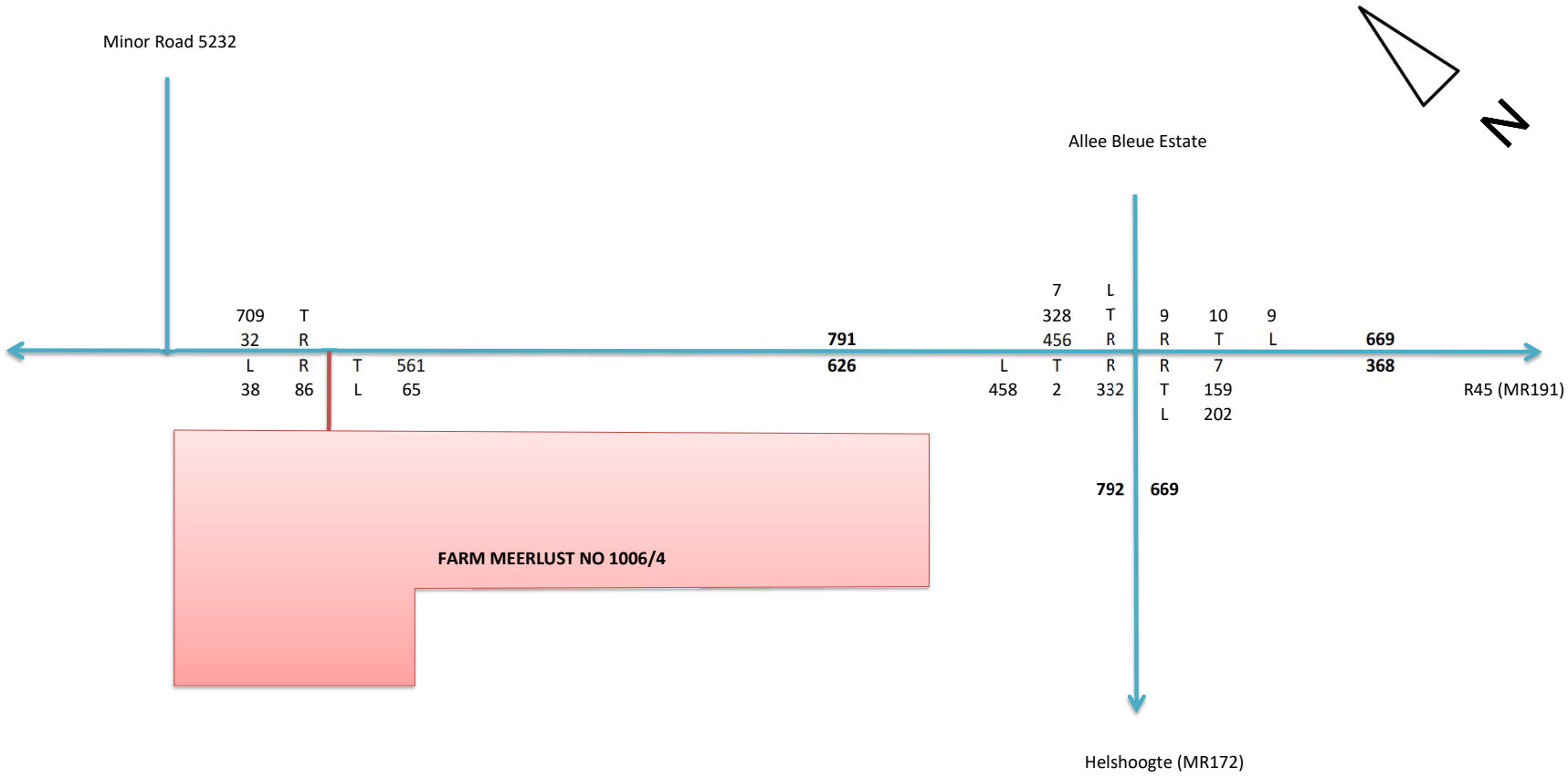
FRIDAY PM 16:00 - 17:00

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	TOTAL DEVELOPMENT TRAFFIC (FRIDAY PM)	Figure: 7



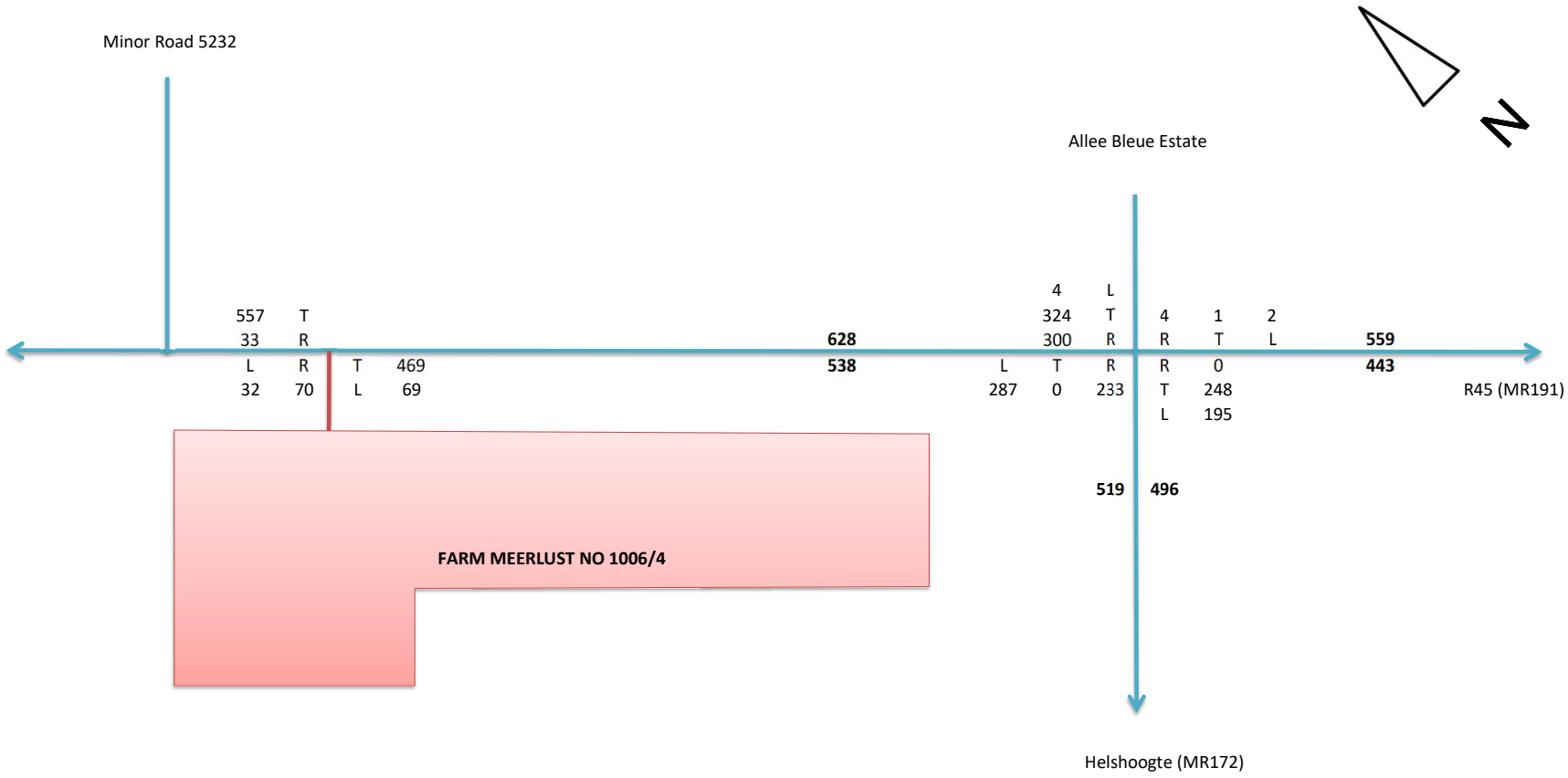
SATURDAY MIDDAY 11:45 - 12:45

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	TOTAL DEVELOPMENT TRAFFIC (SATURDAY)	Figure: 8



FRIDAY PM 16:00 - 17:00

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	TOTAL FRIDAY PM TRAFFIC DEMAND PLUS DEVELOPMENT TRIPS(2029)	Figure: 9



SATURDAY MIDDAY 11:45 - 12:45

Traffic Engineering & Transport Planning STURGEON CONSULTING Transport Planning & Traffic Engineering 021 553 4167 / 083 701 2299	Project: PROPOSED COMMERCIAL DEVELOPMENT ON PORTION 4 OF FARM 1006, STELLENBOSCH, WESTERN CAPE TIA	Job No: STUR0088
	TOTAL SATURDAY MIDDAY TRAFFIC DEMAND PLUS DEVELOPMENT TRIPS(2029)	Figure: 10

APPENDIX B: TABLES

Table 1: Peak Hour Traffic Conditions

Study Intersection	Scenario	Intersection Control	Peak Hour	Intersection Ave Delay (s)	Intersection LOS	Intersection v/c	Critical Approach			
							Approach	Ave Delay (s)	LOS	v/c
1. R45 / Helshoogte Road	Existing Traffic (2024)	Stop-controlled	Friday PM	6.3	NA	0.501	Southwest	11.7	B	0.501
	Background Traffic (2029)	Signalised		14.7	B	0.727	Northwest	12.9	B	0.727
	Total Traffic (2029)	Signalised		14.5	B	0.759	Northwest	13.0	B	0.759
	Existing Traffic (2024)	Stop-controlled	Saturday Midday	5.4	NA	0.398	Southwest	11.6	B	0.398
	Background Traffic (2029)	Signalised		12.1	B	0.495	Southwest	18.9	B	0.461
	Total Traffic (2029)	Signalised		11.6	B	0.539	Southwest	18.5	B	0.481
2. R45 / Proposed Access	Total Traffic (2029)	Stop-controlled	Friday PM	2.3	NA	0.396	Southwest	21.7	C	0.377
	Total Traffic (2029)	Stop-controlled	Saturday Midday	1.8	NA	0.309	Southwest	14.7	B	0.207

LOS – Level of Service, Delay in seconds per vehicle, V/C – Volume to Capacity Ratio
N/A – Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control

Table 2: Proposed Trip Generation Rates

Peak Hour	Land Use	Size	Units	Rate	Directional Split
Friday PM	Filling Station	12 pumps	Adjacent Traffic	2%	50:50
	Line & Tourist Shops	3 214m² GLA	100m² GLA	5.0[1]	45:55
Saturday Midday	Filling Station	12 pumps	Adjacent Traffic	2%	50:50
	Line & Tourist Shops	3 214m² GLA	100m² GLA	4.97[2]	50:50

1 Average Retail TGR (COTO, DOT, ITE)
2 Specialty Retail TGR (ITE814)

Table 3: Expected Peak Hour Trips (Filling Station)

Peak Hour	Total Trips	Peak Hour Trips	
		In	Out
Friday PM	75	37	38
Saturday Midday	61	30	31

Table 4: Expected Peak Hour Trips (Line Shops)

Peak Hour	Total Trips	Peak Hour Trips	
		In	Out
Friday PM	145	65	80
Saturday Midday	144	72	72

APPENDIX C: WCG CORRESPONDENCE

Western Cape Government

TRANSPORT & PUBLIC WORKS: ROADS
Chief Directorate: Road Planning
Email: grace.swanepoel@westerncape.gov.za
Tel: +27 21 483 4669
Room 335, 9 Dorp Street, Cape Town, 8001
P.O. Box 2603, Cape Town, 8000

REFERENCE: **16/9/6/1-10/140 (Job 23997)**
ENQUIRIES: **Ms G Swanepoel**
DATE: **7 April 2021**

The Municipal Manager
Stellenbosch Municipality
PO Box 17
STELLENBOSCH
7599

Attention: Mr Ulrich von Molendorff

MAIN ROAD 191: APPLICATION FOR REZONING OF PORTION 4 OF FARM MEERLUST 1006, PAARL DIVISION, STELLENBOSCH MUNICIPALITY

1. The following refer:

1.1 Letter from Mr P-J le Roux to this Branch, together with rezoning application for Portion 4 of Farm 1006, Paarl, applicant ref. H 10-62, application no. LU/4549, dated 16 May 2016;

1.2 This Branch's letters to Stellenbosch Municipality, ref. 16/9/6/1-10/140 (Job 23997) dated 18 July 2016, 19 May 2017 and 16 October 2018, objecting to the application or re-affirming ealier objections;

1.3 Traffic Impact Assessment Update Report, ref. STUR0088, dated December 2020. This reflects a revised site plan (see 1.5 below)

1.4 E-mail from Harry Thompson of this Branch to Sturgeon Consulting dated 28 February 2021 and response from Sturgeon Consulting dated 10 March 2021;

1.5 Site Plan, Rev. no.5, dated 8 February 2021.

2. The proposed development comprises a filling station and convenience store, and tourist and line shops.

3. The revised site plan has eliminated the access from Main Road 172 Helshoogte Road and the left off-slip from Main Road 191 westbound in the vicinity of the public transport embayment, which had been included in earlier versions.

16/9/6/1-10/140 (Job 23997)

4. The site plan has a single access off Main Road 191 at ±km.9.57 to serve the subject property, which is a long narrow site running parallel to MR 191, and between MR 191 and the railway line. This access is located ±305m from the Main Road 172 intersection, which is consistent with the recommended distance on a Class 2 road between a signalised full intersection and an unsignalized full intersection in terms of the Access Management Guidelines 2020 (the AMG). The AMG does not provide for direct high- or low-volume accesses onto Class 2 roads, but the nature of the properties in this area and the constraints imposed by the railway line make it impossible to provide an alternative lower order road network to service this property. The access is ±255m from Minor Road 5232, to the north-west and on the opposite side of MR191. While this is considerably less than the recommended spacing, this Branch supports the view that any compromise should relate to the spacing between the access and the minor road, and not to the busy MR172 intersection, and should leave sufficient space to minimise potential conflicts with vehicles leaving the public transport embayment.

5. In light of the above issues, this Branch does not object to the access to Farm 1006/4 not being directly opposite the access to the Meerlust Forestry workers' houses. Although the two accesses are staggered, and only ±40m apart, this is the more acceptable right-left stagger, and the volume of vehicular traffic from the houses on the opposite side of the road is expected to be low.

6. Provision is made in the site plan for future access to the two adjacent parcels of land between Portion 4 of Farm 1006 and the railway line, ie. Farms 996 and 895/3.

7. The site plan indicates a 4-leg intersection on the access road and located very close to the MR191 intersection. This links to the internal road running the length of the subject property, with the fourth leg (opposite the entry from MR191) potentially providing future access to Farm 895/3. The two approaches along the longitudinal road will have stop signs at this intersection, allowing for free flow by entering vehicles, so as not to cause tailbacks into MR191.

8. Traffic analyses provided indicate that the access intersection with MR191 has adequate capacity as a 2-way stop-controlled intersection.

9. In terms of the AMG, a right turn lane is required at the access to the subject property.

10. It is likely that in future, traffic wishing to enter MR191 from MR 172 or turning right into MR172 from MR191 will experience significant delays due to background traffic growth. The TIA recommends that traffic signals or a roundabout are installed when warranted. The analyses indicate that a roundabout will provide a better level of service and less delay than traffic signals.

11. Suitable facilities should be provided for pedestrians alongside the development adjacent to MR191.

12. This Branch withdraws the objection to the proposed development as referenced in the letters listed in paragraph 1.2 above.

13. This Branch offers no objection to the proposed rezoning of Portion 4 of the Farm Meerlust 1006, Paarl, from Agriculture Zone I to Business Zones II and V for the purposes of developing a filling station and shops on the property, subject to the following conditions:

13.1 No access will be permitted from Main Road 172 Helshoogte Road;

16/9/6/1-10/140 [Job 23997]

13.2 This "No objection" relates to the Site Plan Rev. No. 5, dated 8 February 2021, and any proposed deviation from this plan as relates to access, transport infrastructure provision or land use shall require the prior approval of this Branch;

13.3 Access shall be restricted to a single access on Main Road 191 at ±km.9.57;

13.4 All existing vehicular accesses shall be permanently closed and rendered unusable (eg. by fencing or landscaping);

13.5 Pedestrian facilities shall be provided along the Main Road 191 frontage of the subject property;

13.6 The Applicant shall accept in writing to be responsible for all costs associated with the design and implementation of the required road upgrades;

13.7 The design of the new entrance shall include a surfaced bellmouth from the edge of the existing paved road surface to the property boundary, and shall give priority to entering traffic at the intersection immediately within the subject property;

13.8 The design of the access, right turn lane and pedestrian facilities shall be carried out by an appropriately registered person in accordance with this Department's design guidelines and requirements. Detailed drawings of the road geometry, pavement design, drainage, road signs and road markings shall be submitted to this Branch's Chief Directorate: Design for approval prior to the commencement of construction (Ms MK Hofmeyr, e-mail: Melanie.Hofmeyr@westerncape.gov.za);

13.9 Detailed construction drawings and proposals for traffic accommodation during construction shall be submitted for approval to the District Roads Engineer, Paarl (attention Mr E. Smith, e-mail: Elroy.Smith@westerncape.gov.za) prior to construction;

13.10 The Applicant's consultant or contractor shall accept the handing over of the site in writing from the Road Authority prior to construction;

13.11 After completion of the construction phases to the satisfaction of the District Roads Engineer, the Road Authority shall accept in writing the handing over of the site from the Applicant's consultant or contractor;

13.12 As built drawings shall be sent to this Branch (Ms GD Swanepoel: Grace.Swanepoel@westerncape.gov.za), the District Roads Engineer (Mr S Bain: Stewart.Bain@westerncape.gov.za) and the Roads Department of Cape Winelands District Municipality (Mr ACA Stevens: Aubrey@capewinelands.gov.za).

13.13 The applicant shall register servitudes from Main Road 191 over Portion 4 in favour of Farm 996 and Portion 3 of Farm 895.

16/9/6/1-10/140 (Job 23997)

14. The aforementioned does not imply exemption from any other act, ordinance or regulations.

Yours Sincerely

SW CARSTENS
***For* DEPUTY DIRECTOR-GENERAL: ROADS**

Western Cape Government

Transport and Public Works
Vanessa Stoffels
Chief Directorate: Road Planning
Vanessa.Stoffels@westerncape.gov.za | Tel: 021 483 4669

Ref: 16/9/6/1-10/140 (Job 23997)

The Municipal Manager
Stellenbosch Municipality
PO Box 17
STELLENBOSCH
7599

Attention: Mr Urich von Molendorff

Dear Sir

PORTION 4 OF FARM MEERLUST 1006, PAARL: MAIN ROAD 191: APPLICATION FOR REZONING

1. The following refer:

1.1. Our letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021; and

1.2. The meeting this Branch had with Mr B du Preez representing Sturgeon Consulting on 19 August 2022.

2. Sturgeon Consulting requested the removal of Condition 13.13 from this Branch's letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021.

3. At the meeting held on 19 August 2022 this Branch agreed that both Farm 996 and Portion 3 of Farm 895 have existing legal and unfettered access off Main Road 172 and Main Road 191(via Minor Road 5231) over Farm 984.

4. Herewith this Branch agrees to the removal of Condition 13.13 as listed in its letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021 subject to all the other conditions listed in the letter being adhered to.

Yours Sincerely

SW CARSTENS
***For* DEPUTY DIRECTOR-GENERAL: ROADS**
DATE: 22 AUGUST 2022

16/9/6/1-10/140 (Job 23997)

ENDORSEMENTS

1. Stellenbosch Municipality

   Attention: Mr U von Molendorff (e-mail: ulrich.vonmolendorff@stellenbosch.gov.za)

2. P-J le Roux Town Planners

   Attention: Mr PJ le Roux (e-mail: pj@pjleroux.co.za)

3. Mr SW Carstens (e-mail)

Western Cape Government

Transport and Public Works
Vanessa Stoffels
Chief Directorate: Road Planning
Vanessa.Stoffels@westerncape.gov.za | Tel: 021 483 4669

Ref: 16/9/6/1-10/140 (Job 23997)

The Municipal Manager
Stellenbosch Municipality
PO Box 17
STELLENBOSCH
7599

Attention: Mr Urich von Molendorff

Dear Sir

PORTION 4 OF FARM MEERLUST 1006, PAARL: MAIN ROAD 191: APPLICATION FOR REZONING

1. The following refer:

1.1. Our letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021; and

1.2. The meeting this Branch had with Mr B du Preez representing Sturgeon Consulting on 19 August 2022.

2. Sturgeon Consulting requested the removal of Condition 13.13 from this Branch's letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021.

3. At the meeting held on 19 August 2022 this Branch agreed that both Farm 996 and Portion 3 of Farm 895 have existing legal and unfettered access off Main Road 172 and Main Road 191(via Minor Road 5231) over Farm 984.

4. Herewith this Branch agrees to the removal of Condition 13.13 as listed in its letter 16/9/6/1-10/140 (Job 23997) dated 7 April 2021 subject to all the other conditions listed in the letter being adhered to.

Yours Sincerely

SW CARSTENS
***For* DEPUTY DIRECTOR-GENERAL: ROADS**
DATE: 22 AUGUST 2022