Traffic Impact Assessment

For the Subdivision and rezoning of

Erf 1735, Sandbaai, Hermanus

Updated August 2025

CLIENT: Lighthouse Construction Erf 1735

COMPILED BY:

L de V Roodt Pr Eng PhD

Roodt Transport Safety Pty Ltd

21 Lucy Crescent, Stanhaven, Stanford, 7210

Cell (082) 575 3130

E-mail: roodttransportsafety@gmail.com

Cover Letter

It is herewith certified that this Traffic Impact Assessment has been prepared according to requirements of the South African Traffic Impact and Site Traffic Assessment Manual THM 16 Volume 1 (COTO 2012) and Volume 2 (COTO 2014) and the South African Trip Data Manual TMH 17 (COTO 2013).

This traffic impact assessment is for Erf 1735, Sandbaai, Hermanus: Application for Subdivision and rezoning.

The traffic impacts of the proposed residential development were evaluated as per the appropriate guidelines and found to not significantly reduce the current operational indicators at the intersections affected by the trips generated. No road infrastructure improvements are required other than the accesses to the development. Network upgrades that will be required for the development of Remainder Erf 2834 De Zandt will in future reduce the traffic volumes at the roundabout at Bergsig Street // Sandbaai Main Road.

The report was compiled by

Dr Louis de Villiers Roodt Pr Eng FSAICE

ECSA registration 820425

BEng Civil, MEng Transportation, PhD Civil Engineering

082 575 3130

roodttransportsafety@gmail.com

Lucy Crescent 21 Stanford, 7210,

I declare that I have the requisite qualifications and experience to undertake this work. I thereby sign and certify the traffic assessment and take responsibility for the assessment. I declare that I have no conflict of interest with regard to this application and development.

Signed Louis Roodt Pr Eng PhD Date 19 July 2025

Contents

1. BACKGROUND 4
2. DEVELOPMENT PROPOSAL 4
3. STUDY AREA 5
4. EXISTING TRANSPORT INFRASTRUCTURE 6
4.1 Route classification and descriptions 6
4.2 Bergsig Street // Sandbaai Main Road roundabout 7
5. TRANSPORT PLANNING 7
6. EXISTING TRAFFIC 8
6.1 Traffic counts October 2023 9
6.2 Traffic counts and observations November 2024 10
7. BACKGROUND TRAFFIC DEMAND ESTIMATION 12
8. DEVELOPMENT TRIPS 13
8.2 Trip Generation 13
8.3 Trip Distribution 14
9. TRAFFIC IMPACT 15
9.1 New exit opposite the Mall access on Bergsig Street 15
9.2 Roundabout at Bergsig Street / Sandbaai Main Road 16
10. ACCESS, INTERNAL ROADS AND PARKING 17
11. PUBLIC AND NON-MOTORISED TRANSPORT 18
12. CONCLUSIONS 18
13. RECOMMENDATIONS 19
Appendix A: De Zandt Article in Hermanus Times 27 November 2024 20

Figure 1: Site development plan 5
Figure 2: Locality plan 6
Figure 3: Trip distribution 14

Table 1: Traffic volumes 2023 at Sandbaai Main Road / Bergsig Street 9
Table 2**:** LOS with 2023 traffic volumes Sandbaai Main Road / Bergsig Street (SIDRA) 9
Table 3: LOS with 2023 traffic volumes Sandbaai Main Road / Bergsig Street (AUTOJ) 9
Table 4: LOS with 2024 traffic volumes Sandbaai Main Road / Bergsig Street (AUTOJ) 11
Table 5: Trip generation 14
Table 6: LOS at access on Bergsig Street / Mall access with development (AUTOJ) 15
Table 7: LOS at Main Road // Bergsig Street roundabout 17

1. BACKGROUND

Louis Roodt Pr Eng was appointed by the developer, Lighthouse Construction 1735, to update a Traffic Impact Assessment (TIA) that was done by Douw Louwrens in October 2023 for a proposed residential development on the Remainder of Erf 1735, Sandbaai, Overstrand Municipality. Credit is given to Douw Louwrens for sections quoted verbatim from his report.

Roodt compiled the updated TIA in November 2024, using 2024 traffic counts. The layout and number of units were reviewed and finalised in July 2025. The updated trip generation was used to revise the TIA and the date was changed to July 2025.

2. DEVELOPMENT PROPOSAL

The development is situated between Sandbaai Main Road and Schulphoek Street, to the south of the Bergsig Street access of Whale Coast Mall in Sandbaai. The development is bordered by Bergsig Street to the north and End Street to the south.

The application is for the rezoning and subdivision of R/Erf 1735 Sandbaai for 107 units in apartment blocks, and 27 one-, two- or three-bedroom townhouses. Please see the extract from the Site Development Plan (R/*Erf 1735, Sandbaai, Holloway and Davel Architects, dated: 9 July 2025*) as ***Figure 1***.

A two-lane entrance to the development is proposed off End Street opposite Louis Trichardt Street and two-lane exit only is proposed on Bergsig Street opposite the Mall access.

Figure 1: Site development plan

3. STUDY AREA

The primary study area was determined to include the access roads and high-order roads in the vicinity of the development. The following elements were included in the study area:

- Sandbaai Main Road (Minor Road 4008)
- Bergsig Street
- End Street
- The southern access of the Whale Coast Mall on Bergsig Street.

A secondary area and features that were observed and evaluated:

- Bergsig Street / Service Road 125 m east of the proposed exit
- Bergsig Street / Argon 400 m east of the proposed exit
- Bergsig Street / Schulphoek Road 560 m east of the proposed exit.

See **Figure 2**.

Figure 2: Locality plan

4. EXISTING TRANSPORT INFRASTRUCTURE

4.1 Route classification and descriptions

The existing transport infrastructure in the vicinity of the site was observed during site visits and traffic counts November 2024. The roads discussed below are shown in the Locality Plan **Figure 2**.

Sandbaai Main Road is an urban Class 3 Minor Arterial. The section between the R43 and Bergsig Street is a single-carriageway two-lane two-way road with surfaced shoulders and an urban cross section, including barrier kerbs and channels. Surfaced sidewalks are situated along both sides of the road between the Engen / Agrimark left in/out access and Bergsig Street. South of Bergsig Street, Sandbaai Main Road is a single-carriageway two-lane two-way road with an un-surfaced shoulder on the western side and a surfaced sidewalk on the eastern side down to Dirkie Uys / Jimmy Smith Streets (890 m).

Bergsig Street forms part of the planned urban Class 3 road to run parallel to the R43. East of Sandbaai Main Road / Bergsig Street is a single-carriageway two-lane two-way road with surfaced shoulders and an urban cross-section, including barrier kerbs and channels. Surfaced sidewalks are situated along both sides of the road. West of Sandbaai Main Road, Bergsig Street is a single-

carriageway two-lane two-way road with un-surfaced shoulders up to the approach to the Curro Road Roundabout where it changes again to a single-carriageway two-way road with surfaced shoulders and an urban cross-section, including surfaced sidewalks along both sides. Accesses along these sections of Bergsig Street are confined to residential complexes.

End Street is a Class 5 Local Street. It is a single-carriageway two-lane two-way road with a suburban cross-section. An un-surfaced sidewalk with edge beam is situated along the southern side of the road and a unsurfaced sidewalk mountable kerb along the northern side of the road. There are multiple direct property accesses off End Street.

4.2 Bergsig Street // Sandbaai Main Road roundabout

The previous TIA for this development that was done by Douw Lourens in 2023 distributed all the traffic from Erf R/1735 to the then proposed End Street access, resulting all the traffic using the Bergsig Street // Sandbaai Main Road roundabout. This TIA confirmed that the roundabout was already over capacity. It, however, relied on the following (also see Section 5 Transport Planning):

> *The Remainder Erf 2834 (De Zandt) Transport Impact Assessment (Deca Consulting Engineers dated June 2018) proposed the upgrade of the Sandbaai Main Road / Bergsig Street roundabout to accommodate two circulating lanes and additional short approach and exit lanes at the roundabout with the addition of Erf 2834's trips and increase in traffic volumes on Bergsig Street as a result of the proposed left in/out access off the R43*.

The Douw Lourens TIA was submitted and a discussion was held with the Senior Manager: Operational Services (Mr Dennis Hendricks) regarding the proposed upgrading of the Bergsig Street/Main Road traffic circle.

> *The Senior Manager: Operational Services indicated that the circle cannot be upgraded purely due to a lack of available road reserve/space. Further discussions were held with senior management of the Engineering Department who, in addition, indicated that the upgrading of the traffic circle in itself would most likely involve the expropriation of portions of adjacent residential erven – it will be investigated in future planning. In view of the aforesaid it is the opinion that the proposed development can therefore only contribute to worsen the current situation at the traffic circle."*

It is also my opinion that a double lane roundabout cannot be fitted in the available space, and that double lane roundabouts are confusion to the average driver, unless it is a turbo roundabout.

The dilemma was however eliminated when the OM officials suggested having an exit only from Erf R/1735 on Bergsig Street. This redirects 80% of the generated AM peak traffic away from the roundabout, and 20% is routed through the roundabout from the east and not the problematic south. All the generated PM traffic the use the roundabout to enter the development via End Street, but the general demand on the roundabout is less in the PM peak due to the reduced school traffic.

5. TRANSPORT PLANNING

Transport planning is contained in the Overstrand Transport Master Plan (EFG / ICE Group 2015) for future transport infrastructure in the Overstrand Municipal area, including report by EFG Engineers

on closing Onrus Main Road at the R43 and creating a new interchange east of the R43 bridge over the Onrus River. A route location study was conducted for the Hermanus CBD Link Road running parallel to the R43, connecting Fisherhaven through Hawston, Vermont, Onrusrivier, Sandbaai, and Mount Pleasant to Hermanus. Bergsig Street Extension / R43 Interchange

The Bergsig Street Extension / R43 Interchange plan proposes extending Onrus Main Road to Bergsig Street, incorporating it into the Hermanus Parallel Road. EFG Engineers' 2018 proposal involves extending Onrus Main Road to a new roundabout under the existing R43 bridge, connecting to R43 eastbound, R43 westbound, and Bergsig Street. Remainder Erf 2834 (De Zandt) developers plan to create a left in/out access off R43 westbound, providing an alternate route to Sandbaai and De Zandt development.

The extension of Onrus Main Road to Bergsig Street is expected to significantly increase traffic along this route. While the Overstrand Transport Master Plan designates Bergsig Street as a Class 3 road, sections have been built to Class 4 standards. When constructing new sections of the road, a design speed of 60 km/h with no direct property access, where feasible, is recommended. Additionally, establishing a road reserve of 20 meters is desirable.

In 2017, an access management plan for Bergsig Street was developed by Deca Consulting Engineers (dated August 22, 2017) to address the rationalization of existing substandard access points. The plan proposed two alternatives: one involved the creation of kerbed median islands with mini-roundabouts at key intersections, effectively converting most access points to left-in/left-out only. The second option suggested retaining the existing cross-section (without a median) while consolidating certain property accesses and closing others.

The Remainder of Erf 2834 (De Zandt) Transport Impact Assessment (Deca Consulting Engineers dated June 2018) proposed the upgrade of the Sandbaai Main Road / Bergsig Street roundabout to accommodate two circulating lanes and additional short approach and exit lanes at the roundabout with the addition of Erf 2834's trips and increase in traffic volumes on Bergsig Street as a result of the proposed left in/out access off the R43. No specific timelines for these improvements and upgrades are available as they depend on development progress.

An article in the Hermanus Times of 27 November 2024 indicates that phased development may start in 2025. See Appendix A.

I was not provided with a TIA for the Curro School. The school was under construction in the 1 July 2012 Google Earth images. The current traffic operations, especially at the Bergsig Street / Main Road roundabout, indicate that the school could not have been considered without a TIA, as the school traffic dominates the operations. The TIA for Erf 2834 De Zandt in 2018 accepted the school as a given. The school may have been approved, despite the anticipated impact on the roundabout, because it was accepted that the development on Erf 2834 would commence soon after 2018 and the new road network would carry the school traffic. Similarly, I expect that the additional traffic on the roundabout created by residential development in Sandbaai, can rely on the assumption of the school traffic to be diverted in future.

6. EXISTING TRAFFIC

6.1 Traffic counts October 2023

For the 2023 TIA by Douw Lourens, traffic counts were done at the Sandbaai Main Road / Bergsig Street and Sandbaai Main Road / End Street intersections on Tuesday, 17 October 2023. The counts are summarised in table below. These counts were taken into account, as the counts may not have been affected by school exams as the counts done in November 2024.

Table 1: Traffic volumes 2023 at Sandbaai Main Road / Bergsig Street

AutoJ

Sandbaai Main Road & Bergsig Street

Erf 1735 Sandbaai 2023

&AutoJ 1910 roodt

RR | **Roundabout, yield on all approaches**

Volume (evu/hr)

	from North					from South					from West					from East					intersection
	peds	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	total
AM		104	349	522	976		52	483	182	716		129	49	6	185		75	152	135	362	**2 238**
off																					
PM		136	363	118	617		115	374	56	544		477	155	22	655		345	147	104	596	**2 412**

The affected intersections were analysed in 2023 using SIDRA software. These traffic simulation models calculate movements and intersection delays and assigns a service level based on the duration of the delay. A level of service A denotes an excellent service level with very little delay, whereas a level of service F represents over capacity, very long delays and a breakdown in operations. A level of service D is generally taken as the lowest acceptable standard.

The 2023 results of the SIDRA analysis by Douw Lourens are summarised in **Table 2**.

Table 2: LOS with 2023 traffic volumes Sandbaai Main Road / Bergsig Street (SIDRA)

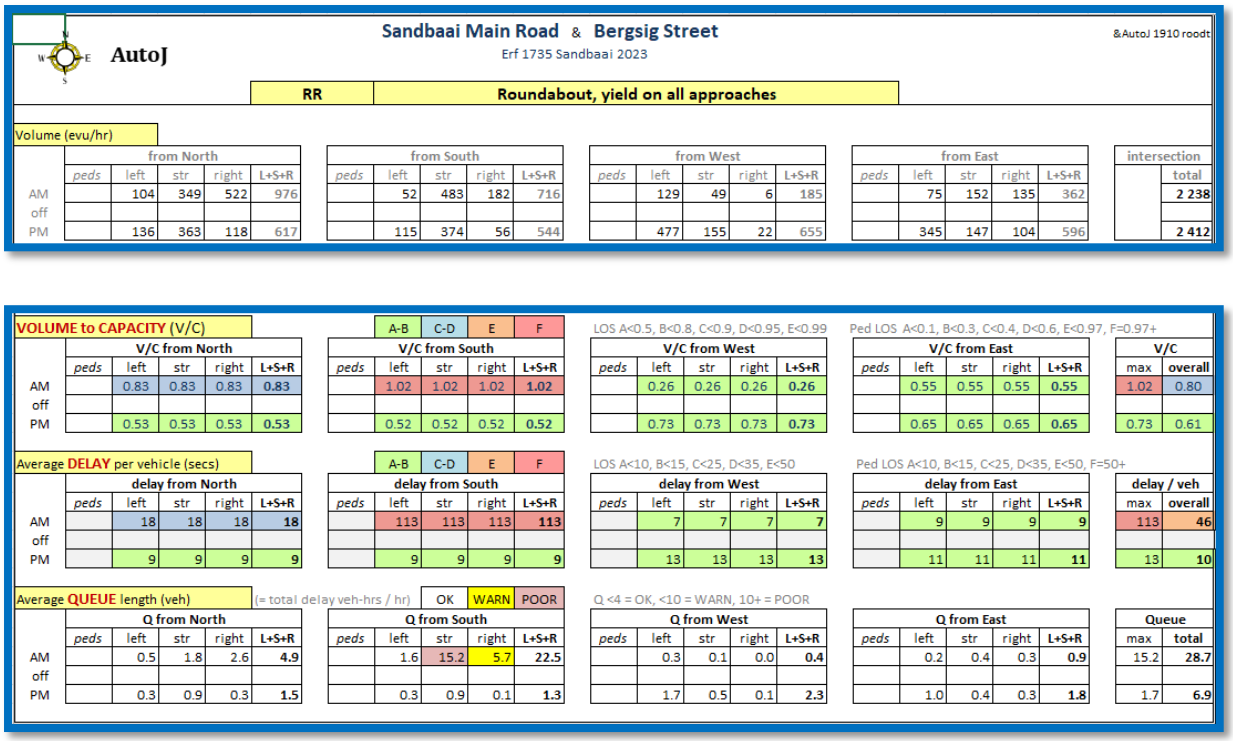
Intersection	Control	Morning Peak Hour			Afternoon Peak Hour		
		Intersection LOS	Avg delay	LOS Worst movement	Intersection LOS	Avg delay	LOS Worst movement
Bergsig /Main	Round-about	C	33.8	F	A	7.9	B
Main/ End	Stop Minor	A	3.1	C	A	2.1	C

The Main Road / End Street intersection currently operate at good service levels.

The 2023 traffic counts were also used in a AUTOJ model and the results are similar, but given in more detail in **Table 3**.

Note: AUTOJ is a traffic intersection evaluation model developed by Dr John Sampson. It is based on the Highway Capacity Manual methodologies, but calibrated for South African conditions.

Table 3: LOS with 2023 traffic volumes Sandbaai Main Road / Bergsig Street (AUTOJ)



AutoJ

Sandbaai Main Road & Bergsig Street

Erf 1735 Sandbaai 2023

&AutoJ 1910 roodt

RR — **Roundabout, yield on all approaches**

Volume (evu/hr)

	from North					from South					from West					from East					intersection	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R		total
AM		104	349	522	976		52	483	182	716		129	49	6	185		75	152	135	362		2 238
off																						
PM		136	363	118	617		115	374	56	544		477	155	22	655		345	147	104	596		2 412

VOLUME to CAPACITY (V/C) — A-B | C-D | E | F

LOS A<0.5, B<0.8, C<0.9, D<0.95, E<0.99 — Ped LOS A<0.1, B<0.3, C<0.4, D<0.6, E<0.97, F=0.97+

	V/C from North					V/C from South					V/C from West					V/C from East					V/C	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R		max	overall
AM		0.83	0.83	0.83	0.83		1.02	1.02	1.02	1.02		0.26	0.26	0.26	0.26		0.55	0.55	0.55	0.55		1.02	0.80
off																							
PM		0.53	0.53	0.53	0.53		0.52	0.52	0.52	0.52		0.73	0.73	0.73	0.73		0.65	0.65	0.65	0.65		0.73	0.61

Average **DELAY** per vehicle (secs) — A-B | C-D | E | F

LOS A<10, B<15, C<25, D<35, E<50 — Ped LOS A<10, B<15, C<25, D<35, E<50, F=50+

	delay from North					delay from South					delay from West					delay from East					delay / veh	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R		max	overall
AM		18	18	18	18		113	113	113	113		7	7	7	7		9	9	9	9		113	46
off																							
PM		9	9	9	9		9	9	9	9		13	13	13	13		11	11	11	11		13	10

Average **QUEUE** length (veh) — (= total delay veh-hrs / hr) — OK | WARN | POOR

Q <4 = OK, <10 = WARN, 10+ = POOR

	Q from North					Q from South					Q from West					Q from East					Queue	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R		max	total
AM		0.5	1.8	2.6	4.9		1.6	15.2	5.7	22.5		0.3	0.1	0.0	0.4		0.2	0.4	0.3	0.9		15.2	28.7
off																							
PM		0.3	0.9	0.3	1.5		0.3	0.9	0.1	1.3		1.7	0.5	0.1	2.3		1.0	0.4	0.3	1.8		1.7	6.9

The Sandbaai Main Road / Bergsig Street roundabout have unacceptable long delay during the morning peak hour on the southern Sandbaai Main Road approach. This can be ascribed to the large volume of right-turning vehicles from the northern Sandbaai Main Road approach (from R43) onto Bergsig Street westbound in the direction of the Curro Hermanus School, cutting off access to the roundabout due to giving way to traffic from the right (on circulatory lane).

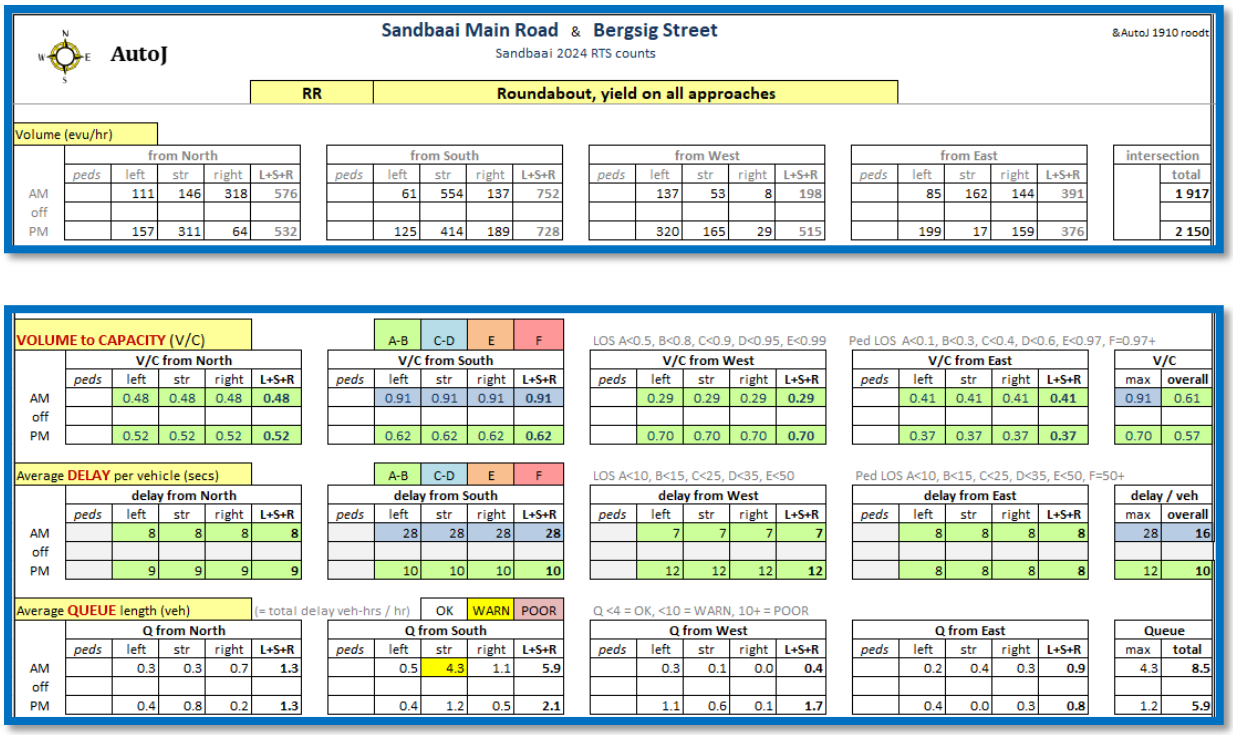
The Remainder of Erf 2834 (De Zandt) Transport Impact Assessment proposed the upgrade of the Sandbaai Main Road / Bergsig Street roundabout with the addition of Erf 2834's trips and increase in traffic volumes on Bergsig Street as a result of the proposed left in/out access off the R43. The R43 access has however not been implemented, and Erf 2834 has not been developed at this time. These proposed upgrades to the roundabout are however already required as a result of normal traffic growth in the area since 2018. The TIA for the development of Erf 2834 will have to be redone and cannot be approved without requiring a full access on the R43 to also serve the Curro School, as the roundabout is already over capacity.

6.2 Traffic counts and observations November 2024

The 2024 traffic count was also used for operational analysis. See **Table 4**. It was noted that the traffic volumes, especially to the school, was lower. This could be explained by examinations in November, resulting in less early morning trips.

The worst performing approach is again from the south, but with the lower volumes, the approach operates at LOS D.

Table 4: LOS with 2024 traffic volumes Sandbaai Main Road / Bergsig Street (AUTOJ)



AutoJ

Sandbaai Main Road & Bergsig Street

Sandbaai 2024 RTS counts

&AutoJ 1910 roodt

RR	Roundabout, yield on all approaches

Volume (evu/hr)

	from North					from South					from West					from East					intersection
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	total
AM		111	146	318	576		61	554	137	752		137	53	8	198		85	162	144	391	**1 917**
off																					
PM		157	311	64	532		125	414	189	728		320	165	29	515		199	17	159	376	**2 150**

VOLUME to CAPACITY (V/C) — A-B | C-D | E | F — LOS A<0.5, B<0.8, C<0.9, D<0.95, E<0.99 — Ped LOS A<0.1, B<0.3, C<0.4, D<0.6, E<0.97, F=0.97+

	V/C from North					V/C from South					V/C from West					V/C from East					V/C	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		0.48	0.48	0.48	**0.48**		0.91	0.91	0.91	**0.91**		0.29	0.29	0.29	**0.29**		0.41	0.41	0.41	**0.41**	0.91	0.61
off																						
PM		0.52	0.52	0.52	**0.52**		0.62	0.62	0.62	**0.62**		0.70	0.70	0.70	**0.70**		0.37	0.37	0.37	**0.37**	0.70	0.57

Average DELAY per vehicle (secs) — A-B | C-D | E | F — LOS A<10, B<15, C<25, D<35, E<50 — Ped LOS A<10, B<15, C<25, D<35, E<50, F=50+

	delay from North					delay from South					delay from West					delay from East					delay / veh	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		8	8	8	**8**		28	28	28	**28**		7	7	7	**7**		8	8	8	**8**	28	**16**
off																						
PM		9	9	9	**9**		10	10	10	**10**		12	12	12	**12**		8	8	8	**8**	12	**10**

Average QUEUE length (veh) — (= total delay veh-hrs / hr) — OK | WARN | POOR — Q <4 = OK, <10 = WARN, 10+ = POOR

	Q from North					Q from South					Q from West					Q from East					Queue	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	total
AM		0.3	0.3	0.7	**1.3**		0.5	4.3	1.1	**5.9**		0.3	0.1	0.0	**0.4**		0.2	0.4	0.3	**0.9**	4.3	**8.5**
off																						
PM		0.4	0.8	0.2	**1.3**		0.4	1.2	0.5	**2.1**		1.1	0.6	0.1	**1.7**		0.4	0.0	0.3	**0.8**	1.2	**5.9**

The Mall access was counted in the AM and PM peak periods on a Friday in 2024. The AM demand was limited, as the shops open at 9:00. The PM demand was significant, but queues are short and dissipate quickly. The AUTOJ modelling shows a LOS A (see Section 9.1).

The Mall access was counted again on 18 July 2025 as the access is now controlled by a Three-way STOP. The traffic flows were less than the 2024 counts. It was observed that the all way STOP control functions very well and no queues were observed.

Observations were made at the following intersections:

- The three-way STOP controlled T-junction of Bergsig Street and the service road on the east side of the Mall, giving access to Sandy Cove Estate. In 2024, very low demand was observed on the service road. It seemed that drivers regard the STOPs in Bergsig Street as unnecessary as conflicting traffic is rare and they often do only a partial stop. Removing this STOP control was justified, and implemented by the municipality. In 2025 it was observed that moving the STOP control to the Mall access, where conflicting traffic due to movement to and from the Mall occurs, had lead to better driver behaviour as the control is more justified and credible.
- Bergsig Street/ Argon Avenue leads to the industrial areas south and north of the intersection. Low volumes of traffic were observed on Argon Avenue and the traffic on Bergsig Street was not impeded.
- Bergsig Street / Schulphoek Road is controlled by a roundabout. The traffic flows well and no significant queuing on the approaches were observed. The general observation is typical of LOS A/B. Two exceptional situations occurred in the AM peak when deliveries of aggregate to the Lenvalco concrete works were made. The deliveries were made using a articulated

Heavy Goods Vehicle consisting of a truck-tractor with a 15 m tipper trailer. The truck drove up to the yield line of the roundabout, while a worker stopped vehicles coming from the west at a position that allowed the truck to reverse into the Lenvalco yard. One of the drivers aligned the trailer properly and managed to get off the road in a short time, but the other driver had to go back and forth a number of times to align the trailer. These deliveries obstructed flow in both east and west directions, but the queues were not significant and after the truck cleared the road, the queues dissipated within a minute.

7. BACKGROUND TRAFFIC DEMAND ESTIMATION

The TMH16 Traffic Impact Assessment Manual suggests that background traffic demand should be estimated for the design horizon and the planning horizon. The design horizon is the year when the development will be completed and the planning horizon is the year when the entire area in which the development is located, will be developed.

It is anticipated that the development will be completed by the end of 2025 which makes this the development horizon. The site is located in a developing suburban development environment, where high density residential estates are permitted north of End Street, but the scope for further densification is limited as only two open erven could be identified on Google Earth. As such the traffic for the 20-year planning horizon was not escalated using a growth percentage, but taken as the same as the design horizon.

The more prominent development is that of Remainder Erf 2834 (De Zandt). The development has not progressed from 2018 and phasing and completion timeframes are uncertain. The Hermanus Times of 27 November 2024 indicated that development will start in 2025, but will be developed in phases. As provision of bulk services have not been started, the development horizon was taken as later than 2025. It was assumed that this development will only be permitted if access from the R43 will be provided by means of the proposed interchange at the Onrus River bridge, as the Bergsig Street / Main Road roundabout is already over capacity.

In the 2023 TIA by Lourens, the background traffic for Sandbaai Main Road was estimated using the growth method.

> *Background traffic demand is constituted of two components: percentage growth and traffic build-up from other developments. An annual traffic growth rate of 3,17% was obtained from the Western Cape Government Road Network Information System (https://rnis.westerncape.gov.za/rnis/rnis_web_reports.main) for Sandbaai Main Road which was used to calculate the increase in traffic in the study area. No additional growth was applied*.

The traffic growth on Sandbaai Main Road is however independent of the R43 traffic growth as the R43 serves a regional need, while the Sandbaai Main Road serves a finite local area (excluding de Zandt) with limited growth.

The TMH 16 requires a planning horizon to be analyses, typically 20 years after the design horizon. It is proposed that such an analysis would be too complex as it will have to take the traffic and phasing of the future developments, including that on Erf 2835, and various road network upgrades into account. The size and residential nature of the proposed development on Erf 1735 is limited and its

impact will be negligible in a 20-year scenario. As such, the 20-year planning horizon was not investigated.

8. DEVELOPMENT TRIPS

8.2 Trip Generation

This 2025 TIA was necessitated due to the proposed exit from Erf 1735 on Bergsig Street opposite the Mall access that changed the trip distribution. The revised trip distribution also affects other intersections. These are the Mall access and junctions and intersections to the east thereof.

Trip generation rates were obtained from the COTO TMH17 Trip Data Manual. The document indicates a rate of 0,65 trips per unit for the AM peak hour with a 25:75 in:out split and 0,65 trips per unit for the PM peak hour with a 70:30 in:out split for apartments and flats. These rates were applied to the proposed development.

220 Apartments and Flats									**1 D/Unit**
Description	AM Peak	PM Peak	Friday PM	Midday	Evening	Saturday	Sunday	Factor A	Factor B
Trip Rate	0.65	0.65				0.35	0.35		
% Heavy									
In/Out	25:75	70:30				50:50	50:50		

The trip generation for Townhouses is 0.85 trips in both peaks with AM peak hour split of 25:75 in:out and the PM peak hour split of 70:30 in:out split.

231 Townhouses (Simplexes and Duplexes)									**1 D/Unit**
Description	AM Peak	PM Peak	Friday PM	Midday	Evening	Saturday	Sunday	Factor A	Factor B
Trip Rate	0.85	0.85				0.45	0.45		
% Heavy									
In/Out	25:75	70:30				50:50	50:50		

The development's trip generation is summarised in **Table 5**.

Table 5: Trip generation

	Units	Trip rate	Trip	Split In	Split Out	Trips in AM	Trips out AM	Trips in PM	Trips out PM
Apartments AM	107	0.65	54	0.25	0.75	17	52		
Apartments PM	107	0.65	54	0.7	0.3			49	21
Townhouses AM	27	0.85	43	0.25	0.75	6	17		
Townhouses PM	27	0.85	43	0.7	0.3			16	7
					Total	23	69	65	28

8.3 Trip Distribution

The exiting trips were distributed along Bergsig Street using a directional split of 80% towards Hermanus CBD (to the east) and 20% towards the roundabout at Sandbaai Main Road. The entering trips were distributed to the access in End Street after going through the roundabout.

The trip distribution is shown in ***Figure 3***.

Figure 3: Trip distribution

9. TRAFFIC IMPACT

Trips generated by the proposed development were added to background 2025 traffic volumes to obtain total traffic volumes. The affected intersections were again analysed with the increased traffic volumes to determine the traffic impact of the development.. Total traffic volumes and service levels are shown in **Tables 6 and 7**.

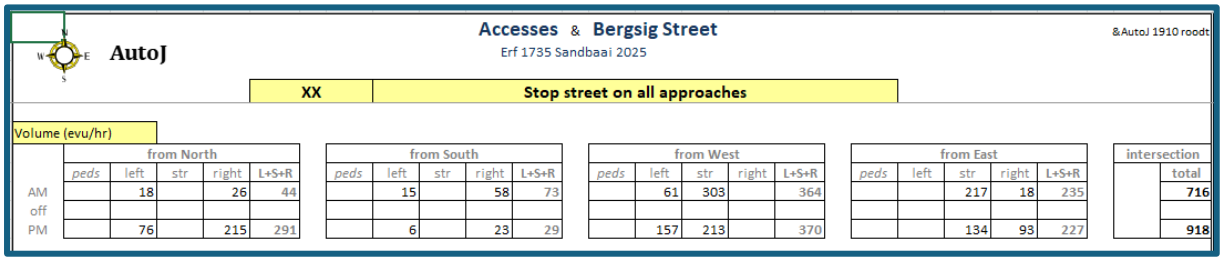
9.1 New exit opposite the Mall access on Bergsig Street

The current (2025) access is a T-junction on Bergsig Street with Three-way STOP control, which was implemented since the 2024 counts. The AM LOS A operations was confirmed with the AUTOJ model. The PM observations on a Friday revealed short bursts of queuing of the right turn movement from the Mall, that dissipated quickly. The PM LOS A is confirmed with the AUTOJ model.

The Three-way STOP junction PM peak was counted on 18 July 2025 to see the effect of the all-way stop that was implemented since the count in 2024. This count was in the school holiday and volumes may be affected by this. However, it was observed that there are many periods of no traffic demand and no queueing, confirming that there is excess capacity.

The new exit from the development was added to the network opposite the Mall access. The 73 AM and 29 PM trips from the development were accommodated by converting the current Three-way STOP to a Four-way STOP. The resulting operational performance as modelled in AUTOJ is at LOS A in AM and PM.

Table 6: LOS at access on Bergsig Street / Mall access with development (AUTOJ)



AutoJ

Accesses & Bergsig Street

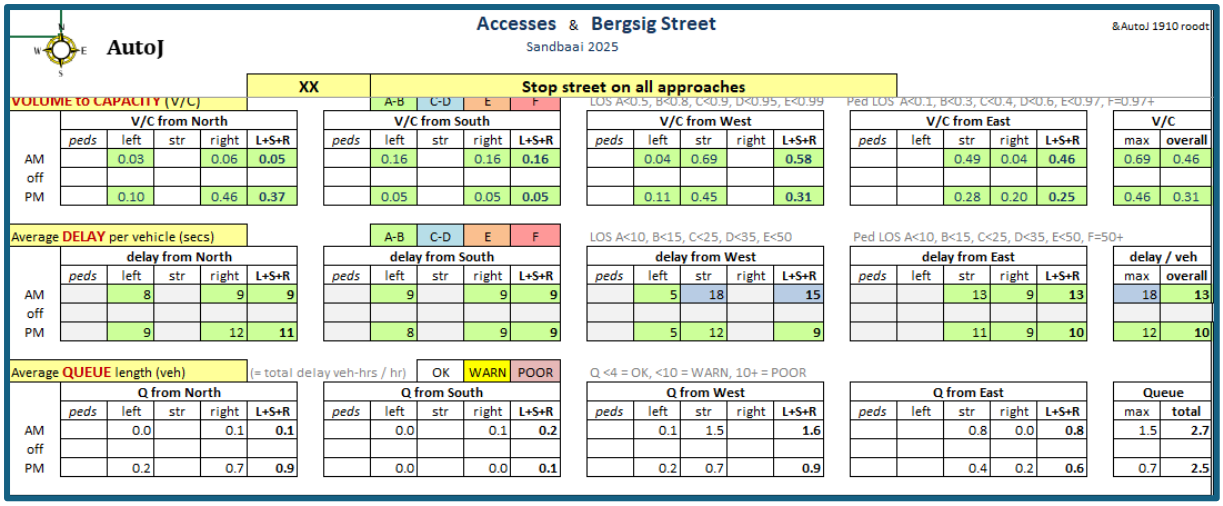
Erf 1735 Sandbaai 2025

&AutoJ 1910 roodt

XX	Stop street on all approaches

Volume (evu/hr)

	from North					from South					from West					from East					intersection
	peds	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	*peds*	left	str	right	L+S+R	total
AM		18		26	44		15		58	73		61	303		364			217	18	235	**716**
off																					
PM		76		215	291		6		23	29		157	213		370			134	93	227	**918**



AutoJ

Accesses & Bergsig Street

Sandbaai 2025

&AutoJ 1910 roodt

XX | Stop street on all approaches

VOLUME to CAPACITY (V/C) | A-B | C-D | E | F | LOS A<0.5, B<0.8, C<0.9, D<0.95, E<0.99 | Ped LOS A<0.1, B<0.3, C<0.4, D<0.6, E<0.97, F=0.97+

	V/C from North					V/C from South					V/C from West					V/C from East					V/C	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		0.03		0.06	**0.05**		0.16		0.16	**0.16**		0.04	0.69		**0.58**			0.49	0.04	**0.46**	0.69	0.46
off																						
PM		0.10		0.46	**0.37**		0.05		0.05	**0.05**		0.11	0.45		**0.31**			0.28	0.20	**0.25**	0.46	0.31

Average DELAY per vehicle (secs) | A-B | C-D | E | F | LOS A<10, B<15, C<25, D<35, E<50 | Ped LOS A<10, B<15, C<25, D<35, E<50, F=50+

	delay from North					delay from South					delay from West					delay from East					delay / veh	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		8		9	**9**		9		9	**9**		5	18		**15**			13	9	**13**	18	**13**
off																						
PM		9		12	**11**		8		9	**9**		5	12		**9**			11	9	**10**	12	**10**

Average QUEUE length (veh) | (= total delay veh-hrs / hr) | OK | WARN | POOR | Q <4 = OK, <10 = WARN, 10+ = POOR

	Q from North					Q from South					Q from West					Q from East					Queue	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	total
AM		0.0		0.1	**0.1**		0.0		0.1	**0.2**		0.1	1.5		**1.6**			0.8	0.0	**0.8**	1.5	**2.7**
off																						
PM		0.2		0.7	**0.9**		0.0		0.0	**0.1**		0.2	0.7		**0.9**			0.4	0.2	**0.6**	0.7	**2.5**

9.2 Roundabout at Bergsig Street / Sandbaai Main Road

The traffic volumes were counted by Douw Lourens in 2023 and by Louis Roodt in 2024. The Curro School to the west of the roundabout is a significant trip generator. The school has 115 staff members and 900 learners. 20% comes to school by bus. (Source: School office). However, examinations for all grades take place from mid-November to school holiday and could be the explanation for the lower counts of 2024 compared to 2023, from specifically the AM north to west movement.

The AUTOJ model of the 2023 traffic volumes shows the south approach over capacity with a V/C of 1.02 and LOS F.

The AUTOJ model of the existing 2024 traffic AM volumes shows LOS B on the approach from the north and LOS D on the approach from south. One of the reasons for the specific problem from south is that vehicles from north to west (parents dropping-off learners at Curro) block the entry of vehicle from the south. The high volume of vehicles from Sandbaai on the south approach thus suffer the most. A short-term queue was observed on the approach from the west (parents returning from dropping-off learners at Curro), right at the end of the 7:45 to 8:00 interval. By then there was no traffic from the north going to the school that would have blocked entry from the south, so the traffic from the south now blocked the traffic from the west. This was not confirmed in the AUTOJ model, as the model evens out the short-term fluctuations. The change in operations from the addition of 24 + 5 = 29 AM vehicles on the roundabout cannot be detected with the model.

The AUTOJ model of the PM traffic operates at LOS A/B for the north, east and west approaches and the south approach at LOS C/D. The effect of 54 + 14 = 68 PM trips from the development routed through the roundabout cannot be detected.

A third scenario was investigated by taking the averages of traffic volumes between the 2023 and 2024 traffic counts plus the development trips. The north, west and east approaches operate at LOS A/B and the south approach at LOS E in the AM peak. The LOS E is proposed to be acceptable in the short term, as the network upgrade for Remainder Erf 2834 (De Zandt) will redirect trips, especially school trips, away from the roundabout.

No upgrades will be required to the existing infrastructure to accommodate the development. It can be concluded that the proposed development on Remainder Erf 1735 Sandbaai will have a low and localised transport impact.

Table 7: LOS at Main Road // Bergsig Street roundabout

AutoJ — **Sandbaai Main Road & Bergsig Street** — Erf 1735 Sandbaai 2025 with development — &AutoJ 1910 roodt

RR — Roundabout, yield on all approaches

Volume (evu/hr)

	from North					from South					from West					from East					intersection
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	total
AM		108	253	420	782		53	519	160	731		133	53	7	193		99	157	140	396	2 102
off																					
PM		147	351	94	593		120	394	123	636		399	171	26	596		326	113	132	571	2 395

VOLUME to CAPACITY (V/C) — A-B C-D E F — LOS A<0.5, B<0.8, C<0.9, D<0.95, E<0.99 — Ped LOS A<0.1, B<0.3, C<0.4, D<0.6, E<0.97, F=0.97+

	V/C from North					V/C from South					V/C from West					V/C from East					V/C	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		0.66	0.66	0.66	0.66		0.96	0.96	0.96	0.96		0.28	0.28	0.28	0.28		0.50	0.50	0.50	0.50	0.96	0.70
off																						
PM		0.55	0.55	0.55	0.55		0.60	0.60	0.60	0.60		0.74	0.74	0.74	0.74		0.60	0.60	0.60	0.60	0.74	0.62

Average DELAY per vehicle (secs) — A-B C-D E F — LOS A<10, B<15, C<25, D<35, E<50 — Ped LOS A<10, B<15, C<25, D<35, E<50, F=50+

	delay from North					delay from South					delay from West					delay from East					delay / veh	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	overall
AM		11	11	11	11		45	45	45	45		7	7	7	7		9	9	9	9	45	22
off																						
PM		9	9	9	9		10	10	10	10		13	13	13	13		10	10	10	10	13	10

Average QUEUE length (veh) (= total delay veh-hrs / hr) — OK WARN POOR — Q <4 = OK, <10 = WARN, 10+ = POOR

	Q from North					Q from South					Q from West					Q from East					Queue	
	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	peds	left	str	right	L+S+R	max	total
AM		0.3	0.8	1.3	2.4		0.7	6.6	2.0	9.2		0.3	0.1	0.0	0.4		0.2	0.4	0.3	0.9	6.6	12.9
off																						
PM		0.4	0.9	0.2	1.5		0.3	1.1	0.3	1.7		1.4	0.6	0.1	2.1		0.9	0.3	0.4	1.6	1.4	6.9

10. ACCESS, INTERNAL ROADS AND PARKING

The development will obtain entrance only from End Street opposite Louis Trichardt Street, approximately 280 metres from Sandbaai Main Road.

Stop control should be implemented on the Louis Trichardt Street approach leg, which is currently yield-controlled.

An exit only point will be provided on Bergsig Street opposite the Mall access. This intersection will then be Four-way STOP controlled, as proposed by the Traffic Engineering Section of the municipality.

The Site Development Plan indicates two entry lanes from End Street. Based on a maximum of 68 inbound trips during the afternoon peak hour, booms or access gates should be situated at least 17,0 metres from the edge of End Street. This should allow for a total stacking space of 34 metres.

A refuse area will be provided east of the access along the southern boundary of the site. A formal refuse embayment adjacent to the refuse area along End Street is not deemed necessary due to the low order of End Street and adequate sight distances along this section of the road. Refuse vehicles can stop along the un-surfaced verge of End Street to collect refuse.

Parking will be provided according to the 2020 Overstrand Municipality Land Use Scheme. There is sufficient space to provide the parking bays and manoeuvring space behind them.

11. PUBLIC AND NON-MOTORISED TRANSPORT

The proposed development is not expected to generate a considerable number of pedestrian trips on the surrounding road network. The access on the northern property boundary lines up with the access to the Mall. It is expected that residents can walk to the Mall for shopping. The proposed four-way stop will ensure safe crossings for pedestrians. Surfaced sidewalks are located along both sides of Bergsig Street adjacent to the property,

No other non-motorised or public transport improvements will be required.

12. CONCLUSIONS

From the Transport Impact Assessment, it can be concluded that

- The proposed development of Remainder of Erf R/1735 Sandbaai will have a low and localised transport impact.
- The application is for the rezoning and subdivision of Erf R/1735 Sandbaai and entails 107 apartments and 27 two and three-bedroom townhouse units;
- The development will obtain full access from End Street opposite Louis Trichard Street, approximately 280 metres east of Sandbaai Main Road and an exit only point on Bergsig Street, opposite the Whale Coast Mall;
- The development will generate 97 trips (24 in; 73 out) during AM peak and the reverse 97 trips (68 in; 29 out) during the afternoon peak hour;
- The Site Development Plan indicates sufficient space for the required off-street parking bays, to be finalised at building plan stage;
- The Site Development Plan indicates a two-way internal circulatory road 5,5 m wide, a minimum of 7,5-metre wide manoeuvring space behind each 2,5m x 5,0m parking bay;
- A refuse room will be located adjacent to the access off End Street. Refuse vehicles can stop along the un-surfaced verge of End Street to collect refuse;
- The proposed development is not expected to generate a considerable number of pedestrian trips on the surrounding road network. The development is however well-serviced in terms of non-motorised and public transport infrastructure and no improvements will be required;
- The traffic movements from the south at the Sandbaai Main Road / Bergsig Street roundabout currently operate at low levels of service during the morning peak hour. The roundabout cannot be upgraded to two circulating lanes due to space constraints;
- The imminent development of Remainder Erf 2834 (De Zandt) will be required to do several road network improvements that will reduce the traffic at the roundabout through more direct access from the R43;
- No upgrades will be required to existing transport infrastructure to accommodate the development by 2025;

13. RECOMMENDATIONS

The Traffic Impact Assessment recommendations made for the development of the Remainder of Erf R/1735 Sandbaai are summarised below.

- No upgrades on the Sandbaai Main Road / Bergsig Street roundabout are possible. The capacity problems in existing morning peak-hour traffic are primarily due to the Curro School and this will be corrected when the Erf 2835 (de Zandt) development will take place in the form of network improvements. These improvements should not be a prerequisite for the approval of the development on Erf R/1735;
- The development of De Zandt will create new road infrastructure that will divert a significant proportion of the Curro school traffic from the Sandbaai Main Road / Bergsig Street roundabout;
- A dedicated exit from development on Erf R/1735 on Bergsig Street opposite the Whale Coast Mall can be provided and will limit impact on the Bergsig Street / Sandbaai Main Road roundabout;
- The intersection so created by the exit, the Mall access and Bergsig Street will be Four-way STOP control.
- Stop control should be implemented on the Louis Trichardt Street approach leg to End Street, which is currently yield-controlled;
- Booms or access gates at the development's access on End Street should be situated at least 17,0 metres from the edge of the road to provide for 34,0 metres of stacking space.

Appendix A: De Zandt Article in Hermanus Times 27 November 2024

Advertorial

Hermanus Times 27 November 2024 p 14

De Zandt project will commence in 2025

Investing in South Africa can make sense and will reward the astute investor. Property as an investment class should be looked at with a medium- to long-term time horison in mind.

Dalebrook Capital (Pty) Ltd as a global investment house identified the property market in the Western Cape region as being an outperforming region.

The Overberg with its quirky little towns is becoming increasingly popular as a destination for both local and foreign individuals, stated Dalebrook Capital's Director Jan van Staden, who's also CEO of its holding company, the IFSP Group. He says within the Overberg region Hermanus is the crown jewel and shows a demographic growth of just under 5% per annum.

As a resident Van Staden personally has seen this growth over many years, and it came to his attention that local investors were hungry to invest in projects or developments close to home where such projects or developments can benefit the community in a positive way.

It has admittedly taken a while, but the Hermanus community will see lots of activity at De Zandt, commencing 2025. The lifestyle development will span over five to seven years with multiple phases, including a retirement village, mixed residential accommodation as well as commercial developments.

At R3 billion the development is one of the largest the Overberg region has ever seen. According to external and independent research, and surveying, the De Zandt development is expected to generate an internal rate of return of at least 20% per year.

Investing in property development is not for the faint-hearted; the IFSP group is extremely cautious in its approach to ensuring an alternative investment such as the De Zandt development fits in with the client's personal investment objectives.

Dalebrook Capital is involved in other property investments in the region through the IFSP Group's Cape Capital Property Fund. These investments include an industrial zoning in Botrivier and a residential development in Gansbaai.

According to Van Staden, property investments in the Western Cape will achieve long-term investment growth of 3% above inflation (3% real return).

Property as an asset class helps to diversify risk and creates stability within the investment portfolio with the bonus of enhanced income streams.

Dalebrook is extremely cautious in its approach to ensure that an alternative investment such as the De Zandt development fits in with the client's personal investment objectives.

● **For further information, contact André Steenkamp on 082 879 8819 or andre@dalebrookcapital.co.za, or Van Staden on 082 784 7446 or email jan@dalebrookcapital.co.za.**

Jan van Staden, director of Dalebrook Capital (Pty) Ltd and CEO of its holding company, the IFSP Group, gives his take on the De Zandt development for investors.