

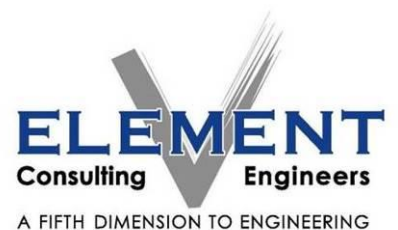
PROPOSED DEVELOPMENT OF TERGNIET LANDGOED ON FARM 136 PTN 38, TERGNIET, MOSSEL BAY



TRAFFIC IMPACT STATEMENT

REVISION 0

JANUARY 2025



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TERGNIET LANDGOED
ON FARM 136 PTN 38,
TERGNIET, MOSSEL BAY**

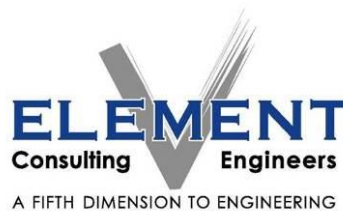
TRAFFIC IMPACT STATEMENT

REVISION 0

JANUARY 2025

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1 INTRODUCTION

1.1 Background

Element Consulting Engineers (ECE) has been appointed to undertake a traffic impact statement for the proposed development of Tergniet Landgoed, Tergniet, Mossel Bay.

1.2 Proposed development

The proposed development envisages the development of 146 medium density residential erven.

1.3 Locality and access

The proposed development of Tergniet Landgoed, Tergniet, Mossel Bay, is on portion 38 of Farm 136, Tergniet, approximately 5km west of Great Brak River in the Mossel Bay Municipal area. The property is located inside the urban edge. The site is bound by the railway line to the south and existing residential erven on the other boundaries. The site is intersected by Impala Road, a municipal collector road. Figure 1 below indicates this locality in additional detail.



Figure 1: Locality plan

Access to both portions 1&2 of the development is proposed from Impala Street, a municipal minor collector road, intersecting the property. The specific access point proposed and discussed is located at a point approximately halfway between the railway crossing and Steenbras Street. This layout provides for an acceptably spaced intersection layout of 109m to the railway crossing and 109m to Steenbras Street, with a speed limit of 60km/h on Impala Road, a minor collector road.

Sight distance at the proposed access point is acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width.

Emergency exits will be provided, as permanently locked gates as part of the perimeter fence, on the south-western corner of portion 1, as well as on the south-eastern corner of portion 2 (refer site development plan).



Figure 2: Proposed access

1.4 Site Development Plan

The proposed development of Tergniet Landgoed, Tergniet, Mossel Bay, entails the proposed development of 146 medium density residential erven. This scenario can be viewed as the ultimate scenario as no additional development will be possible on the site when fully developed.

A preliminary Site Development Plan (SDP), as prepared by Smuts De Kock Architects, is presented in the diagram below.



Figure 3: Site development plan (SDP)

1.5 Classification of Impala Road

Impala Street can be classified as a municipal minor collector road and carries a very slight traffic load. This low traffic volume can be attributed to the relatively small residential area of Tergniet it serves with no through-access to other areas. Although peaks can be observed during morning and evening peak hours as traffic from Tergniet towards Mossel Bay and George utilizes mainly this road, these peaks are extremely slight, compared to peaks in the urban environment. During the remainder of the day, the road is extremely slightly trafficked.

1.6 Public Transport Routes

No official public transport routes are located close to the proposed development, although minibus taxis do utilize Impala Road on an unofficial basis.

1.7 Other developments

From a traffic engineering perspective, the Tergniet area is a low growth area as the area is largely built-up with little to no remaining development land. Furthermore, Tergniet is a small and enclosed area with no through traffic possible, the only trips hence utilizing Impala Road is those to and from the Tergniet area.

1.8 Purpose of the report

The purpose of the report is to assess the traffic impact of the proposed development on the adjacent road network. The following will be discussed and addressed in the report:

- Description of the development
- Locality, layout and access
- Existing and future background traffic conditions
- Trip generation and distribution
- Total future traffic conditions
- Traffic impact to capacity analysis
- Infrastructure upgrades required (if any)
- Discussion of salient issues

1.9 Extent of analysis

The traffic impact statement of the proposed development evaluated the two intersections affected by the development. The intersections analysed for the traffic impact statement were the following:

1. Intersection 1: Impala Road / Development access
2. Intersection 2: Impala Road / P1578

The two intersections analysed for the report are indicated in the following diagram:



Figure 4: Extent of analysis

1.10 Evaluation periods

The impact of the proposed development was evaluated for the weekday morning and afternoon peak hours. The assessment years are for the:

1. Base year 2025.
2. Horizon year 2030.

2 TRIP GENERATION

2.1 Trip generation

Trip generation rates used in the report were obtained from the “South African Trip Data Manual” Version 1.01 September 2013 (TMH 17) as well as the “South African Trip Generation Rates” guideline document of June 1995 where necessary. The following trip generation rates were used to calculate trip generation during the peak hour of the adjacent road network:

- Residential: Townhouses (simplexes or duplexes) (land use code 231)
 - Rates of 0.85 trips / unit for both AM and PM peak hours
 - Directional split of 25:75 (AM) and 70:30(PM)

The development is located in a low vehicle ownership area as defined, intended and discussed in TMH 17 chapters 4.7 and 4.9, as well as Table 3.2.

The trip generation volumes are calculated in the following table in line with the trip generation rates and adjustment factors discussed above:

TMH 17 Classification	Peak Hour	Units	Trip Reduct. Factor	Trip Gen. Rate	Split In %	Split Out %	Trips In	Trips Out	Total Trips
231 Townhouses	AM	146	0%	0.85	25%	75%	32	94	126
231 Townhouses	PM	146	0%	0.85	70%	30%	87	39	126

Figure 5: Trip Generation

2.2 Trip distribution and assignment

It is anticipated that the traffic generated by the proposed development will be distributed on the road network as indicated diagrammatically in the figures below:

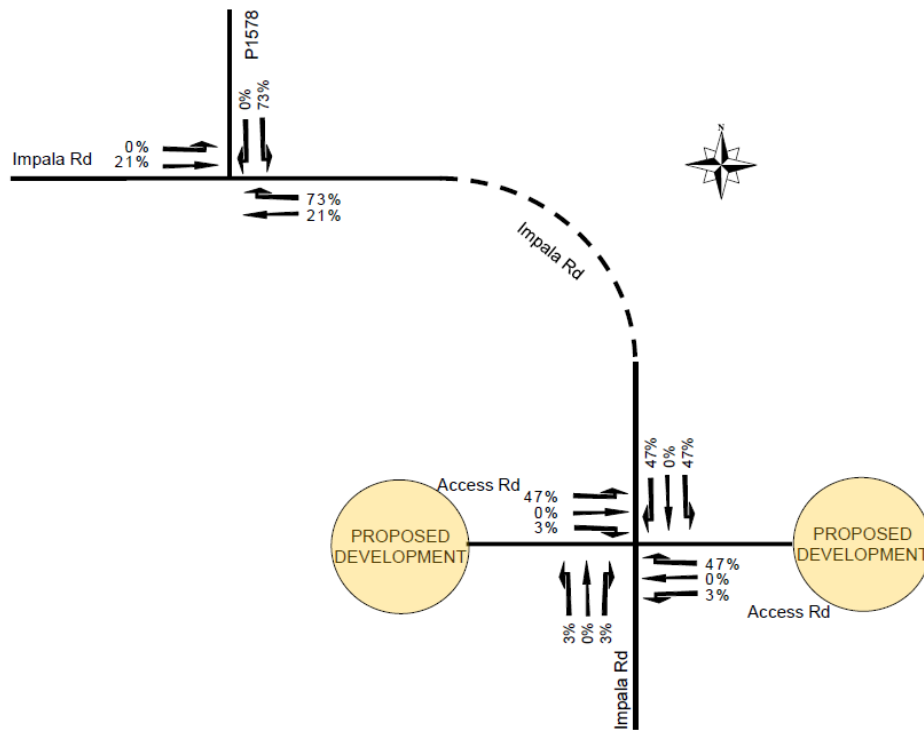


Figure 6: Trip distribution & assignment

3 TRAFFIC DEMAND

3.1 Background traffic

Traffic counts were conducted from 06:00 to 08:00 and 16:00 to 18:00 on 23 January 2025 to obtain background 2025 traffic volumes currently experienced in the area. The day on which the traffic counts were conducted was a normal work and school day. No rain was present.

The volumes of the 2025 base year are indicated diagrammatically in the figures below for the weekday morning and weekday afternoon peak hour periods respectively:

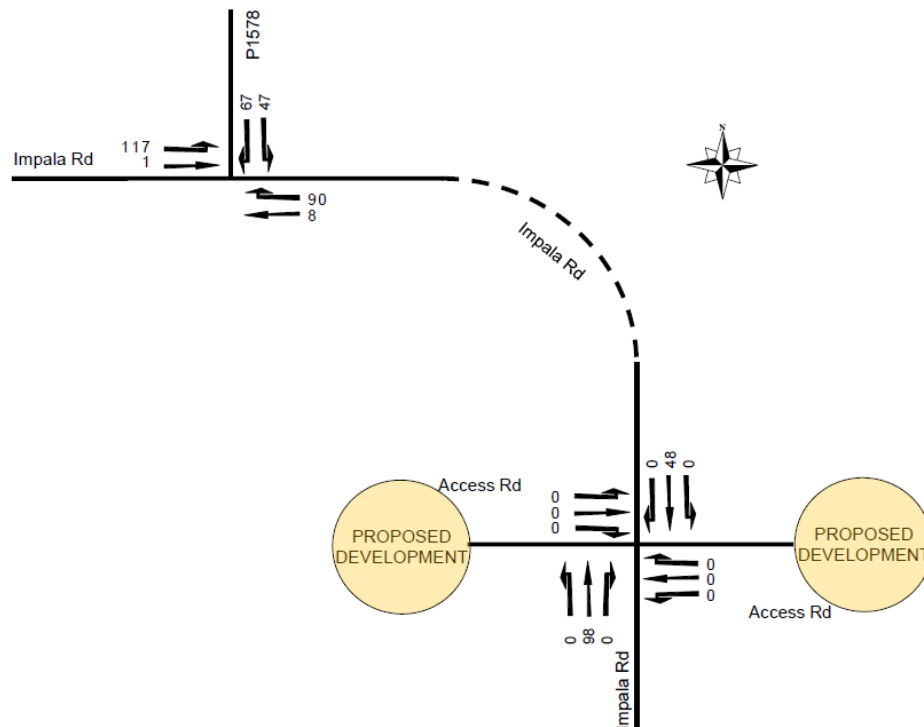


Figure 7: Background traffic: 2025 Base year: AM Peak Hour

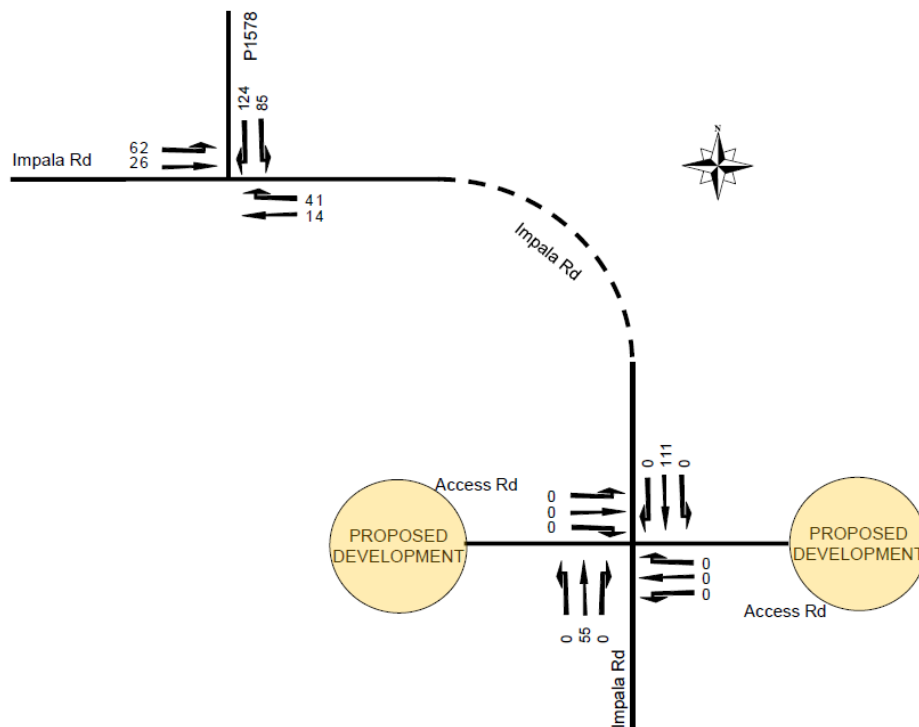


Figure 8: Background traffic: 2025 Base year: PM Peak Hour

3.2 Traffic growth rates

The TMH17: South African Trip Data Manual, recommends the following growth rate factors for different development areas:

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)	

Figure 9: TMH17 Growth Rate Factors

The proposed development forms part of an area experiencing average growth, although limited geographically. It is hence expected that the area will develop at an average growth rate, in line with the table above, of approximately 3-4%. A growth rate of 3.5% per annum will hence be applied.

A standard horizon period of 5 years will be used to determine the impact of the proposed development on the surrounding road network.

The background volumes of the 2030 horizon year are indicated diagrammatically in the figures below for the weekday morning and weekday afternoon peak hour periods respectively:

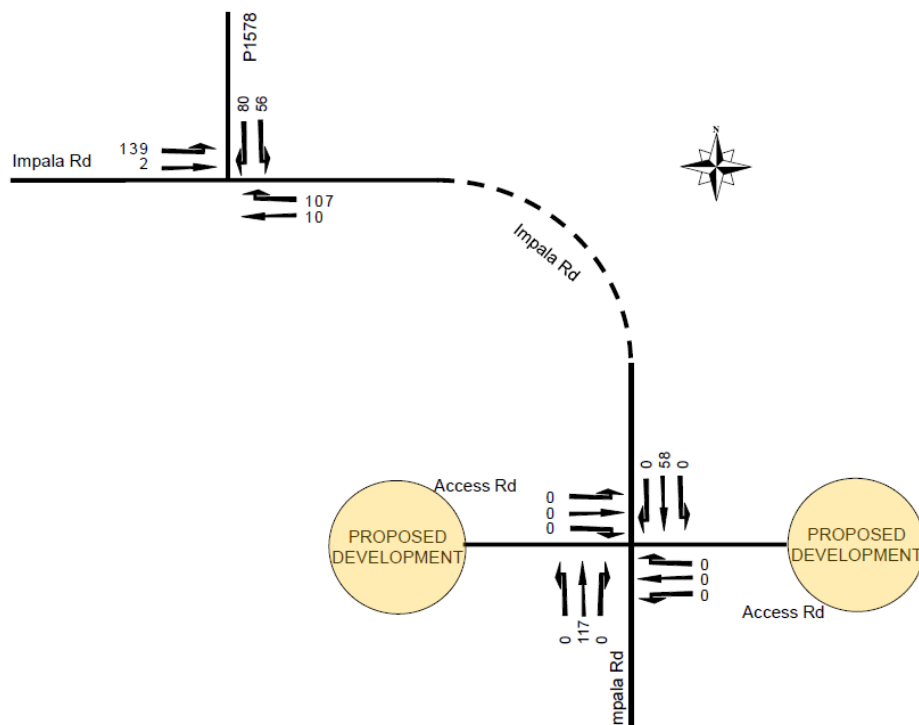


Figure 10: Background traffic: 2030 Horizon year: AM Peak Hour

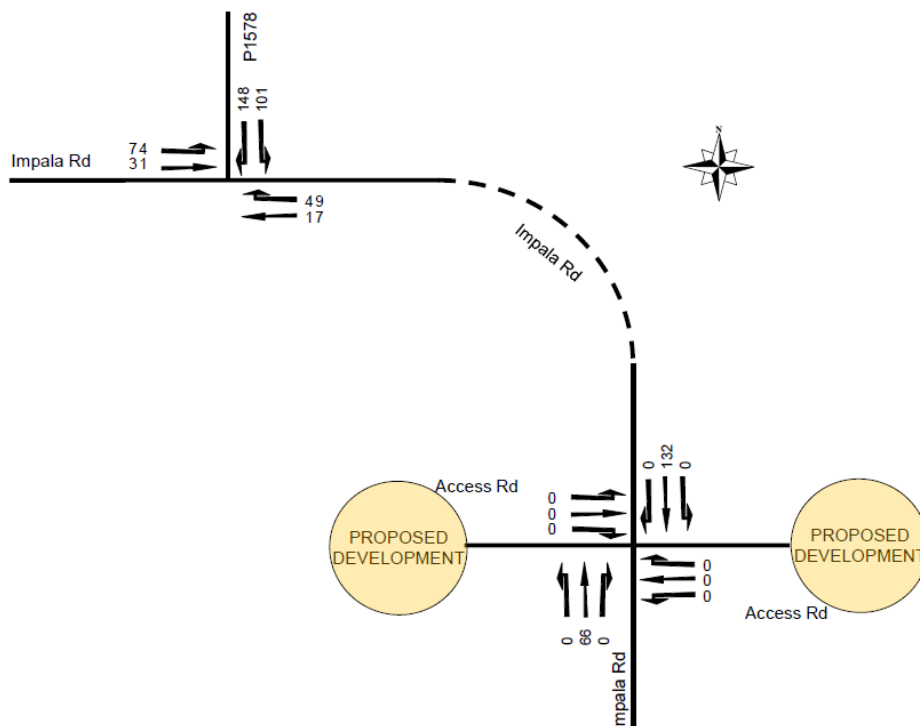


Figure 11: Background traffic: 2030 Horizon year: PM Peak Hour

3.3 Development traffic

The traffic generated by the proposed development assigned to the road network is indicated on the figures below for the weekday morning and weekday afternoon peak hour periods respectively.

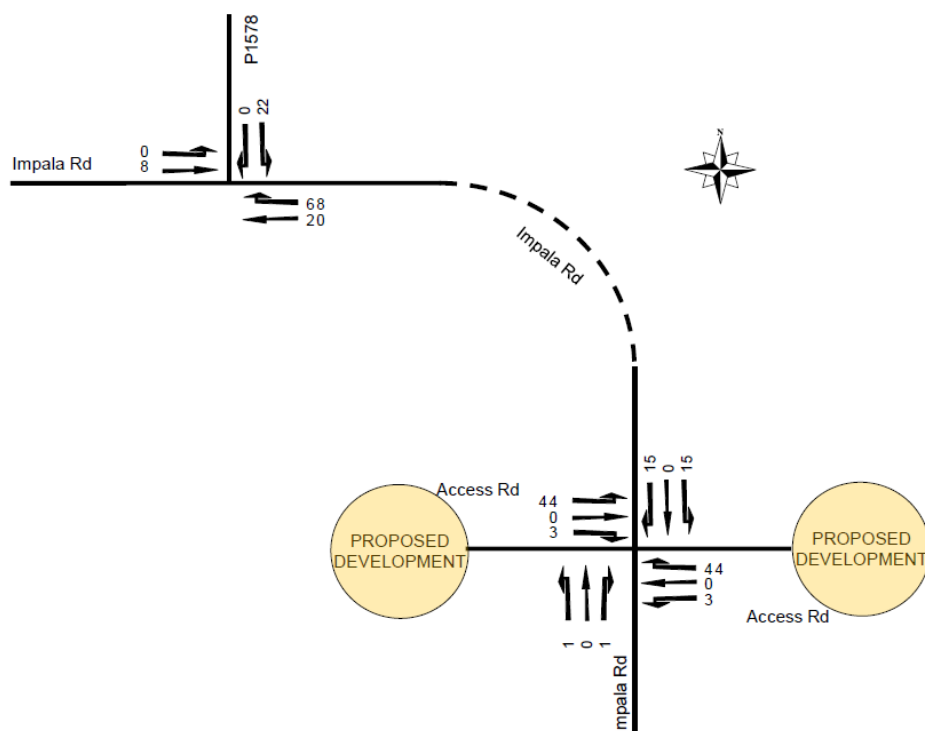


Figure 12: Development Traffic: AM Peak Hour

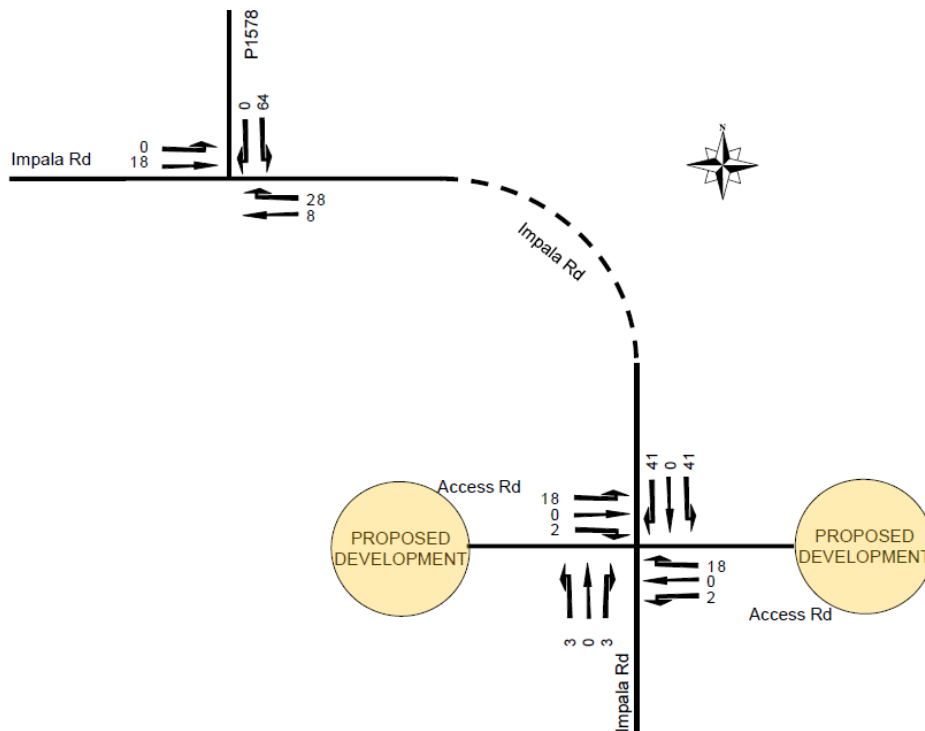


Figure 13: Development Traffic: PM Peak Hour

3.4 Other traffic

All growth figures are included in the 3.5% growth applied.

3.5 Total future traffic demand

The total future traffic demand, consisting of the future background traffic demand plus development traffic, is indicated on the figures below for the weekday morning and weekday afternoon peak hour periods respectively.

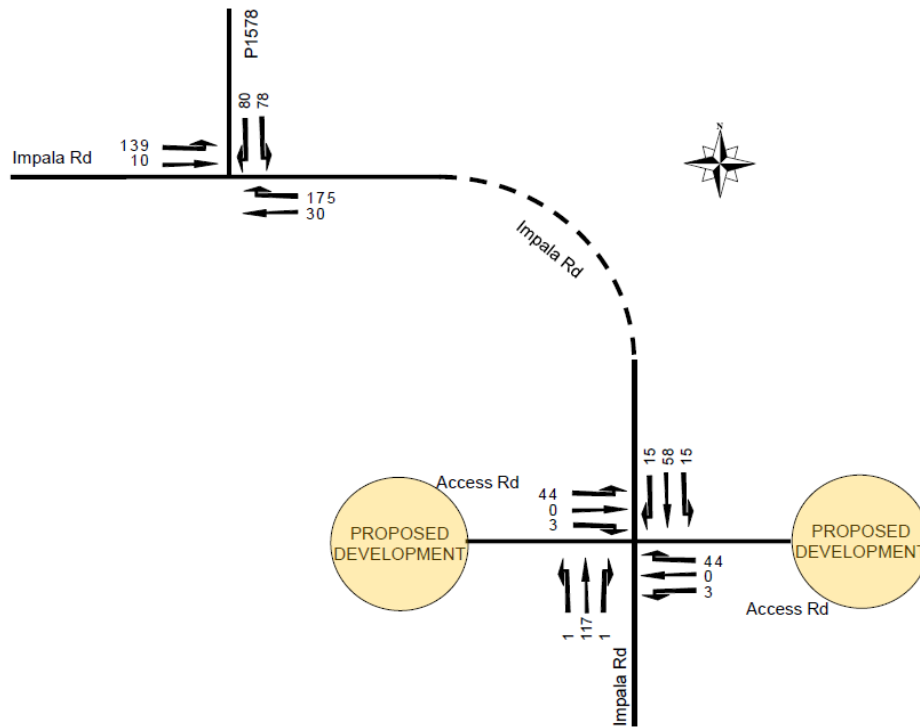


Figure 14: Total Traffic Demand: Horizon Year 2030: AM Peak Hour

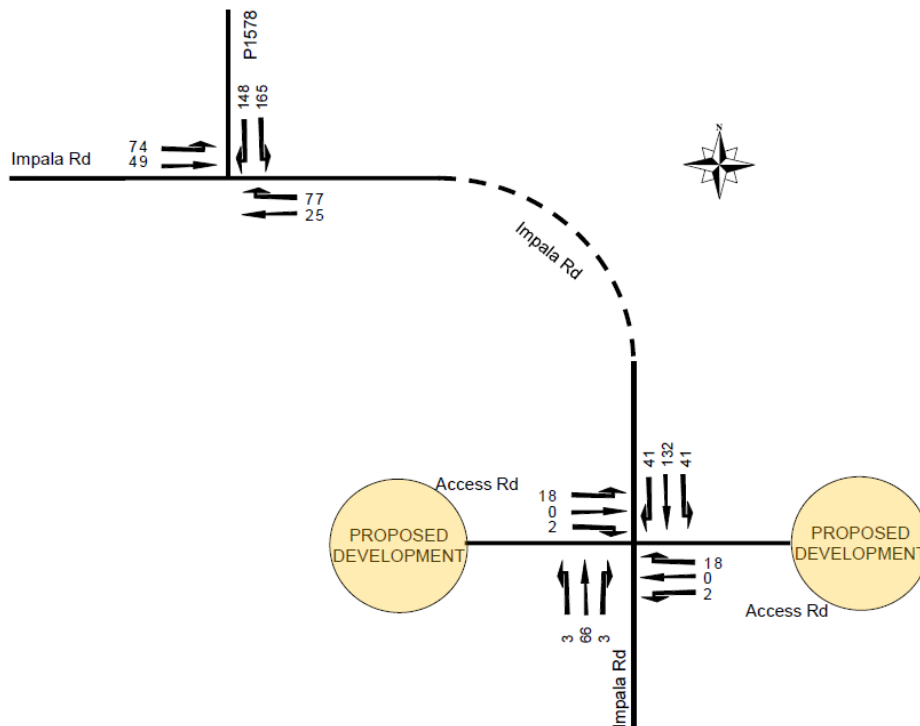


Figure 15: Total Traffic Demand: Horizon Year 2030: PM Peak Hour

4 CAPACITY ANALYSIS

A capacity analysis was performed for the weekday AM and PM peak hours for the future background (2030) and total future traffic (2030) conditions. The capacity analysis was performed by means of the Sidra Intersection 8.0 software to compare the impact of the development against the background traffic. A discussion of the analysis of the intersection and scenarios is presented below, whilst the detailed Sidra results are included as addenda.

4.1 Intersection 1: Impala Road and Development Access

4.1.1 Intersection Geometry

The proposed intersection is not currently in existence. The proposed development access geometry consists of a single lane shared left/through/right in all approaches. This geometry is shown in the figure below and was used in the analysis of the intersection:

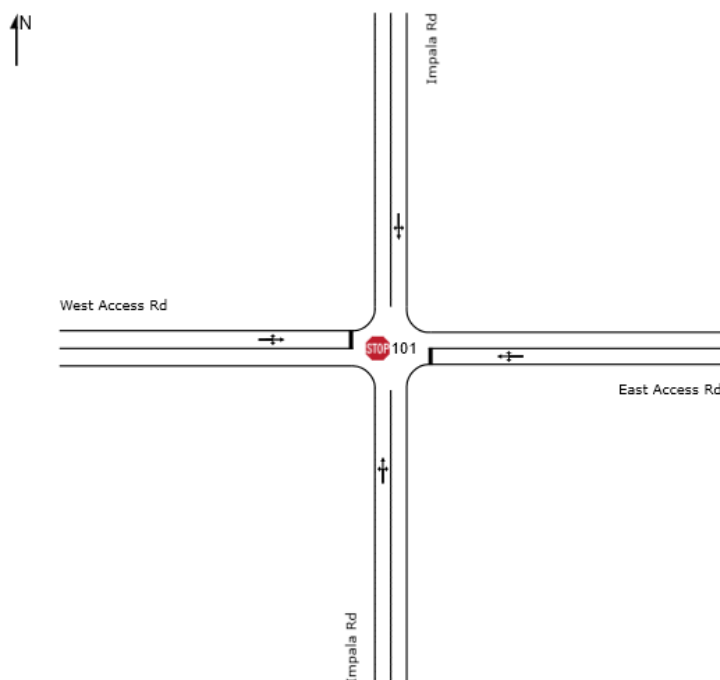


Figure 16: Intersection 1 (development access) geometry

4.1.2 Analysis

The results of the analysis are shown in tabular form in the figures below:

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Impala Rd								
1	L2	1	0.0	0.062	5.6	LOS A	0.0	0.1
2	T1	117	0.0	0.062	0.0	LOS A	0.0	0.1
3	R2	1	0.0	0.062	5.7	LOS A	0.0	0.1
Approach		119	0.0	0.062	0.1	NA	0.0	0.1
East: East Access Rd								
4	L2	1	0.0	0.003	8.2	LOS A	0.0	0.1
5	T1	1	0.0	0.003	8.4	LOS A	0.0	0.1
6	R2	1	0.0	0.003	8.4	LOS A	0.0	0.1
Approach		3	0.0	0.003	8.3	LOS A	0.0	0.1
North: Impala Rd								
7	L2	1	0.0	0.031	5.7	LOS A	0.0	0.1
8	T1	58	0.0	0.031	0.0	LOS A	0.0	0.1
9	R2	1	0.0	0.031	5.8	LOS A	0.0	0.1
Approach		60	0.0	0.031	0.2	NA	0.0	0.1
West: West Access Rd								
10	L2	1	0.0	0.003	8.4	LOS A	0.0	0.1
11	T1	1	0.0	0.003	8.4	LOS A	0.0	0.1
12	R2	1	0.0	0.003	8.3	LOS A	0.0	0.1
Approach		3	0.0	0.003	8.4	LOS A	0.0	0.1
All Vehicles		185	0.0	0.062	0.4	NA	0.0	0.1

Figure 17: Analysis results – Background Traffic 2030 AM peak hour.

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Impala Rd								
1	L2	1	0.0	0.036	5.7	LOS A	0.0	0.1
2	T1	66	0.0	0.036	0.0	LOS A	0.0	0.1
3	R2	1	0.0	0.036	5.9	LOS A	0.0	0.1
Approach		68	0.0	0.036	0.2	NA	0.0	0.1
East: East Access Rd								
4	L2	1	0.0	0.003	8.5	LOS A	0.0	0.1
5	T1	1	0.0	0.003	8.5	LOS A	0.0	0.1
6	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1
Approach		3	0.0	0.003	8.5	LOS A	0.0	0.1
North: Impala Rd								
7	L2	1	0.0	0.070	5.6	LOS A	0.0	0.1
8	T1	132	0.0	0.070	0.0	LOS A	0.0	0.1
9	R2	1	0.0	0.070	5.6	LOS A	0.0	0.1
Approach		134	0.0	0.070	0.1	NA	0.0	0.1
West: West Access Rd								
10	L2	1	0.0	0.003	8.2	LOS A	0.0	0.1
11	T1	1	0.0	0.003	8.5	LOS A	0.0	0.1
12	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1
Approach		3	0.0	0.003	8.4	LOS A	0.0	0.1
All Vehicles		208	0.0	0.070	0.4	NA	0.0	0.1

Figure 18: Analysis results – Background Traffic 2030 PM peak hour

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Impala Rd								
1	L2	1	0.0	0.062	5.6	LOS A	0.0	0.1
2	T1	117	0.0	0.062	0.0	LOS A	0.0	0.1
3	R2	1	0.0	0.062	5.7	LOS A	0.0	0.1
Approach		119	0.0	0.062	0.1	NA	0.0	0.1
East: East Access Rd								
4	L2	3	0.0	0.059	8.2	LOS A	0.2	1.4
5	T1	1	0.0	0.059	8.6	LOS A	0.2	1.4
6	R2	44	0.0	0.059	8.9	LOS A	0.2	1.4
Approach		48	0.0	0.059	8.8	LOS A	0.2	1.4
North: Impala Rd								
7	L2	15	0.0	0.048	5.7	LOS A	0.1	0.8
8	T1	58	0.0	0.048	0.1	LOS A	0.1	0.8
9	R2	15	0.0	0.048	5.8	LOS A	0.1	0.8
Approach		88	0.0	0.048	2.0	NA	0.1	0.8
West: West Access Rd								
10	L2	44	0.0	0.039	8.4	LOS A	0.2	1.1
11	T1	1	0.0	0.039	8.7	LOS A	0.2	1.1
12	R2	3	0.0	0.039	8.5	LOS A	0.2	1.1
Approach		48	0.0	0.039	8.5	LOS A	0.2	1.1
All Vehicles		303	0.0	0.062	3.4	NA	0.2	1.4

Figure 19: Analysis results – Total Traffic 2030 AM peak hour.

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
South: Impala Rd								
1	L2	3	0.0	0.038	5.8	LOS A	0.0	0.2
2	T1	66	0.0	0.038	0.0	LOS A	0.0	0.2
3	R2	3	0.0	0.038	6.0	LOS A	0.0	0.2
Approach		72	0.0	0.038	0.5	NA	0.0	0.2
East: East Access Rd								
4	L2	2	0.0	0.027	8.5	LOS A	0.1	0.6
5	T1	1	0.0	0.027	9.0	LOS A	0.1	0.6
6	R2	18	0.0	0.027	9.1	LOS A	0.1	0.6
Approach		21	0.0	0.027	9.0	LOS A	0.1	0.6
North: Impala Rd								
7	L2	41	0.0	0.116	5.7	LOS A	0.3	2.2
8	T1	132	0.0	0.116	0.1	LOS A	0.3	2.2
9	R2	41	0.0	0.116	5.7	LOS A	0.3	2.2
Approach		214	0.0	0.116	2.2	NA	0.3	2.2
West: West Access Rd								
10	L2	18	0.0	0.017	8.2	LOS A	0.1	0.4
11	T1	1	0.0	0.017	9.1	LOS A	0.1	0.4
12	R2	2	0.0	0.017	8.8	LOS A	0.1	0.4
Approach		21	0.0	0.017	8.3	LOS A	0.1	0.4
All Vehicles		328	0.0	0.116	2.7	NA	0.3	2.2

Figure 20: Analysis results – Total Traffic 2030 PM peak hour

The results of the analysis indicate that the development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours.

4.1.3 Mitigation measures

No upgrades or other mitigation measures are required or proposed for the intersection.

4.2 Intersection 2: Impala Road and P1578

4.2.1 Intersection Geometry

The existing intersection geometry consists of shared left and through lane in the western approach of Impala Road, a shared left and right lane in the northern approach of P1578 and a shared through and right lane on the eastern approach of Impala Road. This geometry is shown in the figure below and was used in the analysis of the intersection:

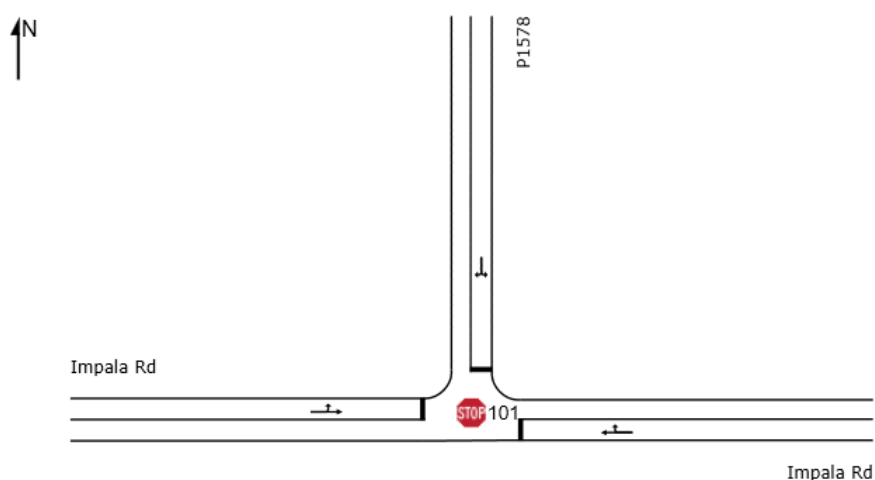


Figure 21: Intersection 2 (Impala Road / P1578) geometry

4.2.2 Analysis

The results of the analysis are shown in tabular form in the figures below:

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Impala Rd								
5	T1	11	0.0	0.178	12.1	LOS A	0.6	4.0
6	R2	113	0.0	0.178	12.1	LOS A	0.6	4.0
Approach		123	0.0	0.178	12.1	LOS A	0.6	4.0
North: P1578								
7	L2	59	0.0	0.159	12.4	LOS A	0.6	3.9
9	R2	84	0.0	0.205	12.6	LOS A	0.7	5.1
Approach		143	0.0	0.205	12.5	LOS A	0.7	5.1
West: Impala Rd								
10	L2	146	0.0	0.517	25.9	LOS A	2.6	18.3
11	T1	2	0.0	0.008	12.5	LOS A	0.0	0.2
Approach		148	0.0	0.517	25.7	LOS A	2.6	18.3
All Vehicles		415	0.0	0.517	17.1	LOS A	2.6	18.3

Figure 22: Analysis results – Background Traffic 2030 AM peak hour.

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Impala Rd								
5	T1	18	0.0	0.167	16.1	LOS A	0.6	4.1
6	R2	52	0.0	0.167	16.1	LOS A	0.6	4.1
Approach		69	0.0	0.167	16.1	LOS A	0.6	4.1
North: P1578								
7	L2	106	0.0	0.212	11.4	LOS A	0.7	5.2
9	R2	156	0.0	0.291	12.0	LOS A	1.1	7.7
Approach		262	0.0	0.291	11.8	LOS A	1.1	7.7
West: Impala Rd								
10	L2	78	0.0	0.386	26.5	LOS A	1.7	11.8
11	T1	33	0.0	0.182	19.6	LOS A	0.7	4.7
Approach		111	0.0	0.386	24.5	LOS A	1.7	11.8
All Vehicles		442	0.0	0.386	15.6	LOS A	1.7	11.8

Figure 23: Analysis results – Background Traffic 2030 PM peak hour

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Impala Rd								
5	T1	32	0.0	0.274	12.0	LOS A	1.0	6.7
6	R2	184	0.0	0.274	12.1	LOS A	1.0	6.7
Approach		216	0.0	0.274	12.1	LOS A	1.0	6.7
North: P1578								
7	L2	82	0.0	0.256	15.2	LOS A	1.0	6.8
9	R2	84	0.0	0.235	14.2	LOS A	0.9	6.1
Approach		166	0.0	0.256	14.7	LOS A	1.0	6.8
West: Impala Rd								
10	L2	146	0.0	0.453	21.0	LOS A	2.1	14.7
11	T1	11	0.0	0.036	12.1	LOS A	0.1	0.8
Approach		157	0.0	0.453	20.4	LOS A	2.1	14.7
All Vehicles		539	0.0	0.453	15.3	LOS A	2.1	14.7

Figure 24: Analysis results – Total Traffic 2030 AM peak hour.

Movement Performance - Vehicles								
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m
East: Impala Rd								
5	T1	26	0.0	0.221	15.2	LOS A	0.8	5.5
6	R2	81	0.0	0.221	15.3	LOS A	0.8	5.5
Approach		107	0.0	0.221	15.3	LOS A	0.8	5.5
North: P1578								
7	L2	174	0.0	0.344	13.4	LOS A	1.4	9.6
9	R2	156	0.0	0.329	13.2	LOS A	1.3	9.1
Approach		329	0.0	0.344	13.3	LOS A	1.4	9.6
West: Impala Rd								
10	L2	78	0.0	0.325	21.2	LOS A	1.3	9.4
11	T1	52	0.0	0.244	19.1	LOS A	0.9	6.6
Approach		129	0.0	0.325	20.4	LOS A	1.3	9.4
All Vehicles		566	0.0	0.344	15.3	LOS A	1.4	9.6

Figure 25: Analysis results – Total Traffic 2030 PM peak hour

The results of the analysis indicate that the development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours.

4.2.3 Mitigation measures

No upgrades or other mitigation measures are required or proposed for the intersection.

5 SALIENT ISSUES

A number of salient issues are addressed below and shall also be considered in parallel to all relevant approved documentation and applicable legislation:

5.1 Access gate configuration & stacking distance

A minimum stacking distance of 3 vehicles or 15m is required at the access gate. The gate design shall provide for access for heavy vehicles and emergency vehicles. It is proposed that separate access lanes (gates) be provided for residents and visitors.

5.2 Sight Distances

Sight distance at the proposed access point is acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width.

5.3 Right Turn Lanes

The total horizon year 2030 traffic at the access intersection was weighed against the warrants for right turn lanes in order to consider the safety of right turn manoeuvres alongside and opposed to the main traffic stream in Impala Road. The necessity of a right turn lane is not triggered in this analysis for this intersection.

5.4 Parking

Sufficient internal parking is indicated on the site development plan. Additional parking is not required.

5.5 Public Transport Routes

No official public transport routes are located close to the proposed development, although minibus taxis do utilize Impala Road on an unofficial basis.

5.6 Contractor's access

A separate contractors' access is not required for the relatively small scale of this development. A contractors' access may however be considered as part of the design of the main gate complex. The main gate complex shall in any case provide for delivery vehicles in the left lane.

5.7 Refuse removal

Refuse removal shall be performed by the Municipality in accordance with a signed services agreement. Access for municipal refuse removal vehicles shall be incorporated into the access gate arrangements. The provision of a solid waste collection area shall be incorporated into the access gate arrangements, or in close vicinity to the access gate, in a manner so as not to hinder normal operations at the gate.

6 CONCLUSIONS

The following conclusions can be reached from the Traffic Impact Statement for the proposed development of Tergniet Landgoed, Tergniet, Mossel Bay:

1. The purpose of the study is to assess the traffic impact of the proposed development on the adjacent road network;
2. The proposed development envisages the development of 146 medium density residential erven. This scenario can be viewed as the ultimate scenario as no additional development will be possible on the site when fully developed;
3. The proposed development of Tergniet Landgoed, Tergniet, Mossel Bay, is on portion 38 of Farm 136, Tergniet, approximately 5km west of Great Brak River in the Mossel Bay Municipal area. The property is located inside the urban edge.;
4. Access to both portions 1&2 of the development is proposed from Impala Street, a municipal minor collector road, intersecting the property;
5. Impala Street can be classified as a municipal minor collector road and carries a very slight traffic load. This low traffic volume can be attributed to the relatively small residential area of Tergniet it serves with no through-access to other areas;
6. The traffic impact statement of the proposed development evaluated the two intersections affected by the development, namely Intersection 1 (Impala Road / Development access) and intersection 2 (Impala Road / P1578);
7. The impact of the proposed development was evaluated for the weekday morning and afternoon peak hours. The assessment years are for the base year 2025 and horizon year 2030;
8. Trip generation rates for the proposed development were determined in accordance with the TMH17 South African Trip Data Manual;
9. The peak hour trip generation of the proposed development during respectively the morning and afternoon peak hour of the adjacent road network is 126 (32 in / 94 out) (AM) and 126 (87 in / 39 out) (PM);
10. Traffic counts were conducted from 06:00 to 08:00 and 16:00 to 18:00 on 23 January 2025 to obtain background 2025 traffic volumes currently experienced in the area. The day on which the traffic counts were conducted was a normal work and school day. No rain was present;
11. The study area is classified as an average growth area and a growth rate of 3.5% per annum was applied to obtain the horizon year traffic volumes;
12. A capacity analysis was performed for the weekday AM and PM peak hours for the future background (2030) and total future traffic (2030) conditions.

-
13. The capacity analysis was performed by means of the Sidra Intersection 8.0 software to compare the impact of the development against the background traffic.
14. The analysis concluded the following:
- Intersection 1: (Impala Road / Development access): The development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours. No upgrades or other mitigation measures are required or proposed for the intersection;
 - Intersection 2: (Impala Road / P1578): The development has a negligible impact on the Level of Service during both the morning and afternoon horizon year 2030 peak hours and the intersection will continue to operate at a Level of Service A for both the morning and afternoon peak hours. No upgrades or other mitigation measures are required or proposed for the intersection;
15. A minimum stacking distance of 3 vehicles or 15m is required at the access gate. The gate design shall provide for access for heavy vehicles and emergency vehicles. It is proposed that separate access lanes (gates) be provided for residents and visitors;
16. Sight distance at the proposed access point is acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width;
17. The total horizon year 2030 traffic at the access intersection was weighed against the warrants for right turn lanes in order to consider the safety of right turn manoeuvres alongside and opposed to the main traffic stream in Impala Road. The necessity of a right turn lane is not triggered in this analysis for this intersection;
18. Sight distance at the proposed access point is acceptable in both directions in both the horizontal and vertical alignments with the condition that the overgrown bush be trimmed for the complete road reserve width;
19. Sufficient internal parking is indicated on the site development plan. Additional parking is not required;
20. No official public transport routes are located close to the proposed development, although minibus taxis do utilize Impala Road on an unofficial basis.
21. A separate contractors' access is not required for the relatively small scale of this development. A contractors' access may however be considered as part of the

design of the main gate complex. The main gate complex shall in any case provide for delivery vehicles in the left lane;

22. Refuse removal shall be performed by the Municipality in accordance with a signed services agreement. Access for municipal refuse removal vehicles shall be incorporated into the access gate arrangements. The provision of a solid waste collection area shall be incorporated into the access gate arrangements, or in close vicinity to the access gate, in a manner so as not to hinder normal operations at the gate.

7 RECOMMENDATIONS

In line with the conclusions above, the following is recommended from the Traffic Impact Statement for the proposed development of Tergniet Landgoed, Tergniet, Mossel Bay:

1. That the proposed development be approved from a Traffic Engineering perspective;
2. That all recommendations contained in this report be implemented in accordance with the relevant design standards and legislation;
3. That all engineering designs be performed by a registered professional engineer and submitted to the municipality for approval in line with a signed services agreement, prior to construction.

8 ADDENDA

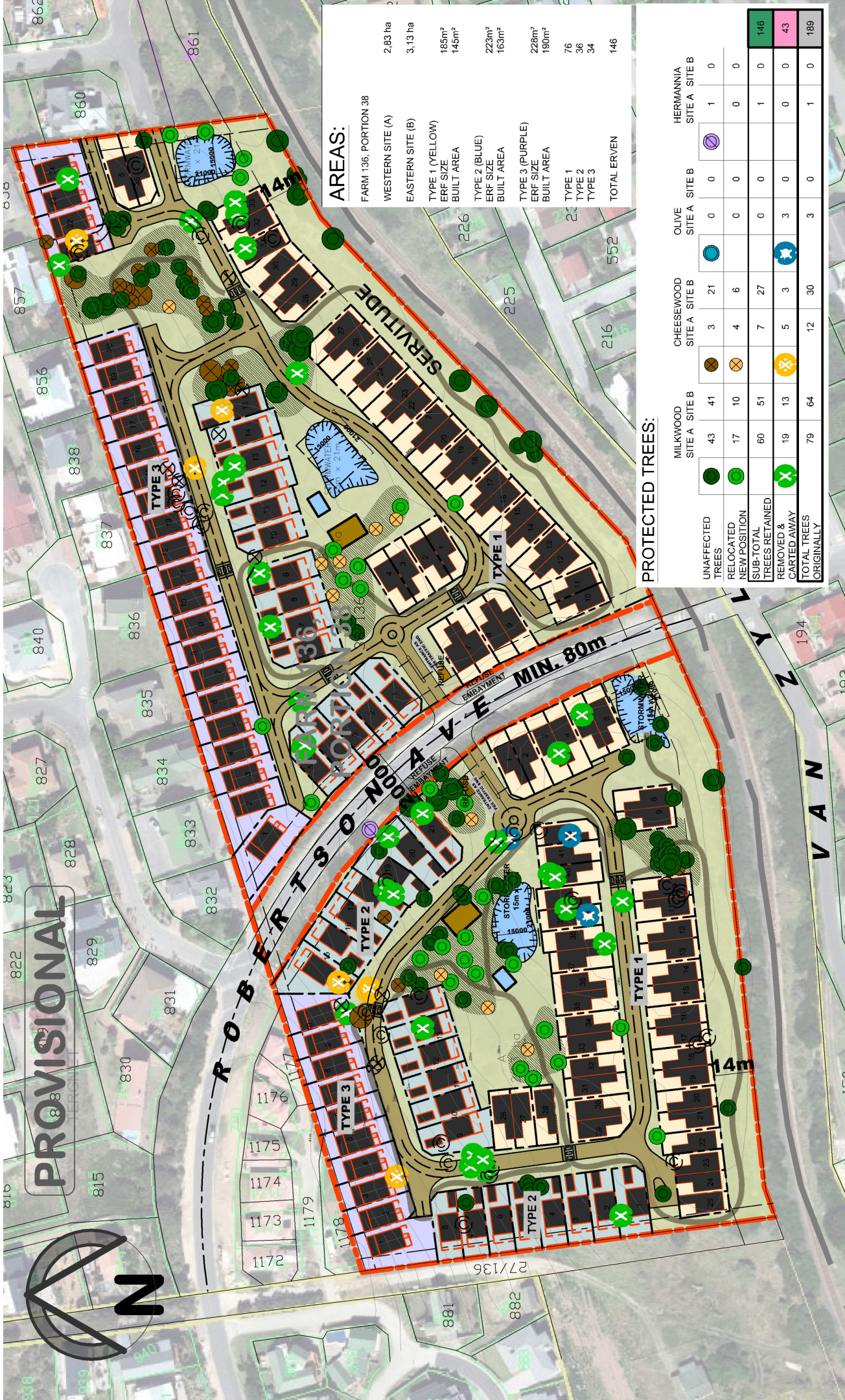
8.1 Addendum A – Site development plan

8.2 Addendum B – Sidra analysis

ADDENDUM A

Site development plan

> MEASUREMENTS ARE SUBJECT TO FINAL LAND SURVEYORS DOCUMENTATION ON COMPLETION.
> THIS DRAWING SHOWS A VISUAL REPRESENTATION OF WHAT IS PROPOSED. MINOR ADJUSTMENTS MIGHT BE REQUIRED IN THE FINAL TECHNICAL DOCUMENTATION.
> COPYRIGHT OF THESE DRAWINGS ARE PROTECTED AND RESERVED IN TERMS OF THE ARCHITECTS ACT 35 OF 1970 AND THE COPYRIGHT ACT 98 OF 1978 AND ANY UNAUTHORIZED INFRINGEMENT THEREOF OR REPRODUCTION WILL BE UNLAWFUL.



AREAS:

FARM 136, PORTION 38

WESTERN SITE (A)

EASTERN SITE (B)

TYPE 1 (YELLOW)

BUILT AREA

TYPE 2 (BLUE)

BUILT AREA

TYPE 3 (PURPLE)

ERF SIZE

BUILT AREA

TYPE 1

TYPE 2

TYPE 3

TOTAL ERVEN

2,83 ha

3,13 ha

185m²

145m²

223m²

163m²

228m²

190m²

76

36

34

146

PROTECTED TREES:

	MILKWOOD		CHEESEWOOD		OLIVE		HERMANIA	
	SITE A	SITE B	SITE A	SITE B	SITE A	SITE B	SITE A	SITE B
UNAFFFECTED TREES	43	41	3	21	0	0	0	0
RELOCATED NEW POSITION	17	10	4	6	0	0	0	0
SUB-TOTAL TREES RETAINED	60	51	7	27	0	0	1	0
REMOVED & CARTED AWAY	19	13	5	3	3	0	0	0
TOTAL TREES ORIGINALLY	79	64	12	30	3	0	1	0

FARM 136, PORTION 38, TERGNIET, WESTERN CAPE

1:1250 @ A3

20-11-2024

Smuts
de Kock

ARCHITECTS

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TERGNIET RESIDENTIAL DEVELOPMENT TREE MAPPING - LEGEND

ADDENDUM B

Sidra analysis

MOVEMENT SUMMARY

Site: 101 [Int1 Backgr 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Impala Rd												
1	L2	1	0.0	0.062	5.6	LOS A	0.0	0.1	0.00	0.01	0.00	31.7
2	T1	117	0.0	0.062	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	59.9
3	R2	1	0.0	0.062	5.7	LOS A	0.0	0.1	0.00	0.01	0.00	55.2
Approach		119	0.0	0.062	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.6
East: East Access Rd												
4	L2	1	0.0	0.003	8.2	LOS A	0.0	0.1	0.19	0.91	0.19	47.5
5	T1	1	0.0	0.003	8.4	LOS A	0.0	0.1	0.19	0.91	0.19	33.6
6	R2	1	0.0	0.003	8.4	LOS A	0.0	0.1	0.19	0.91	0.19	46.7
Approach		3	0.0	0.003	8.3	LOS A	0.0	0.1	0.19	0.91	0.19	44.5
North: Impala Rd												
7	L2	1	0.0	0.031	5.7	LOS A	0.0	0.1	0.01	0.02	0.01	31.6
8	T1	58	0.0	0.031	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	59.8
9	R2	1	0.0	0.031	5.8	LOS A	0.0	0.1	0.01	0.02	0.01	31.4
Approach		60	0.0	0.031	0.2	NA	0.0	0.1	0.01	0.02	0.01	58.7
West: West Access Rd												
10	L2	1	0.0	0.003	8.4	LOS A	0.0	0.1	0.25	0.88	0.25	47.6
11	T1	1	0.0	0.003	8.4	LOS A	0.0	0.1	0.25	0.88	0.25	33.7
12	R2	1	0.0	0.003	8.3	LOS A	0.0	0.1	0.25	0.88	0.25	46.8
Approach		3	0.0	0.003	8.4	LOS A	0.0	0.1	0.25	0.88	0.25	44.6
All Vehicles		185	0.0	0.062	0.4	NA	0.0	0.1	0.01	0.04	0.01	59.0

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

MOVEMENT SUMMARY

Site: 101 [Int1 Backgr 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Impala Rd												
1	L2	1	0.0	0.036	5.7	LOS A	0.0	0.1	0.01	0.02	0.01	31.6
2	T1	66	0.0	0.036	0.0	LOS A	0.0	0.1	0.01	0.02	0.01	59.8
3	R2	1	0.0	0.036	5.9	LOS A	0.0	0.1	0.01	0.02	0.01	55.1
Approach		68	0.0	0.036	0.2	NA	0.0	0.1	0.01	0.02	0.01	59.3
East: East Access Rd												
4	L2	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.27	0.87	0.27	47.5
5	T1	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.27	0.87	0.27	33.6
6	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.27	0.87	0.27	46.7
Approach		3	0.0	0.003	8.5	LOS A	0.0	0.1	0.27	0.87	0.27	44.5
North: Impala Rd												
7	L2	1	0.0	0.070	5.6	LOS A	0.0	0.1	0.00	0.01	0.00	31.7
8	T1	132	0.0	0.070	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	59.9
9	R2	1	0.0	0.070	5.6	LOS A	0.0	0.1	0.00	0.01	0.00	31.5
Approach		134	0.0	0.070	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.4
West: West Access Rd												
10	L2	1	0.0	0.003	8.2	LOS A	0.0	0.1	0.20	0.90	0.20	47.5
11	T1	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.20	0.90	0.20	33.5
12	R2	1	0.0	0.003	8.5	LOS A	0.0	0.1	0.20	0.90	0.20	46.7
Approach		3	0.0	0.003	8.4	LOS A	0.0	0.1	0.20	0.90	0.20	44.4
All Vehicles		208	0.0	0.070	0.4	NA	0.0	0.1	0.01	0.04	0.01	59.1

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

MOVEMENT SUMMARY

Site: 101 [Int1 Total 2030 AM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Impala Rd												
1	L2	1	0.0	0.062	5.6	LOS A	0.0	0.1	0.00	0.01	0.00	31.7
2	T1	117	0.0	0.062	0.0	LOS A	0.0	0.1	0.00	0.01	0.00	59.9
3	R2	1	0.0	0.062	5.7	LOS A	0.0	0.1	0.00	0.01	0.00	55.2
Approach		119	0.0	0.062	0.1	NA	0.0	0.1	0.00	0.01	0.00	59.6
East: East Access Rd												
4	L2	3	0.0	0.059	8.2	LOS A	0.2	1.4	0.30	0.90	0.30	47.1
5	T1	1	0.0	0.059	8.6	LOS A	0.2	1.4	0.30	0.90	0.30	32.9
6	R2	44	0.0	0.059	8.9	LOS A	0.2	1.4	0.30	0.90	0.30	46.4
Approach		48	0.0	0.059	8.8	LOS A	0.2	1.4	0.30	0.90	0.30	46.3
North: Impala Rd												
7	L2	15	0.0	0.048	5.7	LOS A	0.1	0.8	0.10	0.19	0.10	30.7
8	T1	58	0.0	0.048	0.1	LOS A	0.1	0.8	0.10	0.19	0.10	57.8
9	R2	15	0.0	0.048	5.8	LOS A	0.1	0.8	0.10	0.19	0.10	30.6
Approach		88	0.0	0.048	2.0	NA	0.1	0.8	0.10	0.19	0.10	47.7
West: West Access Rd												
10	L2	44	0.0	0.039	8.4	LOS A	0.2	1.1	0.22	0.88	0.22	47.5
11	T1	1	0.0	0.039	8.7	LOS A	0.2	1.1	0.22	0.88	0.22	33.7
12	R2	3	0.0	0.039	8.5	LOS A	0.2	1.1	0.22	0.88	0.22	46.8
Approach		48	0.0	0.039	8.5	LOS A	0.2	1.1	0.22	0.88	0.22	47.3
All Vehicles		303	0.0	0.062	3.4	NA	0.2	1.4	0.11	0.34	0.11	52.4

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

MOVEMENT SUMMARY

Site: 101 [Int1 Total 2030 PM]

Site Category: (None)
Stop (Two-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Impala Rd												
1	L2	3	0.0	0.038	5.8	LOS A	0.0	0.2	0.03	0.05	0.03	31.5
2	T1	66	0.0	0.038	0.0	LOS A	0.0	0.2	0.03	0.05	0.03	59.4
3	R2	3	0.0	0.038	6.0	LOS A	0.0	0.2	0.03	0.05	0.03	54.5
Approach		72	0.0	0.038	0.5	NA	0.0	0.2	0.03	0.05	0.03	57.9
East: East Access Rd												
4	L2	2	0.0	0.027	8.5	LOS A	0.1	0.6	0.34	0.88	0.34	47.0
5	T1	1	0.0	0.027	9.0	LOS A	0.1	0.6	0.34	0.88	0.34	32.8
6	R2	18	0.0	0.027	9.1	LOS A	0.1	0.6	0.34	0.88	0.34	46.2
Approach		21	0.0	0.027	9.0	LOS A	0.1	0.6	0.34	0.88	0.34	46.0
North: Impala Rd												
7	L2	41	0.0	0.116	5.7	LOS A	0.3	2.2	0.09	0.22	0.09	30.7
8	T1	132	0.0	0.116	0.1	LOS A	0.3	2.2	0.09	0.22	0.09	57.7
9	R2	41	0.0	0.116	5.7	LOS A	0.3	2.2	0.09	0.22	0.09	30.5
Approach		214	0.0	0.116	2.2	NA	0.3	2.2	0.09	0.22	0.09	46.4
West: West Access Rd												
10	L2	18	0.0	0.017	8.2	LOS A	0.1	0.4	0.15	0.91	0.15	47.5
11	T1	1	0.0	0.017	9.1	LOS A	0.1	0.4	0.15	0.91	0.15	33.7
12	R2	2	0.0	0.017	8.8	LOS A	0.1	0.4	0.15	0.91	0.15	46.7
Approach		21	0.0	0.017	8.3	LOS A	0.1	0.4	0.15	0.91	0.15	47.1
All Vehicles		328	0.0	0.116	2.7	NA	0.3	2.2	0.10	0.27	0.10	48.9

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

MOVEMENT SUMMARY

Site: 101 [Int 2 Backgr 2030 AM]

New Site
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Impala Rd												
5	T1	11	0.0	0.178	12.1	LOS A	0.6	4.0	0.73	1.28	1.94	49.7
6	R2	113	0.0	0.178	12.1	LOS A	0.6	4.0	0.73	1.28	1.94	49.7
Approach		123	0.0	0.178	12.1	LOS A	0.6	4.0	0.73	1.28	1.94	49.7
North: P1578												
7	L2	59	0.0	0.159	12.4	LOS A	0.6	3.9	0.90	1.27	2.09	49.9
9	R2	84	0.0	0.205	12.6	LOS A	0.7	5.1	0.89	1.28	2.14	49.5
Approach		143	0.0	0.205	12.5	LOS A	0.7	5.1	0.90	1.28	2.12	49.7
West: Impala Rd												
10	L2	146	0.0	0.517	25.9	LOS A	2.6	18.3	1.00	1.46	3.01	42.3
11	T1	2	0.0	0.008	12.5	LOS A	0.0	0.2	0.94	1.23	1.95	49.8
Approach		148	0.0	0.517	25.7	LOS A	2.6	18.3	1.00	1.45	3.00	42.4
All Vehicles		415	0.0	0.517	17.1	LOS A	2.6	18.3	0.88	1.34	2.38	46.8

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on degree of saturation per movement.

Intersection and Approach LOS values are based on worst degree of saturation for any vehicle movement.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int 2 Backgr 2030 PM]

New Site
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Impala Rd												
5	T1	18	0.0	0.167	16.1	LOS A	0.6	4.1	0.88	1.27	2.08	47.3
6	R2	52	0.0	0.167	16.1	LOS A	0.6	4.1	0.88	1.27	2.08	47.3
Approach		69	0.0	0.167	16.1	LOS A	0.6	4.1	0.88	1.27	2.08	47.3
North: P1578												
7	L2	106	0.0	0.212	11.4	LOS A	0.7	5.2	0.84	1.29	2.11	50.6
9	R2	156	0.0	0.291	12.0	LOS A	1.1	7.7	0.85	1.32	2.25	49.9
Approach		262	0.0	0.291	11.8	LOS A	1.1	7.7	0.85	1.31	2.19	50.2
West: Impala Rd												
10	L2	78	0.0	0.386	26.5	LOS A	1.7	11.8	1.00	1.36	2.60	42.0
11	T1	33	0.0	0.182	19.6	LOS A	0.7	4.7	1.00	1.28	2.22	45.5
Approach		111	0.0	0.386	24.5	LOS A	1.7	11.8	1.00	1.34	2.48	43.0
All Vehicles		442	0.0	0.386	15.6	LOS A	1.7	11.8	0.89	1.31	2.25	47.7

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on degree of saturation per movement.

Intersection and Approach LOS values are based on worst degree of saturation for any vehicle movement.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int 2 Total 2030 AM]

New Site
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Impala Rd												
5	T1	32	0.0	0.274	12.0	LOS A	1.0	6.7	0.70	1.31	2.08	49.7
6	R2	184	0.0	0.274	12.1	LOS A	1.0	6.7	0.70	1.31	2.08	49.7
Approach		216	0.0	0.274	12.1	LOS A	1.0	6.7	0.70	1.31	2.08	49.7
North: P1578												
7	L2	82	0.0	0.256	15.2	LOS A	1.0	6.8	0.95	1.30	2.28	48.2
9	R2	84	0.0	0.235	14.2	LOS A	0.9	6.1	0.92	1.30	2.23	48.5
Approach		166	0.0	0.256	14.7	LOS A	1.0	6.8	0.94	1.30	2.26	48.4
West: Impala Rd												
10	L2	146	0.0	0.453	21.0	LOS A	2.1	14.7	0.98	1.41	2.78	44.8
11	T1	11	0.0	0.036	12.1	LOS A	0.1	0.8	0.93	1.24	1.97	50.1
Approach		157	0.0	0.453	20.4	LOS A	2.1	14.7	0.98	1.40	2.72	45.1
All Vehicles		539	0.0	0.453	15.3	LOS A	2.1	14.7	0.86	1.33	2.32	47.9

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on degree of saturation per movement.

Intersection and Approach LOS values are based on worst degree of saturation for any vehicle movement.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Int 2 Total 2030 PM]

New Site
Site Category: (None)
Stop (All-Way)

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Impala Rd												
5	T1	26	0.0	0.221	15.2	LOS A	0.8	5.5	0.85	1.29	2.13	47.9
6	R2	81	0.0	0.221	15.3	LOS A	0.8	5.5	0.85	1.29	2.13	47.8
Approach		107	0.0	0.221	15.3	LOS A	0.8	5.5	0.85	1.29	2.13	47.8
North: P1578												
7	L2	174	0.0	0.344	13.4	LOS A	1.4	9.6	0.88	1.34	2.39	49.3
9	R2	156	0.0	0.329	13.2	LOS A	1.3	9.1	0.89	1.34	2.37	49.2
Approach		329	0.0	0.344	13.3	LOS A	1.4	9.6	0.88	1.34	2.38	49.2
West: Impala Rd												
10	L2	78	0.0	0.325	21.2	LOS A	1.3	9.4	1.00	1.33	2.46	44.7
11	T1	52	0.0	0.244	19.1	LOS A	0.9	6.6	1.00	1.30	2.31	45.7
Approach		129	0.0	0.325	20.4	LOS A	1.3	9.4	1.00	1.32	2.40	45.1
All Vehicles		566	0.0	0.344	15.3	LOS A	1.4	9.6	0.90	1.33	2.34	48.0

Site Level of Service (LOS) Method: Degree of Saturation (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Vehicle movement LOS values are based on degree of saturation per movement.

Intersection and Approach LOS values are based on worst degree of saturation for any vehicle movement.

SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.

Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.