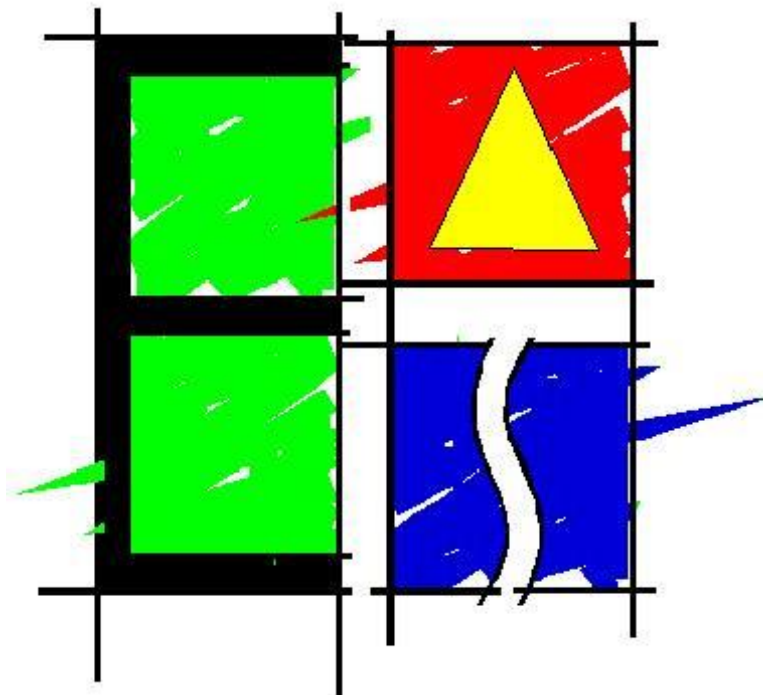


TRAFFIC IMPACT STATEMENT

***FOR THE PROPOSED CONSOLIDATION, REZONING AND SUBDIVISION
OF PORTIONS 66 & 67 OF THE FARM BRAKKLOOF No. 443
PLETTENBERG BAY***



June 2022
(Version 2)

Prepared for: **The Keep Property (Pty) Ltd**

Prepared by: **Engineering Advice and Services (Pty) Ltd**
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DOCUMENT CONTROL SHEET

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CONTENTS

	Page
Document Control Sheet	i
Contents	ii
List of Figures	ii
List of Annexures	ii
Executive Summary	E1
1 Introduction	1
1.1 Background	1
1.2 Methodology	1
1.3 Study Area	1
1.4 Assumptions and Limitations	1
2 The Development and Environs	2
2.1 Current Land Use Rights	2
2.2 Overview of Development and Environs	2
3 Data Collection	4
3.1 Peak Hour Traffic Volumes	4
3.2 Road Network	5
4 Trip Generation, Distribution and After Development Volumes	6
4.1 Trip Generation	6
4.2 Trip Distribution	6
4.3 After Development Volumes	6
5 Access Arrangements	6
6 Parking Requirements	7
7 Conclusions	7
8 Recommendations	7
9 References	7

LIST OF FIGURES

Figure 1: Locality Plan	2
Figure 2: Development Layout	3
Figure 3: Existing Background Peak Hour Traffic Volumes - 2021	4
Figure 4: Existing Road layout	5

LIST OF ANNEXURES

ANNEXURE A Peak Hour Traffic Volumes

EXECUTIVE SUMMARY

Introduction

EAS was appointed to conduct a Traffic Impact Statement for the proposed Consolidation, Rezoning and Subdivision of Portions 66 and 67 of the the Farm Brakkloof No. 443, Plettenberg Bay situated in the Bitou Municipality.

Methodology

- Peak hour traffic volumes recorded before the Covid-19 pandemic during 2019 at the Robberg Road / Whale Rock Drive junction, were used to provide an indication of the approximate traffic volumes that make use of Robbeberg Bay Road approaching the proposed development from the south. The recorded volumes were escalated by 3% per annum to approximate current volumes;
- The peak hour and daily trips that will be generated by the development were determined by using applicable trip generation rates specified in **TMH 17 Volume 1: South African Trip Data Manual** ⁽²⁾;
- The distribution of the generated trips was estimated where after the generated traffic was assigned to the surrounding road network and an assessment made regarding the impact of the additional traffic on existing traffic operations;
- The access location was assessed in terms of traffic operations and safety to ensure that it conforms to traffic safety requirements for both motorised and non-motorised transport modes; and
- By taking into account the major findings of the study, conclusions were made regarding the financial responsibilities of the affected parties for the required road upgrading measures.

Conclusions

- Robbeberg Beach Road currently carries up to 36 peak hour and 140 daily vehicle trips;
- Access to the proposed development can be accommodated directly from Robbeberg Bay Road with minimal impact;
- The proposed development will generate between 2 and 9 peak hour and 27 and 36 daily vehicle trips increasing peak hour and daily trips up to approximately 45 and 180 respectively; and
- The additional peak (up to 9) and daily (up to 36) traffic volumes will require the upgrade of the existing access track from Robbeberg Bay Road to the proposed access point to ensure that it remains in good condition.

Recommendations

- Access to the proposed development be provided directly from Robbeberg Bay Road as indicated on **Figure 2**, with the cost of the access point being met by the developer; and
- The existing access track from Robbeberg Bay Road to the proposed site access be upgraded to a hard surface with the cost of the access point being met by the developer.

1 INTRODUCTION

1.1 BACKGROUND

Engineering Advice & Services (Pty) Ltd was appointed by the Keep Property (Pty) Ltd during December 2021 to prepare a Traffic Impact Statement for the proposed Consolidation, Rezoning and Subdivision of Portions 66 and 67 of the the Farm Brakkloof No. 443, Plettenberg Bay situated in the Bitou Municipality.

Upon submission of the Land Use application, the Bitou Municipality have requested submission of a Traffic Impact Statement.



1.2 METHODOLOGY

In broad terms, the purpose of the TIS is to confirm the extent and nature of traffic generated by the proposed development and assess the impact of this traffic on operation of the associated road network.

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

- Peak hour traffic volumes recorded before the Covid-19 pandemic during 2019 at the Robberg Road / Whale Rock Drive junction, were used to provide an indication of the approximate traffic volumes that make use of Robbeberg Bay during typical weekday AM peak periods, where after conclusions were drawn regarding operation of the existing road network;
- The peak hour and daily trips that will be generated by the development were determined by using applicable trip generation rates specified in **TMH 17 Volume 1: South African Trip Data Manual** ⁽²⁾;
- The distribution of the generated trips was estimated where after the generated traffic was assigned to the surrounding road network and an assessment made regarding the impact of the additional traffic on existing traffic operations;
- The access location was assessed in terms of traffic operations and safety to ensure that it conforms to traffic safety requirements for both motorised and non-motorised transport modes; and
- By taking into account the major findings of the study, conclusions were made regarding the financial responsibilities of the affected parties for the required road upgrading measures.

1.3 STUDY AREA

Based on the type and extent of the development the study area extended to the adjacent Robbeberg Bay Road, as it is considered that trips generated by the proposed development will predominantly approach along this road.

1.4 ASSUMPTIONS AND LIMITATIONS

The scope of this TIS is limited to the project as described in this report. The scope only deals with vehicular and pedestrian traffic related impacts adjacent to the site and excludes consideration of the following:

- Any vehicular and pedestrian activity outside of 1km of the facility;

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

- That the majority of traffic generated by the proposed development is likely to approach from the south via Whale Rock Drive and Robbeberg Bay Road; and
- That trips generated by the proposed development are distributed to and from the site based on the location of the development site relative to employment areas and the major road networks.

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

2 THE DEVELOPMENT AND ENVIRONS

2.1 CURRENT LAND USE RIGHTS

The land portions measuring approximately 25 695m² in extent, are currently zoned for Agriculture purposes. The portions are however indicated in the SDF for Bitou 2017 as urban land within the Urban Edge and have been earmarked for residential urban development.

2.2 OVERVIEW OF DEVELOPMENT AND ENVIRONS

The land portions are located in a coastal strip between the Beacon Isle Hotel and the Robberg Peninsula as indicated on **Figure 1** below.



Source: VPM Planning Motivation Report – October 2021 ⁽³⁾

Figure 1: Locality Plan

The land use to either side of the proposed development is residential in nature, with a biodiversity area (beach) to the east and undeveloped Open Space to the west up to the Whale Rock Estate leading up to Robberg Road.

The proposed development will comprise of 9 residential land portions ranging in size from 1319m² to 1987m².

Access is gained directly from Robbeberg Bay Road which is located in a 20m servitude along the western edge of the land portions as indicated in the proposed layout plan in **Figure 2** below.



Source: VPM Planning Motivation Report – October 2021 ⁽³⁾

Figure 2: Development Layout

3 DATA COLLECTION

3.1 PEAK HOUR TRAFFIC VOLUMES

Peak hour traffic volumes recorded before the Covid-19 pandemic during 2019 at the Robberg Road / Whale Rock Drive junction, were used to provide an indication of the approximate traffic volumes that make use of Robbeberg Bay Road approaching the proposed development from the south.

The recorded volumes were escalated by 3% per annum to approximate current volumes. Note that given the slightly lower traffic volumes as a result of the the Covid-19 pandemic, these volumes may be higher than are currently the case.

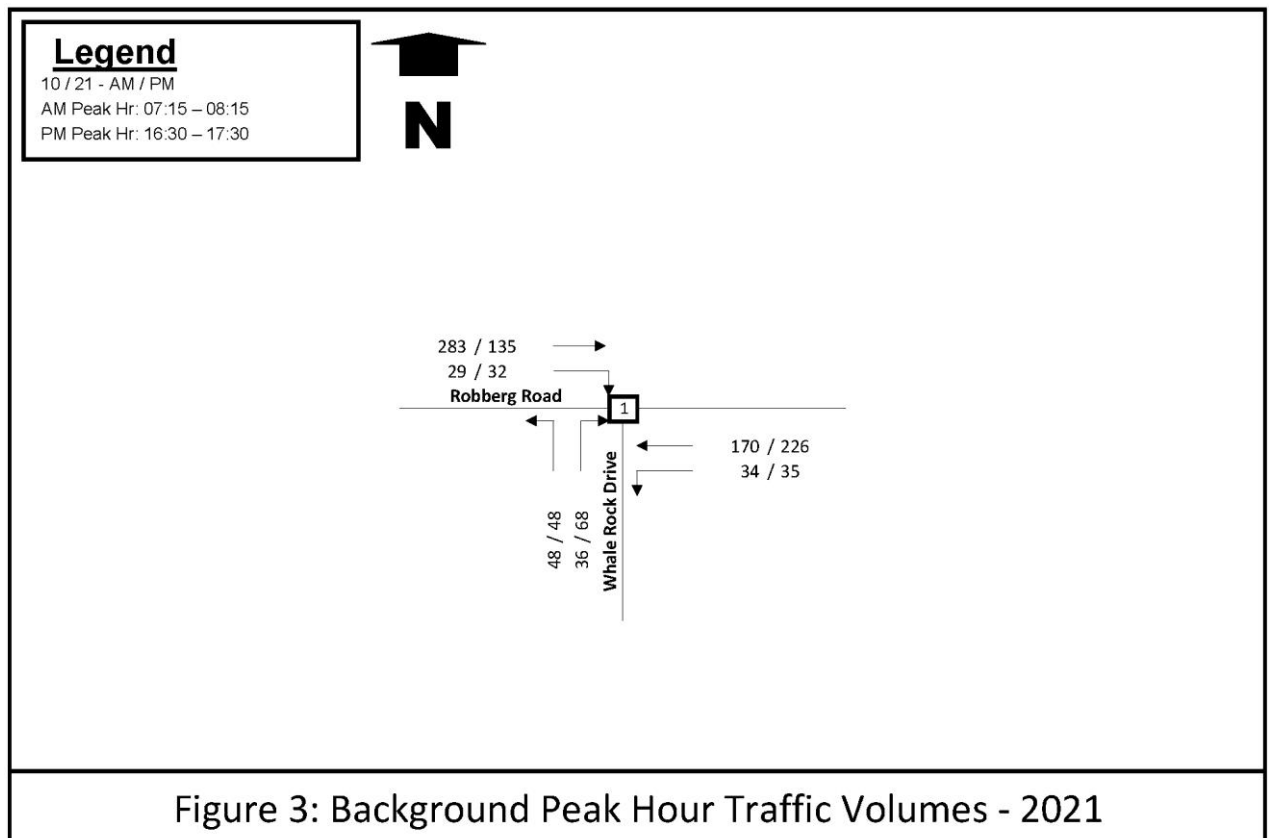
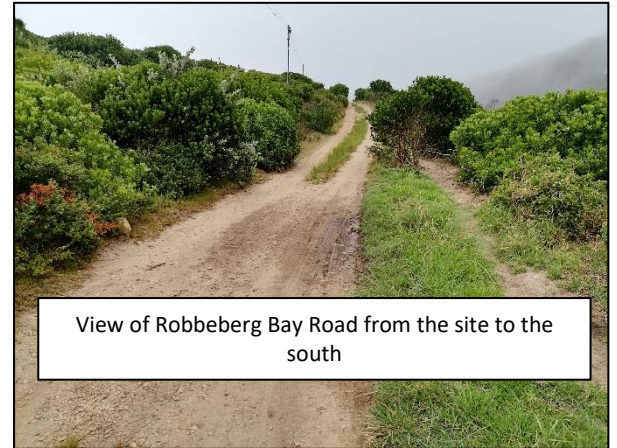
The detailed survey data is attached as **Annexure A** and summarised on **Figure 3** below

The escalated background volumes indicate approximately 180 vehicles on Whale Rock Drive during the PM peak hour.

Given that currently, there are approximately 30 residential units along Robbeberg Bay Road, and that it is estimated that trips generated by these units would equate to approximately 15-20% of this volume given that access to Whale Rock Heights, Whale Rock Ridge and the Robberg Reserve also gain access from Whale Rock Drive, it is estimated that up to approximately 36 peak hour trips make use of Robbeberg Bay Road.

Given that daily trips per residential unit are generally 3 to 4 times the peak hour trips, it can be assumed daily traffic flow would be between 105 and 140 vehicle trips.

This is approximately 17 to 23% of the design capacity of a residential street.



3.2 ROAD NETWORK

Robberg Road (DR02770) is a provincial divisional road (class 3/4) road linking Plettenberg Bay in the east with the N2 in the west. Towards Plettenberg Bay the road consists of a single lane per direction with a narrow shoulder and is in a fair condition. Towards the west, the road is in a good condition with a slightly wider shoulder. The posted speed limit is 80km/h

Whale Rock Drive is a municipal access (class 4) road linking the Robberg Reserve to Robberg Road. The road consists of a single lane per direction with a narrow shoulder and is in a fair condition. The road also provides access to Whale Rock heights and Whale Rock Ridge. The posted speed limit is 80km/h.

Robbeberg Bay Road is located along the west boundary of the site and is classified as a Class U5 residential street in terms of **TRH 26 South African Road Classification and Access Management Manual** ⁽⁴⁾. A portion of the road from the site to a point approximately 260m from the site is currently unmade and is merely a gravel access track providing access to properties.



Further to the south, Robbeberg Bay Road is surfaced up to Whale Rock Drive as indicated on **Figure 4** below.

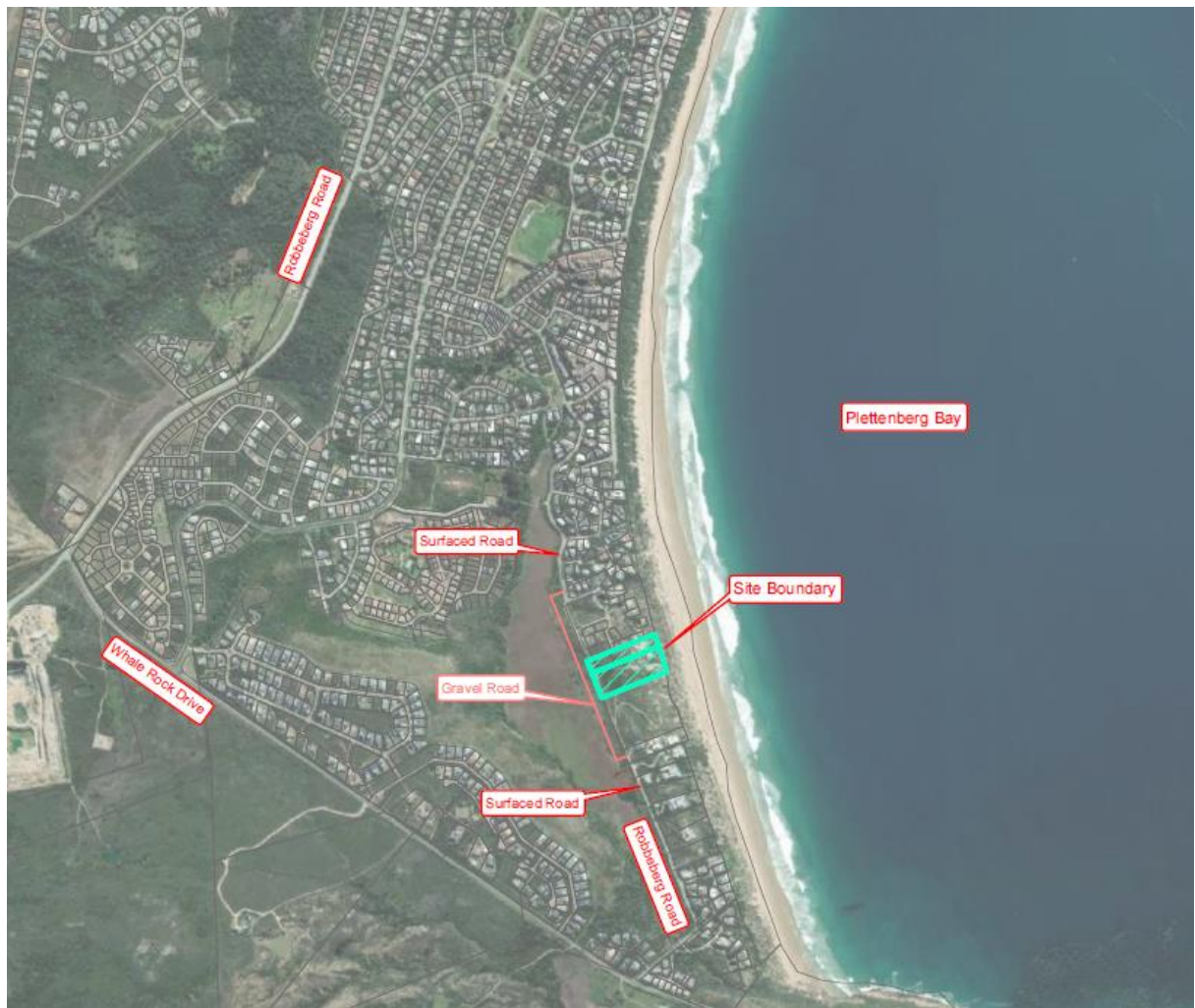


Figure 4: Existing Road layout

4 TRIP GENERATION, DISTRIBUTION AND AFTER DEVELOPMENT VOLUMES

4.1 TRIP GENERATION

TMH 17 Volume 1 - South African Trip Data Manual ⁽²⁾ notes that a single dwelling unit (Land use category 210) generates 1 peak hour and 4 daily vehicle trips per unit.

The proposed development will thus generate peak hour and daily trips as follows:

<u>TGR (Weekday AM/PM)</u>	=	1 * No of units
	=	1 * 9
	=	9 trips (in and out)
<u>Split in out</u>	=	25 : 75 (AM) / 70 : 30 (PM)
<u>TGR (Weekday Daily)</u>	=	4 * No of units
	=	4 * 9
	=	36 trips (in and out)
<u>Split in out</u>	=	50 : 50

It is considered that this would be the worst-case scenario, as it is also likely that the units would not be permanently occupied but used as recreational homes (Category 260) with periodic occupation throughout the year.

Should this be the case, the trip generation could be as low as 0.25 peak hour and 3 daily trips per unit, realising a total of 2-3 peak hour and 27 daily trips.

4.2 TRIP DISTRIBUTION

Taking into account the location of the development and that access from the north is not possible it is considered that the trips will approach along Whale Rock Drive from the south.

4.3 AFTER DEVELOPMENT VOLUMES

Based on the range of generated peak hour volumes for recreational homes and single dwelling units the total traffic volumes along Robbeberg Bay Road could increase by 2 to 9 peak hour trips to a total of 37 to 45 and by 27 to 36 daily trips to approximately 140 and 180 vehicle trips after development, still well below the operational capacity of the road.

5 ACCESS ARRANGEMENTS

Access to the site will be provided directly from Robbeberg ay Road via a single access point as indicated on **Figure 3**.

The existing access track will be upgraded to a 4.5m wide access roadway from the existing surfaced road to access point to the development.



6 PARKING REQUIREMENTS

Two parking bays will be provided on each site and will be indicated on the required site development plan.

7 CONCLUSIONS

The following conclusions can be drawn from the study:

- Robbeberg Beach Road currently carries up to 36 peak hour and 140 daily vehicle trips;
- Access to the proposed development can be accommodated directly from Robbeberg Bay Road with minimal impact;
- The proposed development will generate between 2 and 9 peak hour and 27 and 36 daily vehicle trips increasing peak hour and daily trips up to approximately 45 and 180 respectively; and
- The additional peak (up to 9) and daily (up to 36) traffic volumes will require the upgrade of the existing access track from Robbeberg Bay Road to the proposed access point to ensure that it remains in good condition.

8 RECOMMENDATIONS

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

- This TIS be approved by the Bitou Municipality;
- Access to the proposed development be provided directly from Robbeberg Bay Road as indicated on **Figure 2**, with the cost of the access point being met by the developer; and
- The existing access track from Robbeberg Bay Road to the proposed site access be upgraded to a hard surface with the cost of the access point being met by the developer.

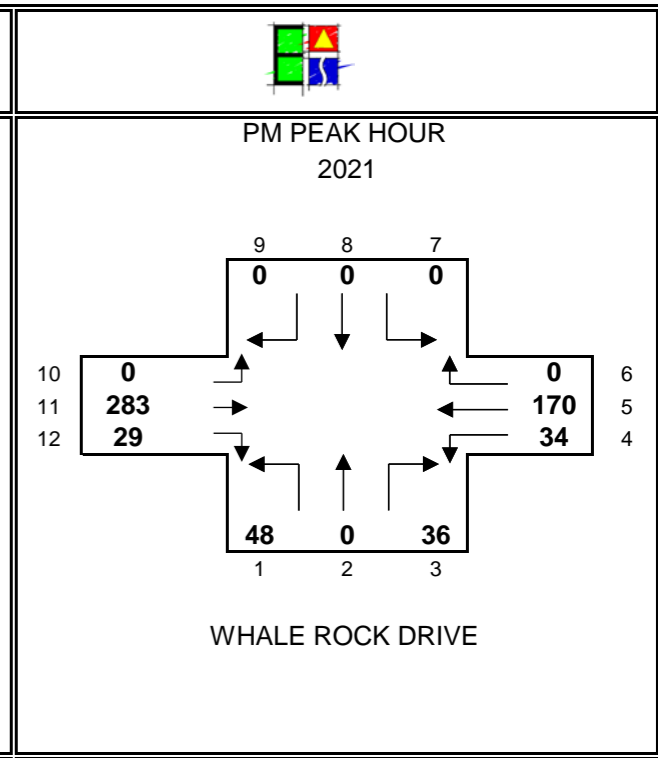
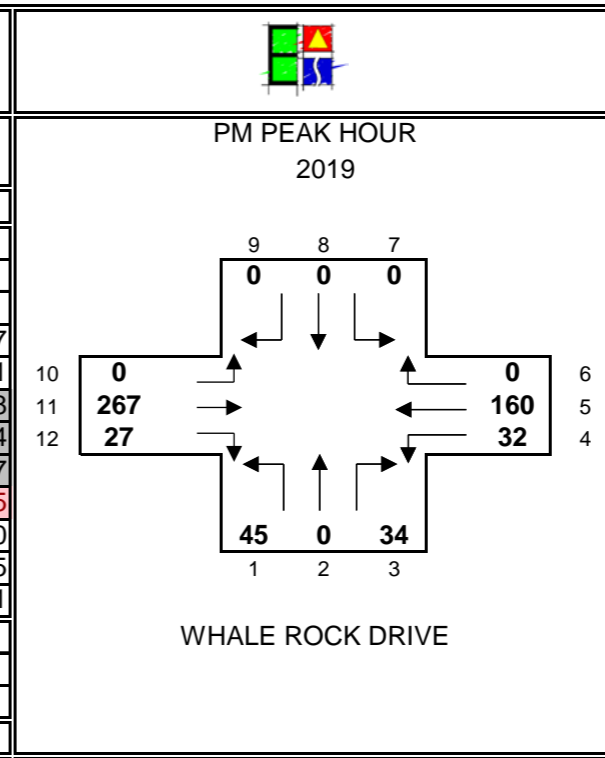
9 REFERENCES

1. *Joubert, Sampson, et al, TMH 16 Volume 1- South African Traffic Impact and Site Assessment Manual*, COTO, August 2012.
2. *Joubert, Sampson, et al, TMH 17 Volume 1- South African Trip Data Manual*, COTO, August 2012.
3. *VPM Planning, Motivation report (Consolidation Rezoning and Subdivision Applications) Portion 66 & 67, Brakkekloof No. 443*, Mantevrede Trust and Seven Fall Trading101 Pty Ltd.
4. *COTO, TRH 26 - South African Road Classification and Access Management Manual*, SANRAL, August 2012.

ANNEXURE A
Peak Hour
Traffic Volumes

Project : PROPOSED CONSOLIDATION AND SUBDIVISION, PLETTENBERG BAY
 Intersection : ROBERG ROAD / WHALE ROCK DRIVE NO. 1
 Day & date : 27/02/2019
 Time period: 06:00 - 09:00

STARTING TIME	WHALE ROCK DRIVE Northbound				ROBERG ROAD Westbound				- Southbound				WHALE ROCK DRIVE Eastbound				INTER-SECTION	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
06:00	0	0	1	1	0	10	0	10	0	0	0	0	0	10	0	10	21	
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
06:45	3	0	3	6	6	22	0	28	0	0	0	0	0	59	3	62	96	117
07:00	3	0	3	6	7	33	0	40	0	0	0	0	0	58	1	59	105	201
07:15	12	0	7	19	6	41	0	47	0	0	0	0	0	65	6	71	137	338
07:30	10	0	10	20	5	49	0	54	0	0	0	0	0	69	3	72	146	484
07:45	14	0	11	25	7	40	0	47	0	0	0	0	0	77	10	87	159	547
08:00	9	0	6	15	14	30	0	44	0	0	0	0	0	56	8	64	123	565
08:15	9	0	13	22	5	23	0	28	0	0	0	0	0	38	4	42	92	520
08:30	8	0	8	16	9	31	0	40	0	0	0	0	0	46	9	55	111	485
08:45	6	0	12	18	11	32	0	43	0	0	0	0	0	25	9	34	95	421
Total	74	0	74	148	70	311	0	381	0	0	0	0	0	503	53	556	1085	
Peak hour	45	0	34	79	32	160	0	192	0	0	0	0	0	267	27	294	565	
Peak 15 min				25				54								87	159	
PHF				0.79				0.89				#####				0.84	0.89	



25

Project : PROPOSED CONSOLIDATION AND SUBDIVISION, PLETTENBERG BAY
 Intersection : ROBERG ROAD / WHALE ROCK DRIVE NO. 1
 Day & date : 27/02/2019
 Time period: 15:00 - 18:00

STARTING TIME	WHALE ROCK DRIVE Northbound				ROBERG ROAD Westbound				- Southbound				WHALE ROCK DRIVE Eastbound				INTER-SECTION	
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Total	Hour
15:00	10	0	14	24	8	26	0	34	0	0	0	0	0	33	4	37	95	
15:15	8	0	10	18	4	39	0	43	0	0	0	0	0	20	5	25	86	
15:30	8	0	15	23	11	27	0	38	0	0	0	0	0	31	8	39	100	
15:45	9	0	8	17	8	24	0	32	0	0	0	0	0	28	10	38	87	368
16:00	10	0	11	21	15	32	0	47	0	0	0	0	0	31	10	41	109	382
16:15	11	0	5	16	12	49	0	61	0	0	0	0	0	30	3	33	110	406
16:30	11	0	17	28	7	41	0	48	0	0	0	0	0	21	12	33	109	415
16:45	15	0	18	33	9	38	0	47	0	0	0	0	0	30	7	37	117	445
17:00	13	0	21	34	13	77	0	90	0	0	0	0	0	43	8	51	175	511
17:15	6	0	8	14	4	57	0	61	0	0	0	0	0	33	3	36	111	512
17:30	10	0	3	13	10	40	0	50	0	0	0	0	0	26	7	33	96	499
17:45	5	0	12	17	6	40	0	46	0	0	0	0	0	20	4	24	87	469
Total	116	0	142	258	107	490	0	597	0	0	0	0	0	346	81	427	1195	
Peak hour	45	0	64	109	33	213	0	246	0	0	0	0	0	127	30	157	512	
Peak 15 min				34				90								51	175	
PHF				0.80				0.68				#####				0.77	0.73	

