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OVERSTRAND  
HERITAGE & AESTHETICS COMMITTEE

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MINUTES OF MEETING

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**DATE:** Thursday, 26 March 2009  
**TIME:** 14h0  
**VENUE:** "GLASKAS" – Library Building, Municipality Hermanus

**PRESENT:** Mrs E Spaarwater (in the chair)  
Ms E du Toit  
Mr A Greeff  
Mrs W Hofmeyr  
Ms M Honicke  
Mrs N Lloyd  
Mr R Smith  
Mr C Roux  
Ms M Wolters

**In attendance:** Mr J Simson - Building Services Manager

**Observer:** Mr Jan Biernacki (secretary – Stanford Heritage Committee)

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1.0 **APOLOGIES**  
Mr R Pieters, Mr N Saayman

5.5 **SANDBAAI: ERF 1447, SHOPPING CENTRE**  
Vivid Architects presented conceptual plans of the proposed shopping centre on the corner of Sandbaai Main Road and the R43. The plans were generally well received by the Committee, with comment being made that the articulation on the north-west corner could perhaps be revisited.

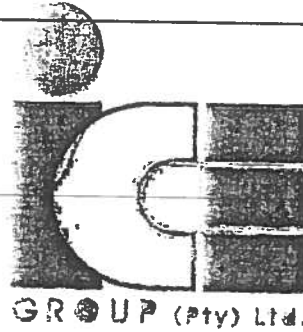
**NEXT MEETING:** Thursday 23 APRIL 2009 at 2.15 pm

Minutes: M Honicke

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**Your ref:** Erf 1447 Hermanus

**Our ref:** ICE/B/221      **Date:** 16 July 2009

Overstrand Municipality  
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Sir

**PROPOSED RETAIL DEVELOPMENT ON ERF 1447, C/O R43 AND SANDBAAI MAIN ROAD, SANDBAAI: TRAFFIC IMPACT ASSESSMENT**

This traffic impact assessment accompanies the development application for Erf 1447.

**1. Background**

Messrs Zamar Investments appointed iCE Group (Boland) to prepare a traffic impact assessment for the proposed Southern Cross Mall shopping centre on Erf 1447, Hermanus.

The property is located on the south western quadrant of the intersection of the R43 (Trunk Road 28) and Sandbaai Main Road. The location of the proposed development is shown on the attached Locality Plan.

The proposed accesses were discussed with the Provincial Roads Engineer and a Conceptual Proposed Layout, Alternative A (Drawing no BC/1221/01A) submitted for approval. The Provincial Roads Engineer approved the proposed accesses in a letter with reference 13/3/5/1-21/73 (JOB 17207) dated 10 June 2009 on certain conditions. A copy of the letter and a reduced size of the mentioned plan are attached.

The mentioned plan shows the access to the shopping centre from Sandbaai Main Road as a stop-controlled intersection and the proposal to provide a roundabout instead was discussed with the Provincial Roads Engineer at a meeting held on Friday, 10 July 2009. At the meeting the Provincial Roads Engineer verbally indicated that there is, in principle, no objection to the proposal subject to the condition that the Sandbaai Main Road be de-proclaimed as required in the letter mentioned above.

**2. Proposed development**

The property will be developed as a shopping mall with a Gross Lettable Area of 20 000 m<sup>2</sup>. See the attached Layout Plan (Plan no BC/1221/01i). Parking will be provided at ground level and in the basement, whilst loading facilities will be provided at the back of the building on the southern side.

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M.M. Kriel, Eng Tech.

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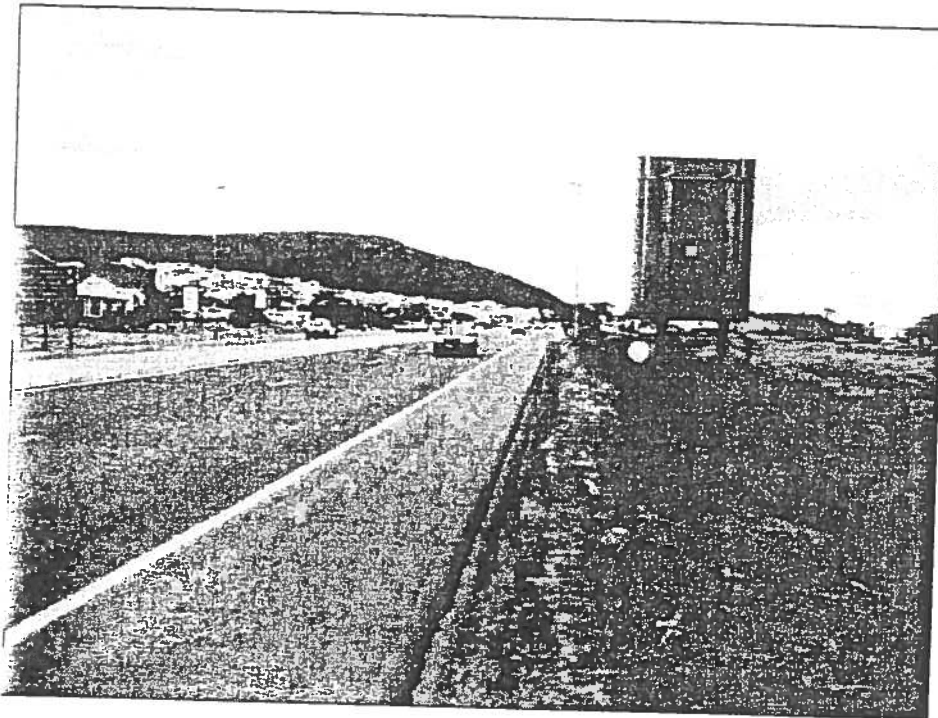
### 3. Access arrangements

#### 3.1 Left in/Left out Access from R43

Access will be obtained off the R43 on the western erf boundary of Erf 1447, approximately 220 metres to the west of the R43/Sandbaai Main Road-intersection. The last-mentioned intersection was recently upgraded and the upgrading included a median island on the R43 from the intersection to approximately 190 metres west (Onrusrivier side) of the proposed access. This would mean that the R43 access to the proposed shopping centre will function as a left in/left out only. See the attached Layout Plan (Plan no BC/1221/01i).

The R43 can be classified as a Primary Distributor (Class 2 Road) and the neighbouring environment can be described as suburban. According to the Western Cape Provincial Government's "Road Access Guidelines", the spacing requirement for a left only access on a road with the characteristics mentioned above is 160 metres. The proposed spacing of 220 metres therefore complies with the Road Access Guidelines. There is also sufficient shoulder sight distance, as shown in Photo 1 below.

**Photo 1: Shoulder sight distance: Looking east along the R43 from the proposed shopping centre exit – note the median island**



#### 3.2 Full Access from Sandbaai Main Road

A second entrance to the Southern Cross Mall is proposed off Sandbaai Main Road, opposite the access servitude to Timbali Village. This intersection will be approximately 185 metres (centre to centre) to the south of the R43 and approximately 95 metres south of the Engen Filling Station's access.

Although the road will ultimately function more like a Class 3-road, the Sandbaai Main Road is classified as a Local Distributor (Class 4 Road) in a suburban development, with an access spacing requirement of 120 metres for a normal side street and 90 metres for a left in/left out access. As mentioned in the letter from the

Provincial Roads Engineer (mentioned in paragraph 1) a condition of approval of the accesses is that the Sandbaai Main Road be de-proclaimed.

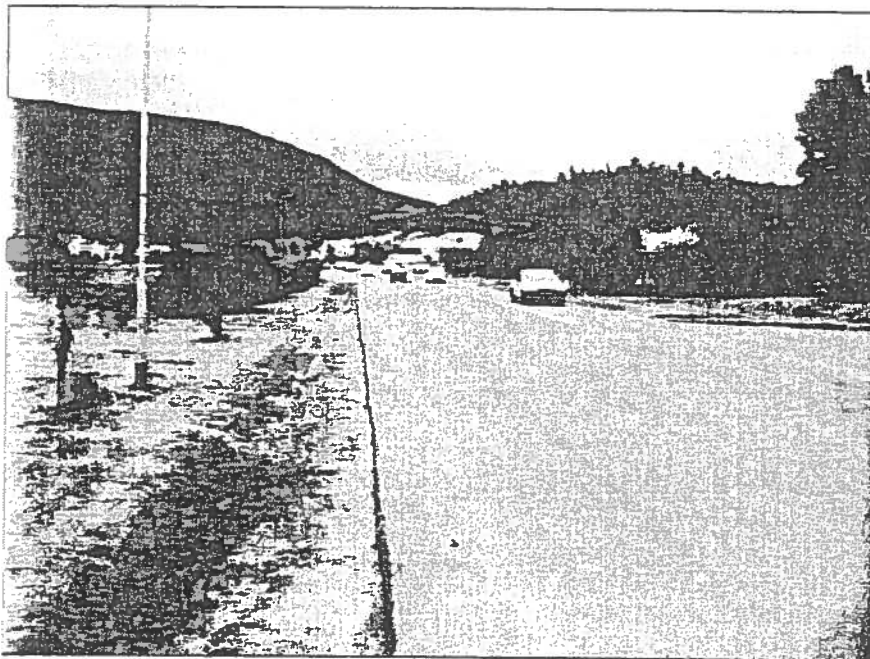
The Overstrand Municipality has indicated that consideration is given to the closure of the existing entrance off Sandbaai Main Road to the Engen Filling Station, and providing access to that property via the Timbali Village Access servitude (a condition of approval of the accesses as mentioned in the Provincial Roads Engineers' letter in paragraph 1). This would mean that the shopping centre's access will conform to the Road Access Guideline's standards for unsignalised intersections.

The northward view along Sandbaai Main Road from the southern boundary of Erf 1447 is shown in Photo 2 below.

### 3.3 Possible Exit via Servitude to Bergsig Street

An access servitude exists for Erf 1823 which could link Erf 1447 with Bergsig Street via Erf 1823. The servitude can only accommodate a one-way road, but it may be used as an alternative exit for the Southern Cross Mall. The distribution of southbound traffic via this access will reduce the southbound right turn movement at the Southern Cross Mall Entrance/Sandbaai Main Road-intersection. This possible exit will require the purchasing of the property to the south of Erf 1447 (Erf 1823). The proposed accesses to the R43 and Sandbaai Main Road should, however, be sufficient to accommodate the traffic expected to be generated by the proposed shopping centre and the mentioned exit is thus not considered essential for the development of the shopping centre. The analyses did not include this possible access.

**Photo 2: Looking north from the southern boundary of Erf 1447 – note the existing access road to Timbali Village on the right.**



### 4. Existing traffic

Traffic counts were done at the R43/Sandbaai Main Road-intersection on Friday 13 June 2008 from 16:00 to 19:00 and on Saturday 14 June 2008 from 11:00 to 14:00. Additional counts were done at the Sandbaai Main Road/Engen Filling Station Access- intersection on Saturday 18 October 2008. The 2008 Saturday peak hour

and Friday PM peak hour traffic volumes derived from these counts are as indicated in Figure 1 attached.

The above mentioned intersections were analysed by means of the SIDRA computer programme to obtain existing service levels. The analyses of the various intersections are discussed hereafter.

#### **R43/Sandbaai Main Road-intersection**

The analysis of the existing traffic volumes at this intersection indicated that the signalised intersection of the R43 and Sandbaai Main Road presently operates at a level of service B during both the Friday PM and Saturday AM peak hours.

#### **Sandbaai Main Road/Engen Filling Station-intersection**

The analyses of the existing peak hour volumes at this intersection indicated that the intersection currently operates at a level of service A during both the Friday PM and Saturday AM peak hours. Although the SIDRA-analyses indicates acceptable service levels it was observed on site that right turning traffic from the filling station do experience delays.

#### **Sandbaai Main Road / Timbali Village Access-intersection**

The Timbali Village access road only serves the Timbali Village residential development at present and on-site observations indicate that traffic volumes are relatively low at the Sandbaai Main Road/Timbali Village Access-intersection. This intersection is operating at a level of service A during both peak hours.

The Existing 2008 Saturday Peak Hour and Friday PM Peak Hour Traffic Volumes and Levels of Service are shown in Figure 1.

### **5. Trip generation**

Trip generation figures were based on a centre with a Gross Lettable Area (GLA) of 20 000 m<sup>2</sup>.

The Friday PM peak hour and Saturday morning peak hour were calculated according to the rates recommended in the latest edition of the South African Trip Generation Rates document. It was assumed that 35% of traffic entering or exiting the centre would be pass-by traffic and that the remaining 65% would be new trips.

The trip generation potential for the proposed shopping centre is summarised in Table 1.

**Table 1: Trip generation potential of proposed Erf 1447 development**

<b>Saturday AM Peak hour</b>						
GLA (m <sup>2</sup> )	TG Rate	% In	% Out	Trips	Trips in	Trips out
20 000	12.82	50%	50%	2565	1282	1282
New trips			65%	1667	833	833
Pass- by trips			35%	898	449	449
<b>Friday PM Peak hour</b>						
GLA (m <sup>2</sup> )	TG Rate	% In	% Out	Trips	Trips in	Trips out
20 000	7.74	50%	50%	1548	774	774
New trips			65%	1006	503	503
Pass- by trips			35%	542	271	271

In order to determine the impact of additional GLA over and above the proposed 20 000 m<sup>2</sup> GLA, in case of future expansion, trip generation calculations were also done for a mall with GLA up to 30 000m<sup>2</sup>.

## 6. Trip Distribution

### 6.1 Existing road network, with access from Sandbaai Main Road and R43

Trips were distributed to the north via the Hemel-en-Aarde Road (10%), to Hermanus in the east via the R43 (20%), to Sandbaai in the south via Sandbaai Main Road (20%) and to the west via the R43 (50%).

The expected distribution of new trips on the existing road network is shown in the attached Figure 2.

### 6.2 New link to Onrusrivier and with Southern Cross Mall exit to Bergsig Street

The tender for the development of the Commonage ("Meentgrond") between Sandbaai and Onrusrivier was recently awarded. The development of this land is very likely to include the extension of Bergsig Street to provide an alternative east-west link between Onrusrivier and Sandbaai and ultimately to Hermanus. When this road is provided, some of the trips assigned to the R43 will redistribute to the new road. This should improve operations at the R43/Sandbaai Main Road-intersection as well as at the Sandbaai Main Road/Southern Cross Mall Access-intersection, as the number of east bound right turns at the first mentioned intersection and the southbound right turns at the last-mentioned intersection will decrease.

Traffic counts at the R43/Onrusrivier Main Road- and R43/Sandbaai Main Road-intersections indicated that approximately 30% of traffic on the R43 passing Sandbaai Main Road, originates from or returns to Onrusrivier. It was assumed that approximately 40% of the Onrusrivier traffic would utilise the new Bergsig Street link to Sandbaai and beyond, thereby decreasing traffic on the R43.

Existing Onrusrivier traffic and Southern Cross Mall traffic was redistributed to reflect this option.

## 7. Expected Traffic

Traffic generated by the proposed development was added to the existing 2008 traffic volumes to obtain expected 2009 traffic volumes. Affected intersections were then analysed to determine expected service levels. The analyses of the various intersections are discussed hereafter.

### R43/Sandbaai Main Road-intersection

The service level at the R43/Sandbaai Main Road-intersection is expected to deteriorate from a B during both the Friday PM and Saturday AM peak hours to a D during the Saturday AM peak hour and a C during the Friday PM peak hour. These are still acceptable service levels and no improvements are recommended. See Figure 3 attached for the expected 2009 peak hour traffic volumes and services levels.

It is however recommended that sufficient space for a future dedicated left turn lane on the Sandbaai Main Road approach be provided at the intersection. See the attached Layout Plans (Plan BC/1221/01i and BC/1221/01J).

### Sandbaai Main Road/Engen Filling Station-intersection

The existing Sandbaai Main Road/Engen Filling Station access-intersection is expected to continue operating at a level of service A during both the Friday PM

and Saturday AM peak hours, although delays experienced by traffic exiting the Engen Filling Station will increase to unacceptable levels. The expected service levels on the filling station access approach are an E during the Saturday peak hour and a D during the Friday PM peak hour. See Figure 3 attached for the service levels.

#### **Southern Cross Mall Access/R43-intersection (Left in/Left out access)**

The new access on the R43 is expected to operate at a level of service A during both of the peak hours analysed. It is however, due to the relatively high westbound left turning volume, proposed that a dedicated left turn lane be provided for traffic from the east (Hermanus-side). See Figure 3 for the expected 2009 peak hour traffic volumes and service levels.

#### **Sandbaai Main Road/Timbali Village Access/Southern Cross Mall Access-intersection**

Traffic volumes at the new access intersection on Sandbaai Main Road (opposite Timbali Village access road) will exceed the capacity of a stop controlled intersection. It is estimated that, with stop-control, the intersection should be able to accommodate traffic from a 16 000 m<sup>2</sup> GLA shopping centre. In order, however, to accommodate 20 000 m<sup>2</sup> GLA as now proposed, it is recommended that a roundabout should be provided at this intersection. See the attached Layout Plan, Plan no. BC/1221/01i.

A single lane roundabout with one lane per approach is expected to operate at a level of service B during the Friday PM peak hour and a level of service C during the Saturday AM peak hour. See Figure 3 for the expected service levels.

Traffic signals will also provide satisfactory service levels, but the intersection spacing does not comply with minimum requirements as indicated in the Provincial Roads Engineers', "Road Access Guidelines" (375 metres are required).

With the filling station access closed and the traffic thus diverted to the roundabout, the service levels at the roundabout will deteriorate to an E during the Saturday morning peak hour. Both the eastern and southern approaches will operate at level of service F. See Figure 4 attached. In order to improve the service levels a two-lane roundabout would be required. With the filling station access a left in/left out access the same improvements will be required. In this case the existing right turning traffic from the filling station will have to turn left and travel via the roundabout which will result in an increase in the total two-way traffic volume along Sandbaai Main Road. See Figure 5 attached.

#### **Relocated Engen Access**

See the attached Figures 3 for the Expected 2009 Saturday Peak Hour and Friday PM Peak Hour traffic volumes and levels of service without the relocation of the Engen Filling Station Access. Figure 4 shows the Expected 2009 Saturday peak hour and Friday PM peak hour traffic volumes and levels of service with the Engen filling station access relocated to the Timbali access whilst Figure 5 shows these volumes and service levels with the filling station access as a left in/left out only. In both instances the service levels are for a single lane roundabout.

#### **Sandbaai Main Road Link Volumes**

The critical peak hour is the Saturday peak hour. Only the Saturday peak hour volumes are thus analysed.

**Link Volumes south of the roundabout (between Bergsig Street and the Southern Cross Mall Access)**

The total two-way traffic volume south of the roundabout (between Bergsig Street and the Southern Cross Mall Access) during the Saturday peak hour is expected to be around 1 112 vehicles **with no Bergsig Street link** whilst **with the Bergsig Street link** the volume is expected to be 1 694 vehicles. A two lane road should be sufficient to accommodate these volumes although low service levels will be experienced with the Bergsig Street link in place. This does not include any other developments in Sandbaai such as the Commonage. It is expected that with other larger developments such as the Commonage, a dual carriageway will be required.

**Link Volumes north of the roundabout (between the Southern Cross Mall Access and the R43)**

The total two-way traffic volume north of the roundabout (between the R43 and the Southern Cross Mall Access) during the Saturday peak hour **with no Bergsig Street link** but with the existing access to the filling station, is expected to be 1 853 vehicles south of the filling station access and 1 972 north of the filling station access. These volumes warrant a dual carriageway. **With the Bergsig Street link** and a left in/left out access at the filling station these volumes are expected to come down to 1 788 and 1 704 vehicles respectively. A dual carriageway will still be required.

It can thus be concluded that the link volumes along Sandbaai Main Road will, with the Southern Cross Mall and the existing road layout and no other developments in Sandbaai, require a two-lane road whilst with other developments such as the Commonage, and with the future Bergsig Street link between Onrusrivier and Sandbaai in place, a dual carriageway will be required between Bergsig Street and the R43.

**8. Alternatives**

A number of alternative scenarios were investigated in order to determine the maximum development potential of the site. The results are summarised in Table 2, attached.

The analyses show that with the improvements to the road infrastructure as mentioned, up to 30 000 m<sup>2</sup> GLA could be developed.

**9. Geometry**

The access arrangements are as discussed in paragraph 3 above. As mentioned in paragraph 7 it is recommended that the Southern Cross Mall Access-intersection with the Sandbaai Main Road be a roundabout. This will not only provide more capacity than a stop-controlled intersection but also serve as a speed calming measure. In addition to this it would also be possible to retain the existing Engen Filling Station access as a left in/left out access if a median island is provided between the R43 and the proposed roundabout. The roundabout would have to make provision for delivery trucks to/from the shopping centre as well as the fuel truck to the filling station.

Information with regard to the planned development to the east of Sandbaai Main Road opposite the proposed Southern Cross Mall development, was obtained from EFG Engineers. This was taken into consideration in the layout of the proposed roundabout.

The attached Layout Plan, Plan no BC/1221/01i shows details of the access intersections, internal roads and parking required for the Southern Cross Mall development only. Plan no BC/122/01J indicates the expected future Sandbaai Main Road as a dual carriageway with the filling station access as a left in/left out

access. Although the roundabout indicated on Plan no BC/1221/01i shows one circulating lane, provision has been made that a second circulating lane could be added on the inside of the lane indicated when two circulating lanes are required in future. As mentioned earlier, sufficient space should be provided for a future dedicated left turn lane on the Sandbaai Main Road approach at the R43/Sandbaai Main Road-intersection as indicated on the Layout Plans.

Delivery vehicles from the west (Cape Town-side) to the loading and off-loading area on the southern side of the centre will obtain access via Sandbaai Main Road and the proposed roundabout whilst vehicles from the east could travel either via the Sandbaai Main Road or the proposed left in/left out-access on the R43. Vehicles exiting the site to Cape Town could use either access whilst vehicles to the east would have to travel via the Sandbaai Main Road access.

A concern is that should the filling station access be closed (no left in/left out access) the layout received from EFG Engineers is such that the fuel truck to the filling station will not be able to exit (insufficient turning radii). It is thus proposed that the filling station access be retained as a left in/left out access in order to accommodate this movement. The proximity of the proposed building (as obtained from EFG Engineers) to the sidewalk at the roundabout should be noted and considered by the local authority.

#### 10. Non-motorised and Public Transport

There are existing sidewalks along the R43, with pedestrian crossings at the R43 / Sandbaai Main Road traffic signals. No sidewalks, however, exist along Sandbaai Main Road. See Photo 2. It is recommended that a paved sidewalk should be provided on the western side of Sandbaai Main Road for the length of Erf 1447 to tie in with that along the R43. Sufficient provision will be made for pedestrian movement on site.

There is a public transport vehicle embayment next to the R43 westbound, just west of Sandbaai Main Road. Provision will be made for pedestrians from this embayment to the shopping centre. Three (3) bays within the shopping centre's parking area on the eastern side of the centre will be reserved for public transport vehicles. See the Layout Plan.

#### 11. Parking

The intention is to provide 6 bays per 100m<sup>2</sup> GLA of retail area, which means that 1 200 parking bays will be provided for the proposed 20 000 m<sup>2</sup> GLA. This parking will be provided by means of ground level parking and basement parking.

The dimensions of the parking bays to be provided will be a minimum of 5,0 metre x 2,5 metres with a 7,0 metre isle width which is in accordance with the normal standards. Where required as a result of columns in the basement, etc. these dimensions will be emended in order to ensure proper vehicle movement.

#### 12. Conclusions

From the above the following can be concluded:

- That the property is located on the southwestern quadrant of the intersection of the R43 (Trunk Road 28) and Sandbaai Main Road;
- That the property will be developed as a shopping mall with a Gross Lettable Area of approximately 20 000m<sup>2</sup>, although a number of greater GLA's were also investigated;
- That access is proposed off the R43, approximately 220 metres to the west of the Sandbaai Main Road/R43-intersection as a left in/left out only and off Sandbaai Main Road opposite the access servitude to Timbali Village,

approximately 185 metres south of the R43 as a full access by means of a roundabout;

- That the accesses have been approved in writing by the Provincial Roads Engineer in a letter with reference 13/3/5/1-21/73 (JOB 17207) dated 10 June 2009 on certain conditions;
- That an alternative exit may be provided via an access servitude that exists for Erf 1823 which could link Erf 1447 with Bergsig Street via Erf 1823 but that the exit is not considered essential for the development;
- That the R43/Sandbaai Main Road-intersection and the Sandbaai Main Road/Timbali Village Access-intersection are both currently operating at acceptable service levels;
- That a shopping centre with a GLA of 20 000m<sup>2</sup> is expected to generate 2 565 trips (1 282 in, 1 282 out) during the Saturday AM peak hour and 1 548 trips (774 in, 774 out) during the Friday PM peak hour;
- That 35% of the above mentioned trips will be by-pass traffic and therefore only 1 667 trips (833 in and 833 out) will be added to the road network during the Saturday AM peak hour, with 1 006 trips (503 in and 503 out) being added in the Friday PM peak hour;
- That trips were distributed to the north via the Hemel-en-Aarde Road (10%), to Hermanus in the east via the R43 (20%), to Sandbaai in the south via Sandbaai Main Road (20%) and to the west via the R43 (50%);
- That some of the trips assigned to the R43 will redistribute to Bergsig Street when Bergsig Street is extended to provide a link between Onrusrivier and Sandbaai/Hermanus and that this should improve operations at the R43/Sandbaai Main Road-intersection and on Sandbaai Main Road, as the number of eastbound right turns and southbound right turns respectively, will decrease;
- That, although the service levels will deteriorate, all surrounding intersections are expected to continue functioning at acceptable service levels with the addition of Erf 1447 traffic, given that a single lane roundabout are implemented at the Sandbaai Main Road/Southern Cross Mall Access-intersection – traffic exiting the filling station will experience a level of service E;
- That a roundabout at the Southern Cross Mall Access/Sandbaai Main Road-intersection will not only provide more capacity than a stop-controlled intersection but also serve as a speed calming measure and that it would also be possible to retain the existing Engen Filling Station access as a left in/left out access if a median island is provided between the R43 and the proposed roundabout;
- That with the existing road layout and the addition of the Southern Cross Mall traffic, Sandbaai Main Road as a two-lane road should still be sufficient to accommodate the expected traffic although it is expected to operate at a low service level;
- That with the closure of the Engen filling station access or the change thereof to a left in/left out only access, the roundabout should be changed to a two-lane roundabout;
- That with the Bergsig Street link between Onrusrivier and Sandbaai in place and any further developments such as the Commonage, Sandbaai Main Road would have to be upgraded to a dual carriageway between the R43 and Bergsig Street;
- That information with regard to the planned development to the east of Sandbaai Main Road opposite the proposed Southern Cross Mall development, was obtained from EFG Engineers and that this was taken into consideration in the layout of the proposed roundabout;