

Verkeersimpakstelling

TRAFFIC IMPACT STATEMENT

SEPTEMBER 2020

**PROPOSED RETAIL DEVELOPMENT ON
ERF 1043, ROBERSTSON**

PREPARED FOR:

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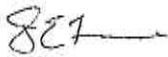
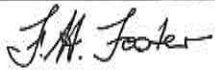
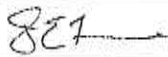
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TABLE OF CONTENTS

1.	INTRODUCTION	2
2.	LAND USE	3
3.	TRAFFIC IMPACT	4
3.1	Access	4
3.2	Existing Traffic	4
3.3	Trip Generation	5
3.4	Parking Provision	6
3.5	Pedestrians	7
4.	CONCLUSIONS	7
5.	RECOMMENDATIONS	8

LIST OF FIGURES

Figure 1: Erf 1043, Robertson	2
Figure 2: Location of the site in the context of the surrounding zoning	3
Figure 3: Location of the site in the context of the surrounding zoning	4
Figure 4: Typical Friday PM Peak Google Traffic conditions	5
Figure 5: Proposed delivery access from Konstitusie Street shown tree to be removed	7

1. INTRODUCTION

Mr & Mrs JP Kotze appointed EFG Engineers (Pty) Ltd to prepare a Traffic Impact Statement (TIS) for the rezoning of Erf 1043 to permit a retail development of 800m² GLA on Erf 1043 in Robertson. The proposed development is located on the southern corner of Paul Kruger Street and Konstitusie Street in Robertson (see Figure 1).

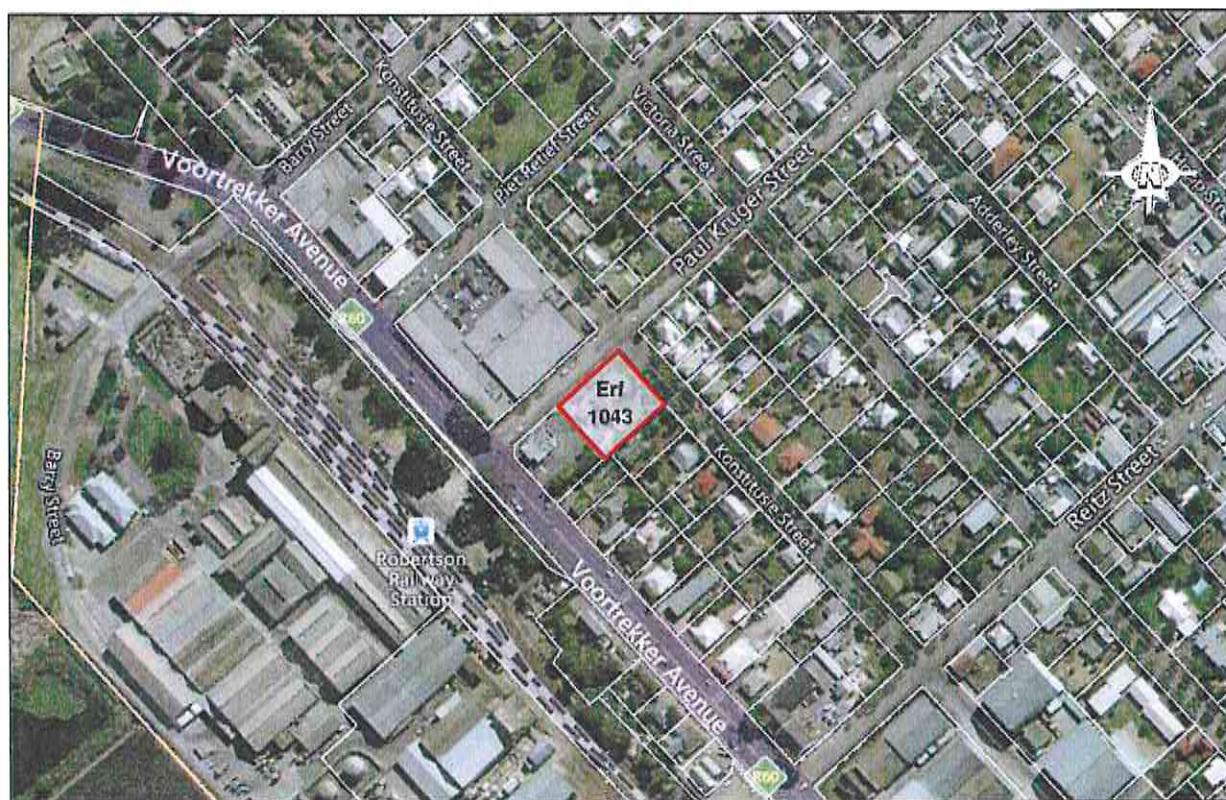


Figure 1: Erf 1043, Robertson

2. LAND USE

Currently Erf 1043 is zoned Single Residential in terms of the Robertson Zoning Scheme and is 2 399 m² in extent. The surrounding properties (see **Figure 2**) in the area include: Special Business, General Business and Single Residential. In the block bounded by Voortrekker Avenue, Paul Kruger Street, Konstitusie Street, and Reitz Street there are 21 erven of which 11 are General Business with 10 are Single Residential.



Figure 2: Location of the site in the context of the surrounding zoning

76

A provisional Site Development Plan (SDP) is included in **Figure 3**. The development/building footprint is approximately 870 m² and the GLA is assumed to be a maximum of 800 m² which allows approximately 10% of the building footprint for entrances, internal walkways public ablutions.

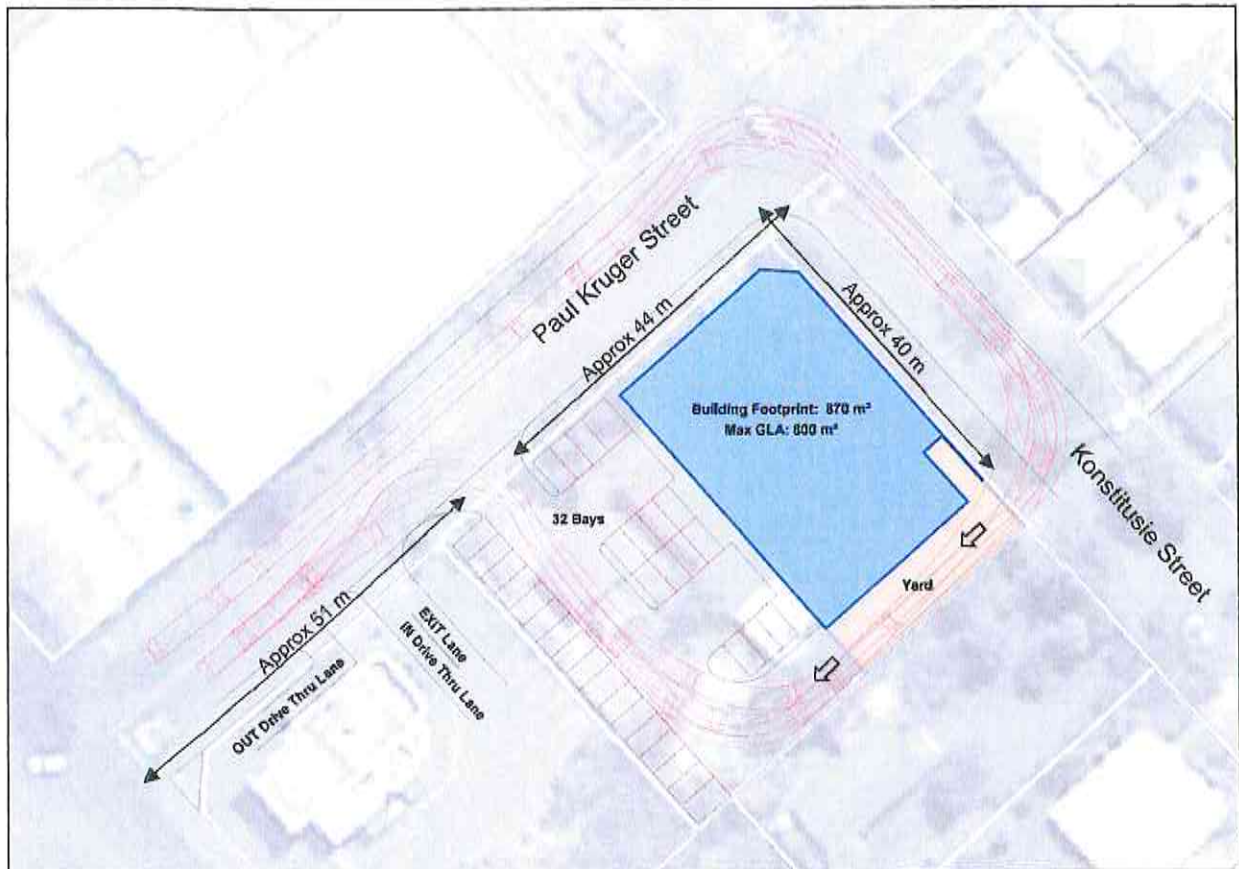


Figure 3: Location of the site in the context of the surrounding zoning

3. TRAFFIC IMPACT

3.1 Access

Customer access to the development is proposed from Paul Kruger Street approximately 51 m and 44 m (measured kerb-to-kerb) from Voortrekker Avenue and Konstitusie Street respectively. Delivery access (ingress only) is proposed from Konstitusie Street approximately 40 m (measured kerb-to-kerb) from Paul Kruger Street. Egress for deliveries is via the Paul Kruger Street access.

The proposed access was evaluated from a safety perspective and sufficient shoulder sight distance is available at the Paul Kruger Street access.

3.2 Existing Traffic

Historic traffic count data have been obtained from the WCG Road Network Information System (RNIS) website for the MR 31 (R60) entering Robertson from the west and exiting Robertson to the east. This indicates a peak hour two-way volume in 2017 of approximately 750 vehicles to the west of Robertson and 810 vehicles to the east of Robertson.

The Voortrekker Road (R60) / Paul Kruger Street is an important intersection as Paul Kruger Street provides access to the main economic hub of Robertson. Typical Friday PM peak Google traffic conditions indicate

some minor delays occur along Voortrekker Avenue and Paul Kruger Street. However, indications are that these delays and the intersection level of service is not unacceptable in the Friday PM peak.

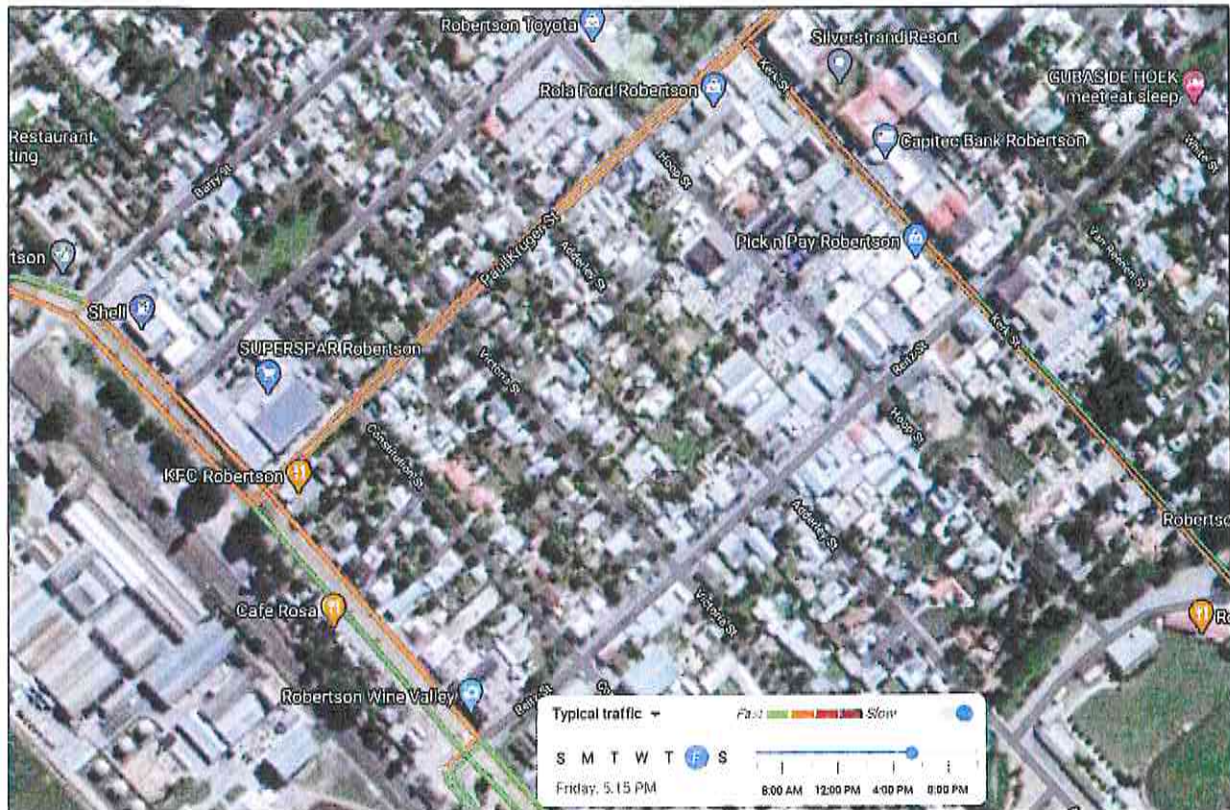


Figure 4: Typical Friday PM Peak Google Traffic conditions

3.3 Trip Generation

The Committee of Transport Officials (COTO) TMH 17 (September 2013) defines Shopping Centre [LU 820] as "an integrated (mixed use) group of commercial establishments that operate as a unit". As such the term "shopping centre" as described in the TMH 17 may seem to be appropriate and fit the land use description being applied for. The trip generation rate (trips/100 m²) is exponential and increases substantially the smaller the shopping centre. Applying the standard trips rates and applying the GLA adjustment factors but not allowing for any reduction factors (low vehicle ownership, mixed use and transit corridors) the trip generation for 800 m² GLA would be:

- 28 trips 3.5 trips/100m² in the AM peak hour
- 160 trips 20 trips/100m² in the Friday PM peak hour, and
- 212 trips 26.5 trips/100m² in the Saturday Midday peak hour.

This is considered to be very high for a town such as Robertson were to two-way peak hour traffic to/from the west and east, allowing for some traffic growth from 2017, is typically less than 850 and 900 trips respectively.

Taking the above into account it was considered to apply the following reduction factors:

- **Low vehicle ownership:** based on this being a relatively small town with limited vehicles rather than low vehicle ownership,
- **Mixed use:** on the basis this is part of a bigger commercial area with other mixed uses, and
- **Transit node/corridor:** on the basis that the site is close to bus and taxi routes.

Applying these factors reduces the trip generation by 46% and the adjusted trip generation for 800 m² GLA would then be as follows:

- 15 trips 1.9 trips/100m² in the AM peak hour
- 86 trips 10.7 trips/100m² in the Friday PM peak hour, and
- 114 trips 14.2 trips/100m² in the Saturday Midday peak hour.

This is considered to be more realistic for a small retail centre in Robertson.

A detailed breakdown of the trip generation with these assumptions is provided in Table 1.

Table 1: Trip Generation Calculations

Shopping Centre GLA	800	m²							
Size Adj Factors	5.88	Factor A 6.00		Factor B 3 500					
Pass-By Factors	2.92	Factor A 1.95		Factor B 48 000					
Mixed Use	0.10	Reduction Factor							
Vehicle Ownership	0.30	low		Reduction Factor					
Transit Node/Corridor	0.15	Reduction Factor							
Combination	0.46	Reduction Factor							
Peak Hour & IN:OUT	AM	IN	OUT	PM	IN	OUT	SAT	IN	OUT
Base TGR	0.6	65%	35%	3.4	50%	50%	4.5	50%	50%
Size Adjusted	3.5			20.0			26.5		
Low Veh & Transit Adj	1.9			10.7			14.2		
Total Trips	15	10	5	86	43	43	114	57	57
Base % Pass by	0%			13%			12%		
Pass-by adjusted Trips*	0%	0	0	37%	16	16	35%	20	20
Diverted Trips*	0%	0	0	29%	12	12	38%	22	22
New Trips	100%	10	5	34%	15	15	27%	15	15

The above trip generation breakdown makes allowance for pass-by trips and diverted trips which are applicable in the Friday PM peak hour and Saturday MD peak hour. In terms of this the development is anticipated to generate new trips on the network as follows:

- 15 new trips in the AM peak hour (10 IN and 5 OUT)
- 30 new trips in the Friday PM peak hour (15 IN and 15 OUT)
- 30 new trips in the Saturday MD peak hour (15 IN and 15 OUT)

Based on this, the overall anticipated traffic impact of the proposed development is deemed insignificant and no further evaluations in terms of capacity analysis are deemed necessary.

3.4 Parking Provision

According to the Langeberg Municipality Integrated Zoning Scheme By-law (18 May 2018) the minimum off-street parking requirement is as follows:

- Shops / Liquor store / Restaurant / Supermarket : 4 bays per 100 m²

The proposed SDP makes provision for 32 parking bays (31 standard bays plus 1 bay for the physically disabled) which complies with the 4 bays per 100 m².

In terms of the By-law a supermarket with a GLA of between 400 m² and 1 000 m² should provide 2 loading bays. As per the By-law a loading bay should be a minimum of 10 m long x 4.5 m wide where perpendicular to the road. The SDP indicates a loading yard 6.5 m wide and 25 m long which can accommodate two loading bays in accordance with the By-law. While the yard can accommodate 2 smaller rigid trucks it could also, when necessary, accommodate a larger articulated truck. Tracking for the articulated truck has been tested and is acceptable as shown on the SDP in **Figure 3**.

It should be noted that the delivery access from Konstitusie Street will require a tree adjacent and to the north of the access to be removed (see **Figure 5** – tree indicated with yellow star). The tree is potentially a Wit-Karee and not the same as the avenue of Jacaranda trees.



Figure 5: Proposed delivery access from Konstitusie Street shown tree to be removed

3.5 Pedestrians

Pedestrians can be accommodated on the existing surfaced sidewalks along Paul Kruger Street and Konstitusie Street.

4. CONCLUSIONS

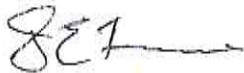
Based on the findings of this report the following conclusions are made:

- Erf 1043 is currently zoned Single Residential 3 and will need to be rezoned to General Business to accommodate a small 800 m² GLA retail development;
- Access to the development is from Paul Kruger Street (customer access) and from Konstitusie Street for delivery ingress. Delivery vehicles will exit via the Paul Kruger Street access;
- It is estimated that the development will generate 15 trips in the AM peak hour, 86 trips in the Friday PM peak hour, and 114 trips in the Saturday MD peak hour;
- Of the total development trips the new peak hour trips to the road network are anticipated to be less than 30 trips in the Friday PM peak hour and Saturday MD peak hour with the remaining trips being pass-by and redistributed trips.
- Detailed capacity analyses are not deemed necessary considering the low number of new development trips on the surrounding road network;
- 32 parking bays (31 standard bays plus one bay for the physically disabled) are provided in accordance with the By-law requirements.

- The loading yard of 6.5 m x 25 m can accommodate 2 loading bays (4.5 m x 10 m) which is in accordance with the By-law requirements; and
- There is adequate provision for pedestrians on the existing surface sidewalks around the site.

5. RECOMMENDATIONS

Based on the conclusions of this TIS it is recommended that the proposed development on Erf 1043 be approved from a traffic point of view.



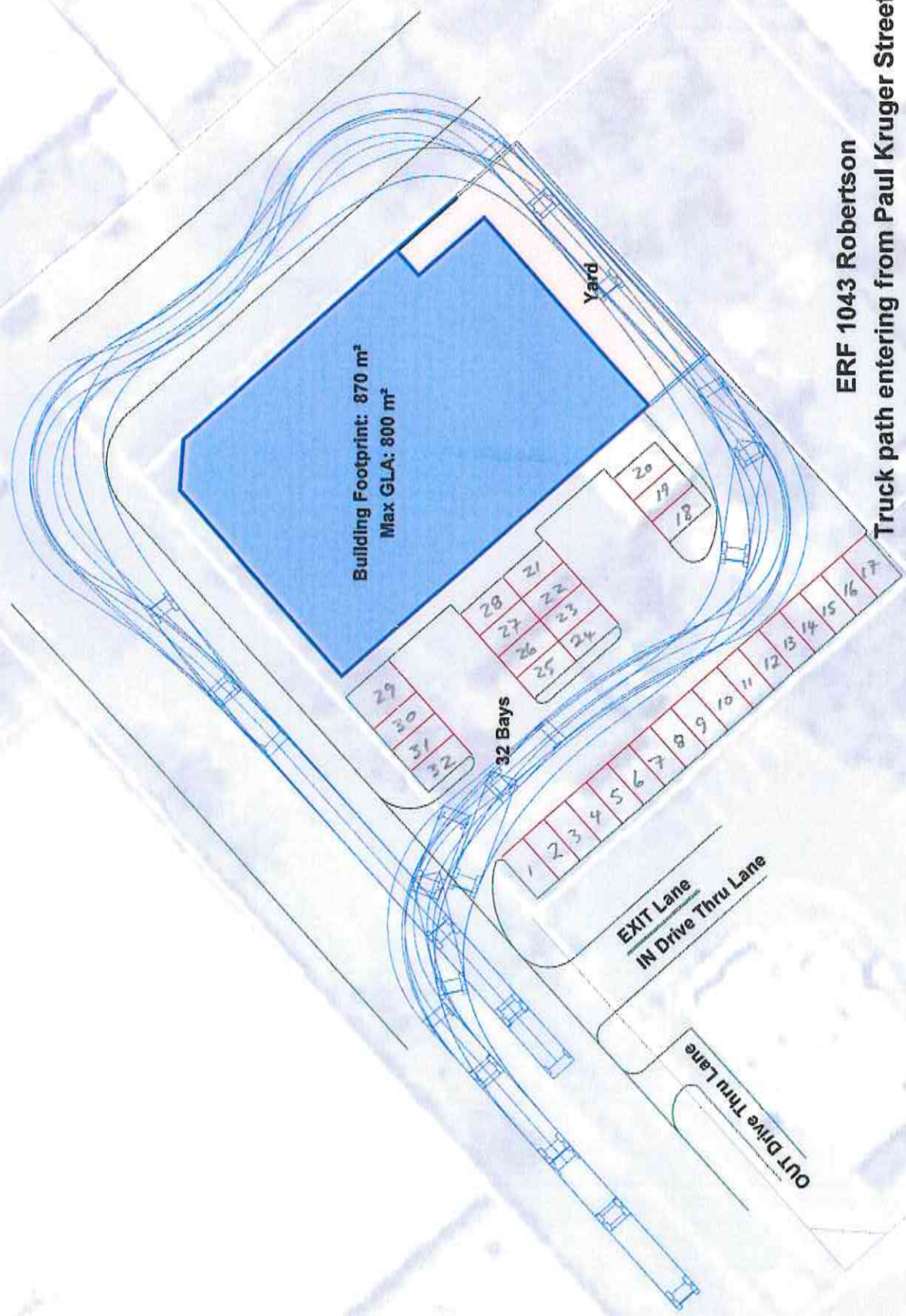
David Faure (PrEng)

EFG Engineers (Pty) Ltd

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ERF 1043 Robertson
Truck path entering from Paul Kruger Street
and exiting on Konstitusie Street
7 October 2020



ROB 1043 - LBM - TP 1