

**ERF 511 IN WETTON,
WESTERN CAPE**

Traffic Impact Statement

for the

**PROPOSED RESIDENTIAL DEVELOPMENT,
WETTON**

Project No: STUR0322

June 2021

Final Report

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DOCUMENT CONTROL SHEET

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TITLE: PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 511, WETTON: TRAFFIC IMPACT STATEMENT			
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SYNOPSIS: This report assesses the key transportation issues pertaining to the residential development on Erf 511 in Wetton, Western Cape.			

SUMMARY SHEET

Report Type	Traffic Impact Statement
Title	Proposed Residential Development, Erf 511
Location	Wetton, Western Cape
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Date	June 2021
Report Status	Final

This transport impact assessment has been prepared by a suitable qualified and registered professional traffic engineer. Details of any of the calculations on which the results of this report are based will be made available on request.

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Acronyms

- AMG – Access Management Guidelines
- RAG- Road Access Guidelines
- TIA – Traffic Impact Assessment
- TIS – Traffic Impact Statement
- SDP – Site Development Plan
- LOS – Level of Service
- IPTN – Integrated Public Transport Network
- WCG – Western Cape Government
- NMT – Non-Motorised Transport
- PHF – Peak Hour Factor
- AM – Morning
- PM – Afternoon
- d – Average delay in seconds
- v/c – Volume/capacity ratio
- vph – vehicles per hour
- vpd – vehicles per day

Traffic Impact Statement (TIS)

Proposed Residential Development on Erf 511, Wetton, Western Cape

1. Purpose of Report

Sturgeon Consulting (Pty) Ltd has been appointed by Arc Timbers CC to undertake the Traffic Impact Statement (TIS) for the proposed residential development on Erf 511, Wetton. The purpose of the report is to determine the expected transport related impacts of the proposed development on the surrounding road network.

This TIS is submitted as part of the application for the proposed rezoning as well as the requirement as part of the Environmental Impact Assessment Process of Erf 511 ($\pm 4\,363\text{m}^2$) in Wetton to develop group housing on the site (19 units).

2. Locality

Reference: Figure 1

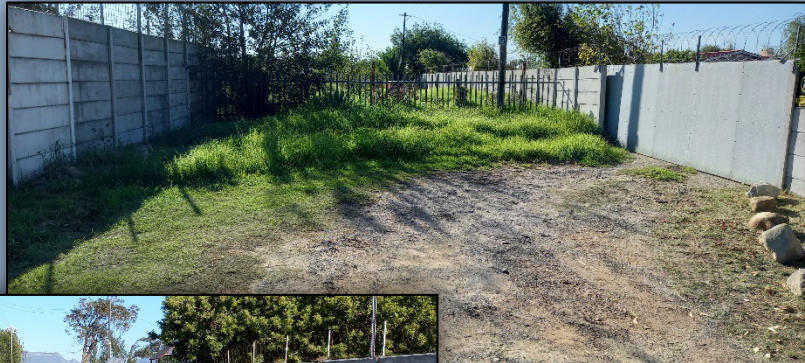
Erf 511, Wetton, Western Cape

Description: The subject property is located in Wetton, Cape Town and is currently vacant. Erf 511 is north of Bloemhof Avenue and approximately $\pm 190\text{m}$ east from the Bloemhof Avenue / Old Strandfontein Road intersection.



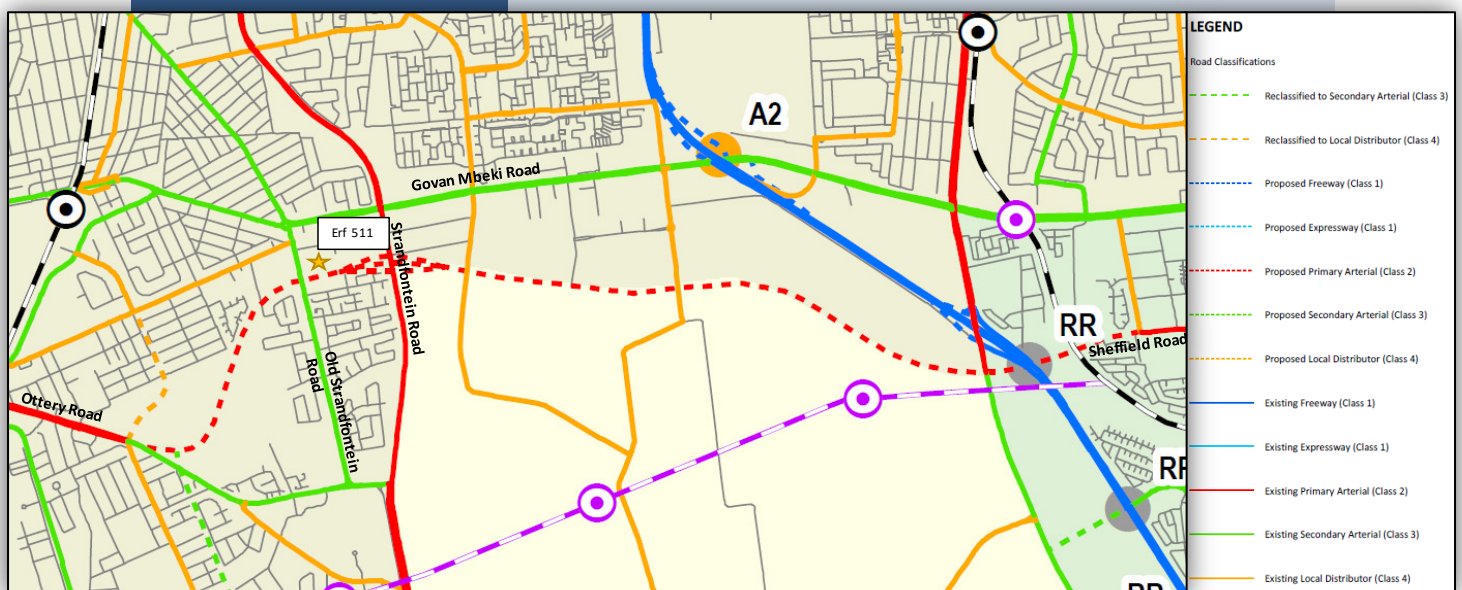
3. Scope of Work	The scope of work included in this TIS covers the following traffic engineering aspects: • Site observations • Existing traffic flows in the vicinity of the development • Existing & future road network planning • Proposed development • Trip generation for the proposed development • Traffic flow analysis • Recommended road upgrades if necessary • Non-motorised Transport (NMT) and Public transport • Access assessment • Parking requirements
4. Proposed Development <i>Reference: Figure 2 & Appendix C</i>	The property is currently vacant and has a total extent of approximately 4 363m². The proposed residential development will accommodate 19 Group Housing units. Each unit will be approximately ±80m² in size and have two storeys.
5. Land Use/Zoning	Existing Zoning: Community Zone 1 (CO1) Proposed Zoning: General Residential Zone 2 (GR2)
6. Existing Access	There is currently no access to the property. The new site access location will be discussed in Section 17.
7. Existing Roadways	The major roads in the vicinity of the site are as follows: <u>Old Strandfontein Road (DR1041):</u> Class 3 minor arterial with a 60km/h speed limit in the vicinity of the site. Old Strandfontein Road is a two-lane undivided road with a paved sidewalk on the western side. It links to Wetton Road to the north and New Ottery Road to the south.

Bloemhof Avenue: This is a class 5 gravel residential and industrial access road from its intersection with Old Strandfontein Road and is approximately 140m in length and stops just short of Erf 511. The road reserve is $\pm 10\text{m}$ wide.



8. Future Road Network

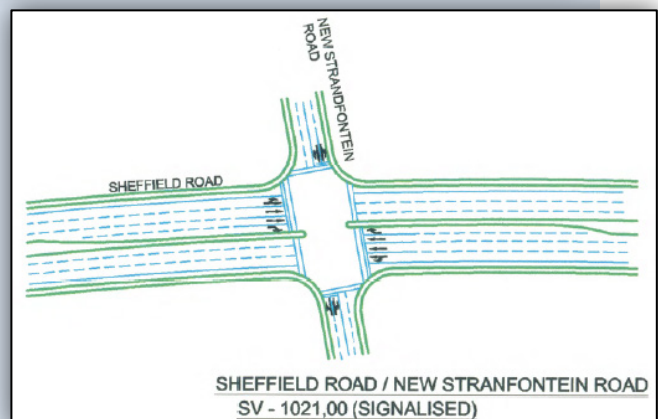
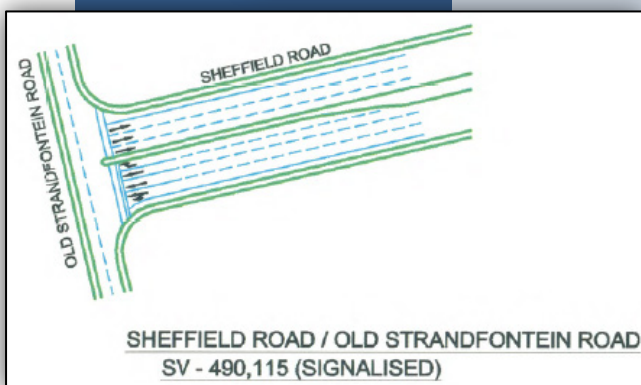
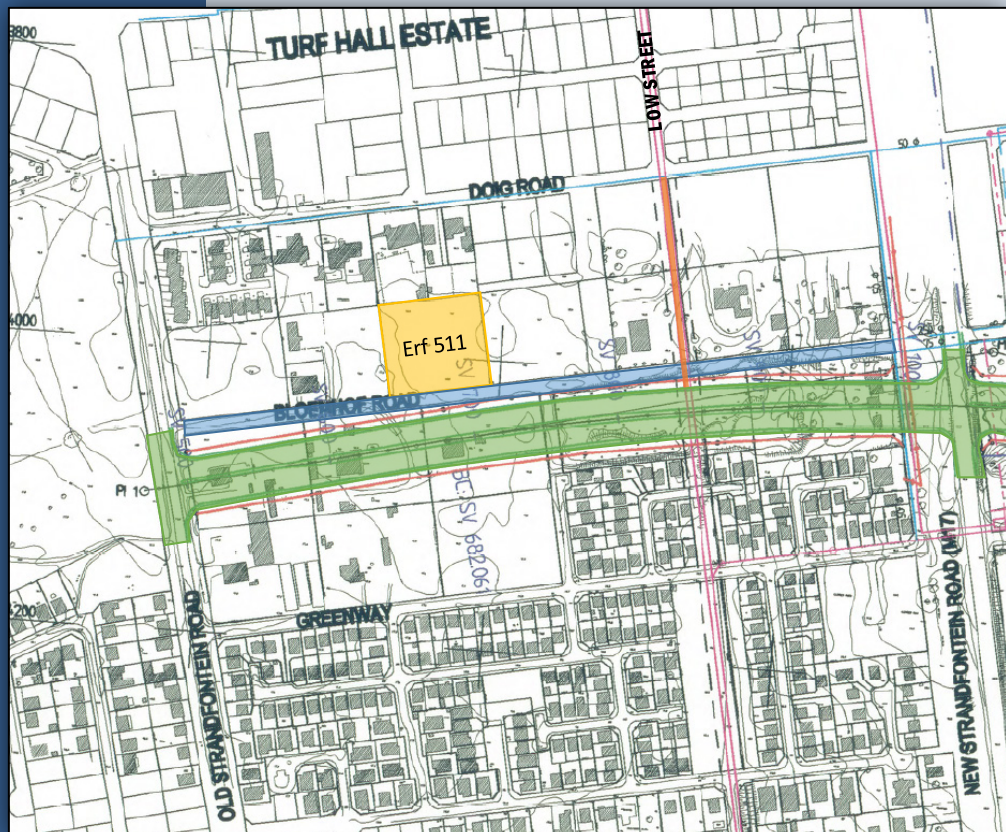
A future Class 2 primary arterial, known as the Sheffield Road Scheme, is planned south of the proposed development linking with the Ottery Road (M68) to the southwest and Sheffield Road to the east. It proposes the realignment of Ottery Road and will cross Old Strandfontein Road and proceed parallel to Bloemhof Avenue towards New Strandfontein Road where an intersection will be constructed.

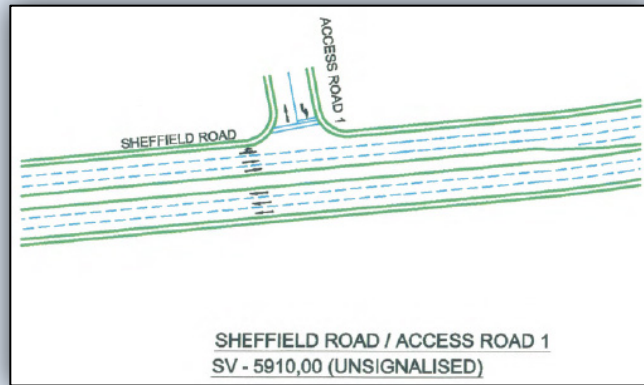


The Sheffield Road Scheme will require the Bloemhof Avenue / Old Strandfontein Road intersection to be closed and a new signalled intersection be constructed between Old Strandfontein Road and

the new Sheffield Road. Furthermore, a new north-south access road will be constructed between Bloemhof Avenue and Doig Road, along the current sewer servitude. This access road will be an extension of Low Street to the north. Bloemhof Avenue will become a service road to prevent properties from having direct access to the new Sheffield Road.

The figure below indicates the proposed Sheffield Road Class 2 primary arterial in green, the Low Street access in orange and the Bloemhof Avenue location in blue. Bloemhof Avenue will be closed off at Old Strandfontein Road and New Strandfontein Road once Sheffield Road is extended. Bloemhof Avenue will therefore only have an intersection with the proposed Low Street access street.





The timeframe for the completion of the Sheffield Scheme is uncertain. However, it is not anticipated to happen in the short term and therefore the impact has not been taken into account with the analysis below.

No other major future road network changes are foreseen in the vicinity of the proposed development.

9. Analyses Hours

Peak period traffic counts were undertaken on Wednesday, 21 April 2021 to determine the AM and PM peak hours. The counts were undertaken between 06:00 and 09:00 and between 15:30 and 18:30. The peak hours were determined as follows:

Weekday AM peak hour 07:00 to 08:00

Weekday PM peak hour 16:15 to 17:15

10. Scenarios Analysed

The following scenarios have been analysed:

- 2021 Present Traffic Demand
- 2021 Present Traffic Demand **with** development trips

Intersection analyses were done using SIDRA Intersection software (version 9).

11. Study Intersections

Based on our experience with similar traffic studies, the anticipated traffic impact on the surrounding road network and its location within the wider road network, the following intersection was included in the scope of the study:

1. Old Strandfontein Road (DR1041) / Bloemhof Avenue (Stop-controlled on side street)

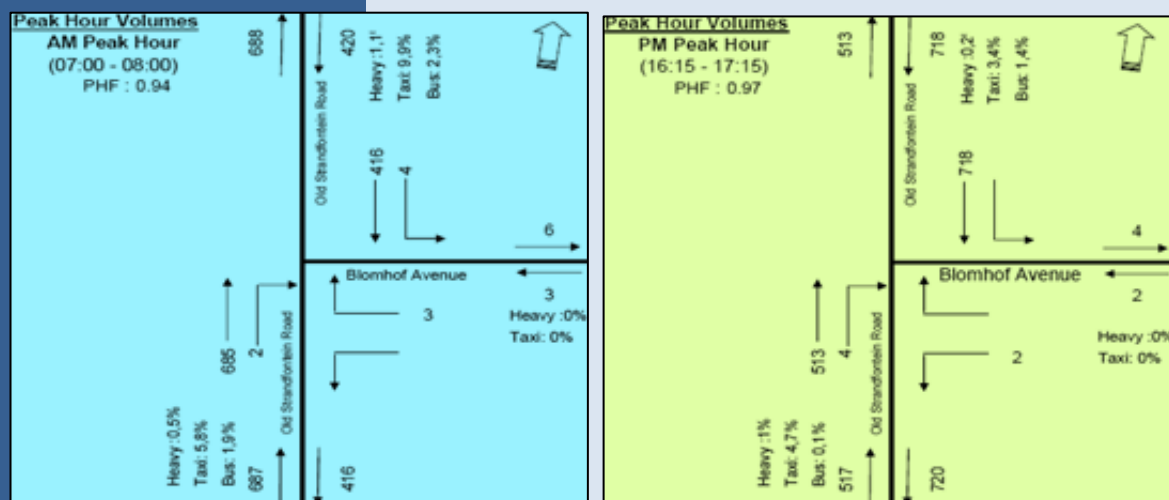


12. Existing Operations

References: Figure 3 & 4,
Table 1

Peak period traffic counts were conducted at the above-mentioned intersection on Wednesday, 21 April 2021 between 06:00 and 09:00 in the morning and 15:30 and 18:30 in the afternoon.

The present traffic demand on the surrounding road network can generally be described as moderate.



The following comments are made in relation to the traffic volumes (total two-way) on the surrounding road network:

- Old Strandfontein Road carries a moderate volume of traffic with approximately **1 100 vph** (two-way) in the AM peak hour and approximately **1 240 vph** (two-way) in the PM peak hour.
- The north-south directional split is $\pm 60:40$ in the AM peak hour and $\pm 40:60$ in the PM peak hour.
- Very few vehicles turn right onto Old Strandfontein Road when leaving Bloemhof Avenue.
- Bloemhof Avenue carries an extremely low volume of traffic, **9 vph** and **6 vph** during the AM and PM peak hour respectively.

	The major traffic movement along Old Strandfontein Road is northbound in the AM peak (±690 vph) and southbound in the PM peak (±720 vph). The existing traffic count data is illustrated in Figure 3 and Figure 4. Based on the capacity analyses of the existing traffic operations, the intersection operates at good levels of service (LOS) during the AM and PM peak hours, with minimal delays of 0.1 sec and 0.2 sec respectively. The Bloemhof Avenue approach is currently operating at LOS B during both peak hours. No improvements to the intersection are required. See Table 1 for more detail on existing capacity analysis. Full details of the SIDRA analysis can be provided if required.
13. Trip Generation Rates <i>References: Table 2</i>	The additional vehicle trips that will be generated by the proposed residential development were calculated using the trip generation rates as provided in the <i>TMH17 South African Trip Data Manual (Draft 2.1, June 2020)</i> published by the Committee of Transport Officials (COTO). The recommended peak hour trip generation rates and directional split for Single Dwelling Units are shown below: - AM Peak Hour: 1.00 trips/dwelling unit (25:75) - PM Peak Hour: 1.00 trips/dwelling unit (70:30) The estimated peak hour trips are summarised in Table 2.
14. Development Trips <i>References: Figures 5 & 6, Table 3</i>	The total peak hour trips likely to be generated by the development in the AM and PM peak hours are: 19 total AM trips (5 inbound 14 outbound) 19 total PM trips (13 inbound 6 outbound) The trips associated with the proposed group housing development are minimal and will have an insignificant traffic impact on the surrounding road network and intersections.
15. Trip Distribution	The development traffic for the proposed development has been distributed on the surrounding road network taking the following into account: - Present traffic conditions; and - The nature of the development being residential. Based on the location of the proposed development and traffic patterns on the surrounding network the following distribution was used to assign the development traffic to the surrounding network during the AM peak hour: 60% to/from north along Old Strandfontein Road 40% to/from south along Old Strandfontein Road

	For the PM peak hour, the following distribution was used: • 40% to/from north along Old Strandfontein Road • 60% to/from south along Old Strandfontein Road The resulting development trips were assigned to the analysed intersection and added to the present (2021) traffic volumes.
16. Impact of Development Traffic <i>References: Figures 7 & 8 and Table 1</i>	To assess the impact of the proposed development on the road network, the study intersection was analysed with the additional development traffic for the expected 2021 scenario. Based on the capacity analyses, the Old Strandfontein Road (DR1041) / Bloemhof Avenue intersection will continue to operate at good levels of service (LOS) for both the AM and PM peak hours. This intersection will experience minimal delays of 0.3 sec and 0.4 sec during the AM and the PM peak hours respectively. The Bloemhof Avenue approach is still expected to operate at LOS B during both peak hours. Although no improvements are required at the intersection with this scenario, the gravel section of Bloemhof Avenue will have to be paved and the section of Bloemhof Avenue leading towards the development extended and requires construction. The required road improvements are commented on in Section 18. See Table 1 for more detail on existing capacity analysis. Full details of the SIDRA analysis can be provided if required.
17. Site Access <i>Reference: Appendix C</i>	Number of Accesses: One Access to the proposed residential development will be off Bloemhof Avenue approximately 175m from the Old Strandfontein Road / Bloemhof Avenue intersection. The proposed access will require a two-lane cross section i.e. one lane in and one lane out, with a combined carriageway crossing approximately 5.5m wide. The access intersection on the development access side will be stop controlled. The position and spacing of the access are illustrated below.



Access Control: It is proposed that the access is an automated sliding gate. The required stacking space is commented on in **Section 19**.

Refuse: Refuse collection will take place at the entrance of the site from a refuse room off Bloemhof Avenue.



18. Road Improvements

Reference: Figures 9 & 10, Appendix C

The City of Cape Town has confirmed that Bloemhof Avenue will need to be constructed by the developer from Old Strandfontein Road up to the eastern boundary of Erf 511 ($\pm 220\text{m}$ long) with a cul-de-sac turning circle.

The proposed cross section for a Class 5 road is shown in **Figure 9** and will be adapted accordingly for Bloemhof Avenue using the City of Cape Town's Transport Directorate *Standard and Guidelines for Roads & Stormwater, October 2020*, Typical Road Cross Section for a Class 5 Local Street (Drawing No. RD6.4A).

The current road reserve of Bloemhof Avenue is approximately 10.0m wide.

The cross section for Bloemhof Avenue is proposed to be a two-lane road cross section surfaced road 5.5m wide (2.75m lanes each), as shown in **Figure 10**.

Care should be taken when designing the cul-de-sac to ensure that the circle radius is at least 12.3m and has an unobstructed width of 1m on the road verge to accommodate the overhang of refuse vehicles.

An initial very high-level cost estimate has been prepared for the road improvements for Bloemhof Avenue. The cost estimate includes stormwater, traffic accommodation, P&G's and contingencies (excluding VAT) and excludes professional fees and site supervision.

- Bloemhof Avenue Class 5 road link ($\pm 220\text{m}$) excluding sidewalks: **$\pm \text{R} 4$ million (excl VAT)**

The above costs will have to be verified during the detailed design and procurement process.

19. Queue Analysis

Reference: Table 4

A queue analysis was conducted for the access on Bloemhof Avenue using the highest expected inbound traffic demand to determine the maximum theoretical delay at the access.

It is proposed that an automated sliding gate be used. An average service rate of 150 vehicles per hour has been used for analysis to allow for automated sliding gates. The peak inbound volume is **13 vph** for the residential development during the PM peak hour.

It is recommended that an 85th percentile queue length be used as applicable to access on class 5 roads to determine the theoretical stacking at the access.

Based on the analysis results shown in **Table 4**, the 85th percentile queue requires a minimum of 6m (6m per vehicle) to be provided between the gate and the edge of Bloemhof Avenue.

The access width and minimum height clearance of 4.2m must allow for unimpeded access for emergency and service vehicles.

20. Parking Requirements

Parking provision for the proposed development should satisfy the requirements as suggested in the City of Cape Town Municipal Planning Amendment By-Law, 2019 which includes the City's Development Management Scheme (DMS) and is the zoning scheme for the City. The proposed development does not fall within a PT zone. However, with the public transport opportunities in the area (to be discussed in further in **Section 22**), it is proposed that the parking requirement for PT1 zones be applied. Therefore, the proposed PT1 parking ratio for Group Dwellings are as follows:

- Group Dwelling: 1 bay per dwelling unit, plus 0.25 bays per dwelling unit for visitors

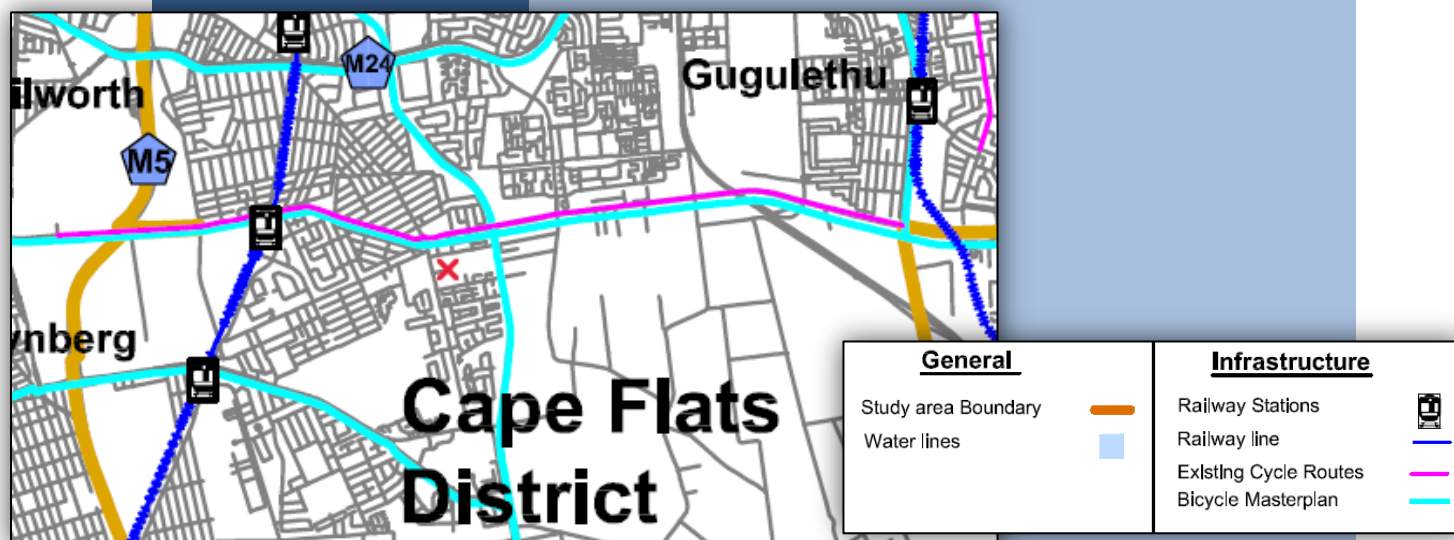
The following minimum parking is provided:

	Extent	Parking Ratio	Required Bays
Group Dwelling	19 units	1.25 bays per unit	24 bays

The number of parking bays (34) illustrated in the SDP on-site as well as four (4) 90° parking bays adjacent to Bloemhof Road for residents and visitors will be sufficient.

21. Non-Motorised Transport (NMT)

According to the City's NMT Citywide Plan for the southern region, existing bicycle routes (class 3) in the Ottery area (*Figure 3-4: City Wide NMT: South Volume 1: Strategic Framework, July 2010*) are currently along Govan Mbeki Road as shown below.



Pedestrian activity along Old Strandfontein Road is moderate and there is a formal sidewalk present on the western side in the vicinity of the site. Pedestrian activity along Bloemhof Avenue is deemed to be very low and no formal sidewalks exist along this road either.

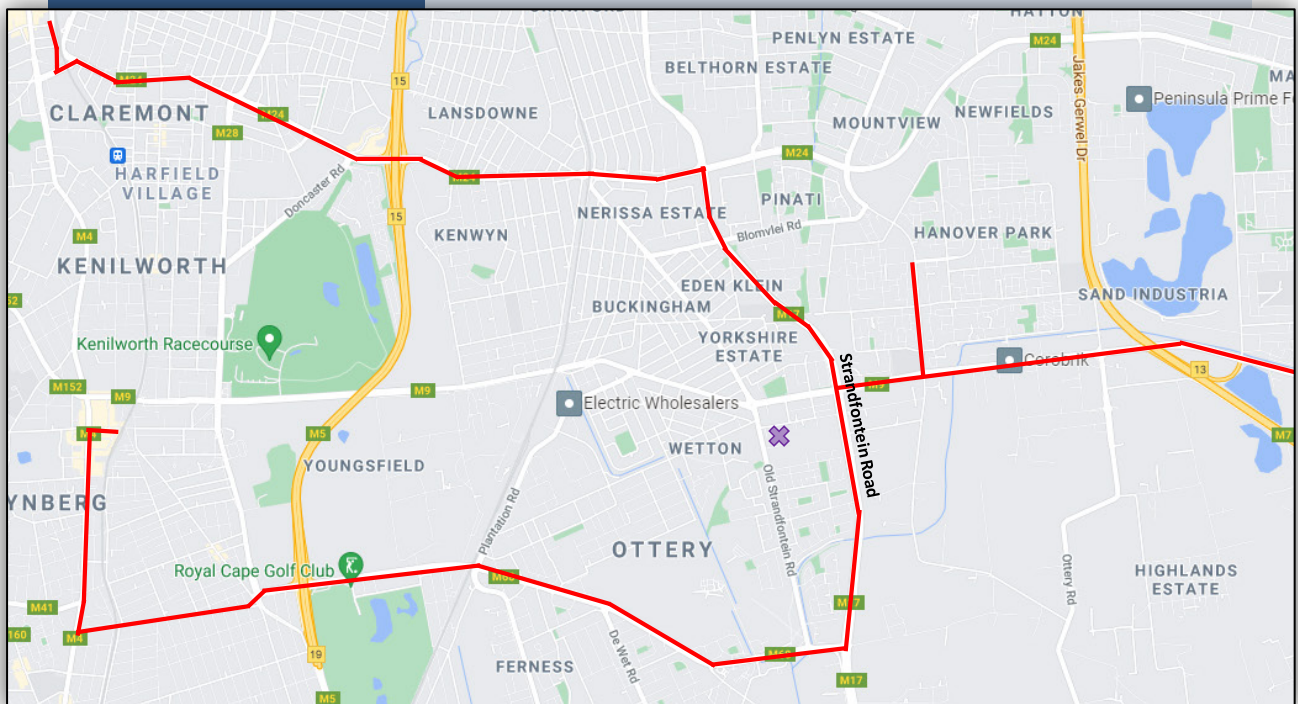
No additional NMT facilities are proposed or required.

22. Public Transport

Minibus taxis and bus services currently operate along Old Strandfontein Road and Govan and Mbeki Road. Wetton rail station is approximately 1.5km away (as the crow flies) from the proposed site. The image below indicates the existing and future Phase 2a Network public transport services extracted from the City of Cape Town. This includes trunks, feeders, taxis and bus routes in the area.



According to the City of Cape Town, a future MyCiti Trunk Route (T12 Mitchells Plain – Wynberg) is planned along Strandfontein Road which is located to the west of the site as shown below. A portion of this trunk route is already under construction (Govan Mbeki Road – New Ottery Road).



	It is clear that this area is well served with a variety of public transport modes and options. No further public transport improvements are required.
23. Conclusions	This report describes the investigation of transport implications of the proposed development on Erf 511, Wetton. It summarises the existing transportation conditions within the site vicinity, provides an assessment of the transportation impacts of the proposed development on the surrounding road network, and recommendations about improvements to mitigate negative impacts, if relevant. The main findings and conclusions are: • This TIS is in support of the application for proposed residential development on Erf 511 in Wetton. • The proposed development will consist of 19 group housing units. • The development has the potential to generate 19 trips during the AM peak hour (5 in, 14 out) and 19 trips during the PM peak hour (13 in, 6 out). • The existing 2021 Old Strandfontein Road / Bloemhof Avenue intersection's total peak hour demand is approximately 1 100 vph and 1 240 vph in the AM and PM peak hours, respectively. • At present, the study intersection is operating at good levels of service (LOS) during the AM and PM peak hours, with minimal delays. • With the development, the intersection is expected to continue to operate at good levels of service during both peak hours. • The proposed access to the development will be off Bloemhof Avenue approximately 175m east from the Old Strandfontein Road / Bloemhof Avenue intersection. • Bloemhof Avenue will be paved from Old Strandfontein Road up to the eastern boundary of the proposed development on Erf 511 (±220m) with a cul-de-sac turning circle. • A Class 5 road cross section is proposed for the gravel section of Bloemhof Avenue to tie in at Old Strandfontein Road. • The proposed access to the proposed residential development will be from Bloemhof Road, approximately 5.5m wide with an automated sliding gate with one lane in and one lane out. • Stacking space for approximately one vehicle (±6m) will be provided for at the entrance between the gate and the edge of road. • The number of parking bays (34) illustrated in the SDP as well as the four (4) 90° parking bays adjacent to Bloemhof Road will be sufficient as the development can be classified

	as being in an area where public transport is promoted (PT1 zone). • Refuse collection will happen off Bloemhof Avenue at the entrance to the site. • Pedestrian demand on Bloemhof Avenue is low. No additional facilities are proposed. • The area is well serviced by public transport therefore, no further public transport improvements are required.
24. Recommendations	It is recommended that: • The unpaved section of Bloemhof Avenue from Old Strandfontein Road up to the eastern boundary of Erf 511 with a cul-de-sac turning circle be paved by the developer for his own account. • The main access on Bloemhof Avenue be constructed by the developer at his own cost. • All the detail design of the above road infrastructure be approved by the relevant City of Cape Town departments. This report has shown that the proposed development can be accommodated by the adjacent transport network, provided the recommendations presented in the report are implemented. From a traffic engineering perspective, the approval of the application for this development is supported.

REFERENCES

1. Western Cape Government: Access Management Guidelines, Final AMG, 2020.
2. Department of Transport, Guidelines for Traffic Impact Studies, Report No. PR93/645, Pretoria, 1995.
3. Department of Transport, South African Trip Generation Rates, Report No. RR92/228, Pretoria, 1995.
4. Committee of Transport Officials (COTO), South African Trip Data Manual, TMH 17, Committee Draft 2.2, August 2020.
5. Committee of Transport Officials (COTO), South African Traffic Impact and Site Traffic Assessment Manual Standards and Requirements Manual, Volume 2 TMH 16, Committee Draft 2.0, October 2020.
6. Committee of Transport Officials (COTO), South African Traffic Impact and Site Traffic Assessment Manual, Volume 1 TMH 16, Committee Draft 2.0, May 2018.
7. City of Cape Town: Transport Directorate, Standard and Guidelines for Roads & Stormwater, Version 1.0, October 2020.
8. City of Cape Town, Municipal Planning By-Law, 2015 (the By-Law), Municipal Planning Amendment By-Law 2019.

APPENDIX A: FIGURES



Transport Planning & Traffic Engineering
021 553 4167 / 083 701 2299

Project:

ERF 511 RESIDENTIAL DEVELOPMENT, WETTON TIS

Job No:

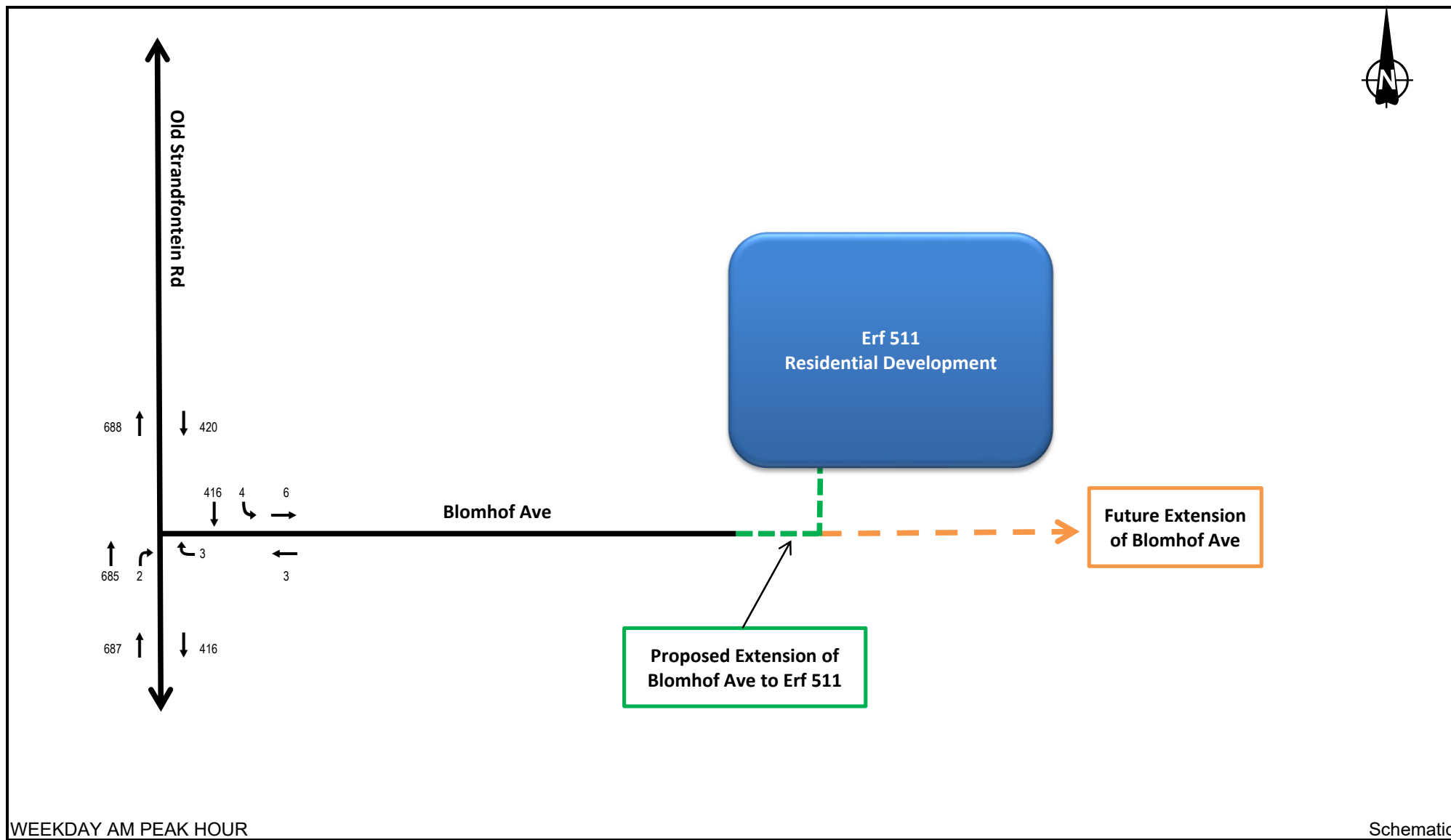
STUR0322

LOCALITY PLAN

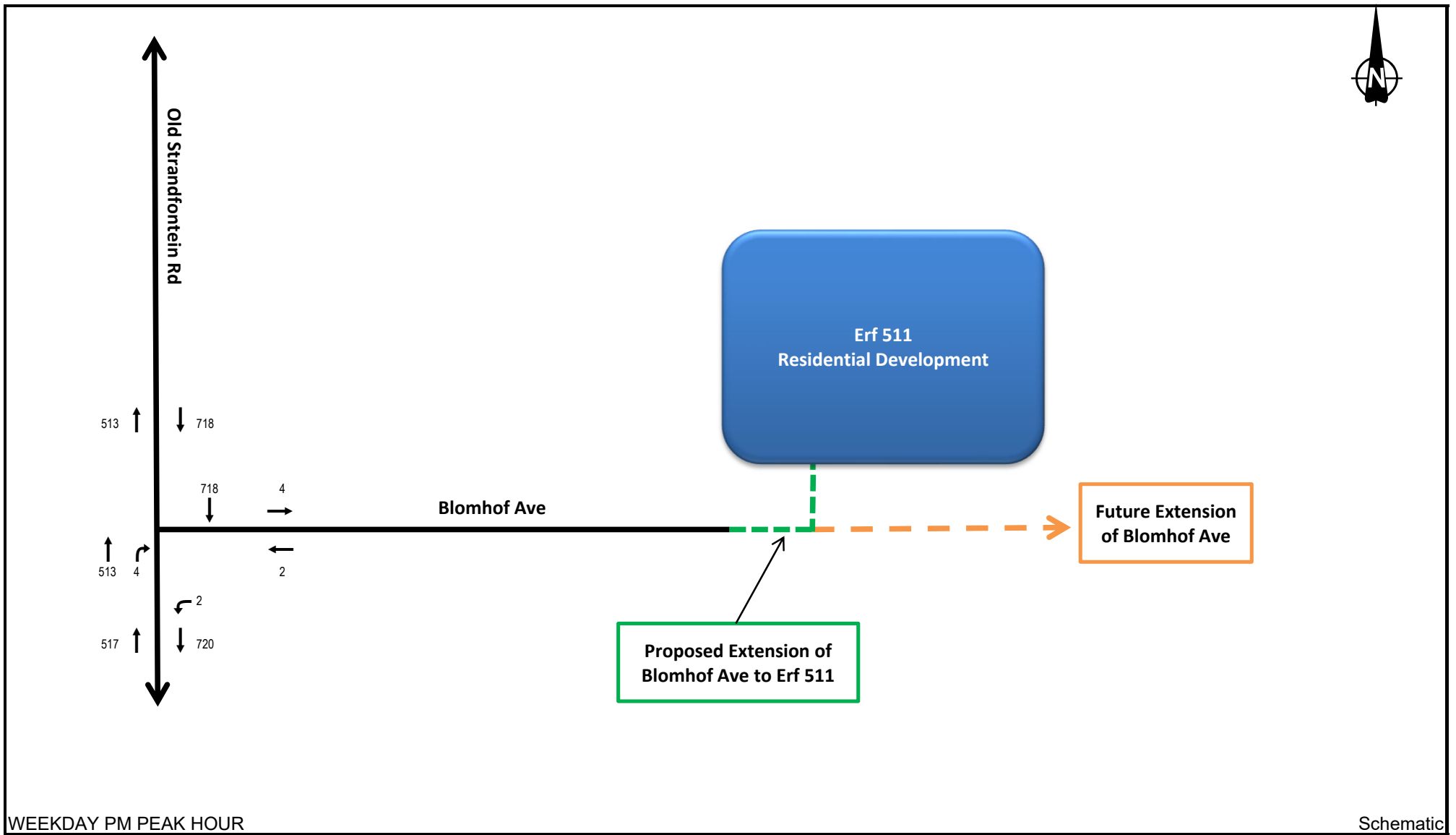
Figure:

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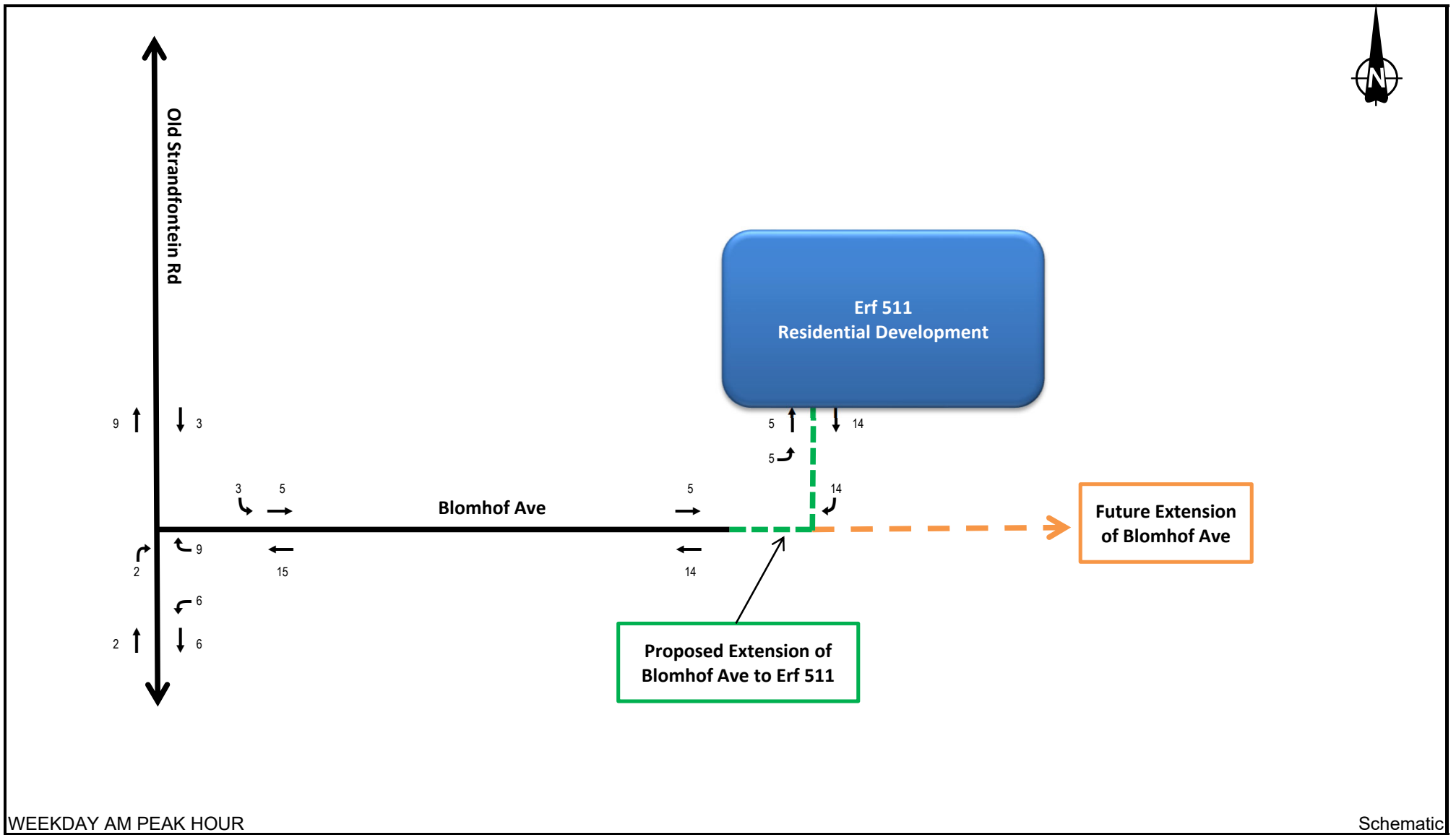




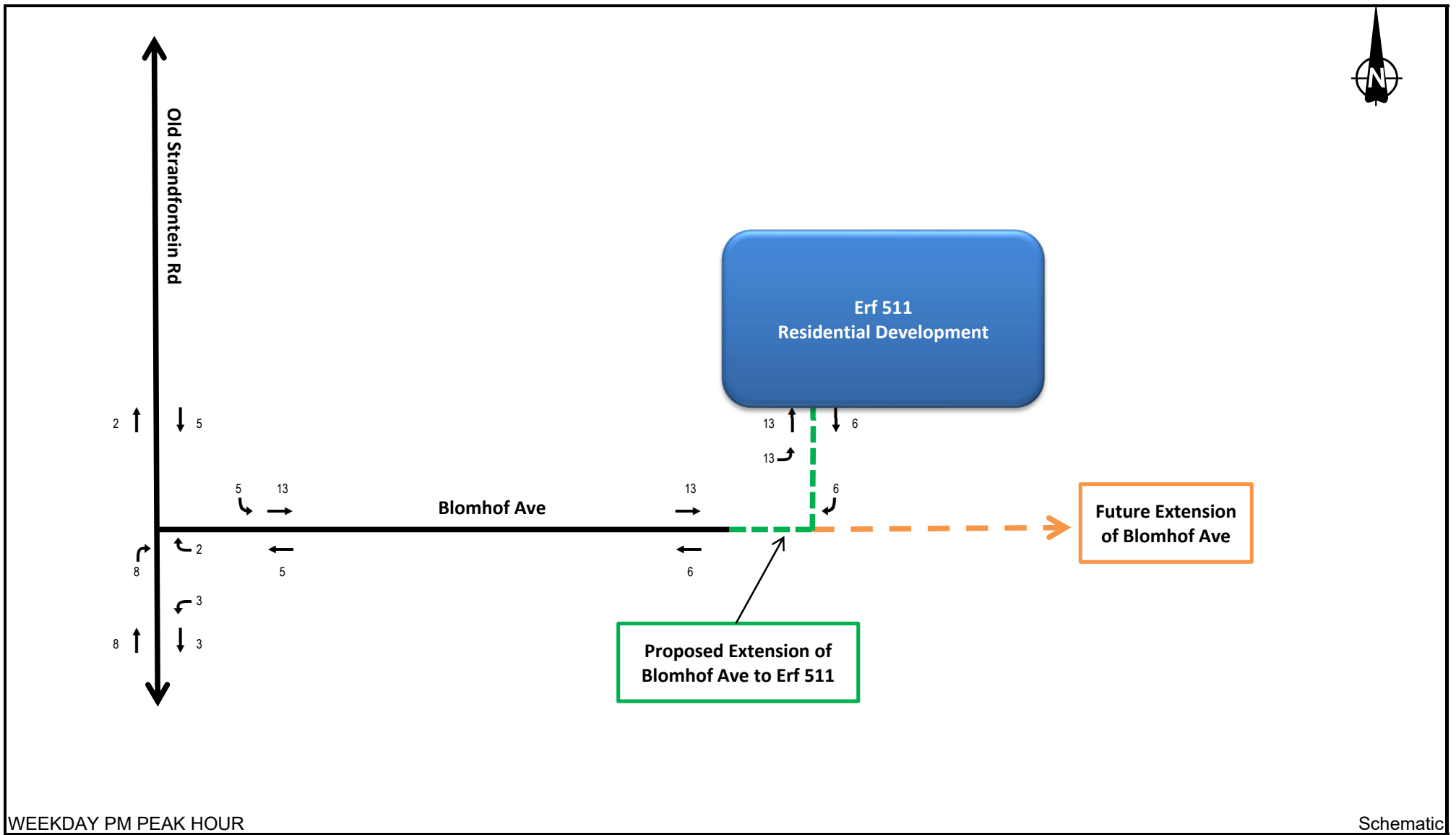
	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Present Traffic Demand (2021)	Fig: 3



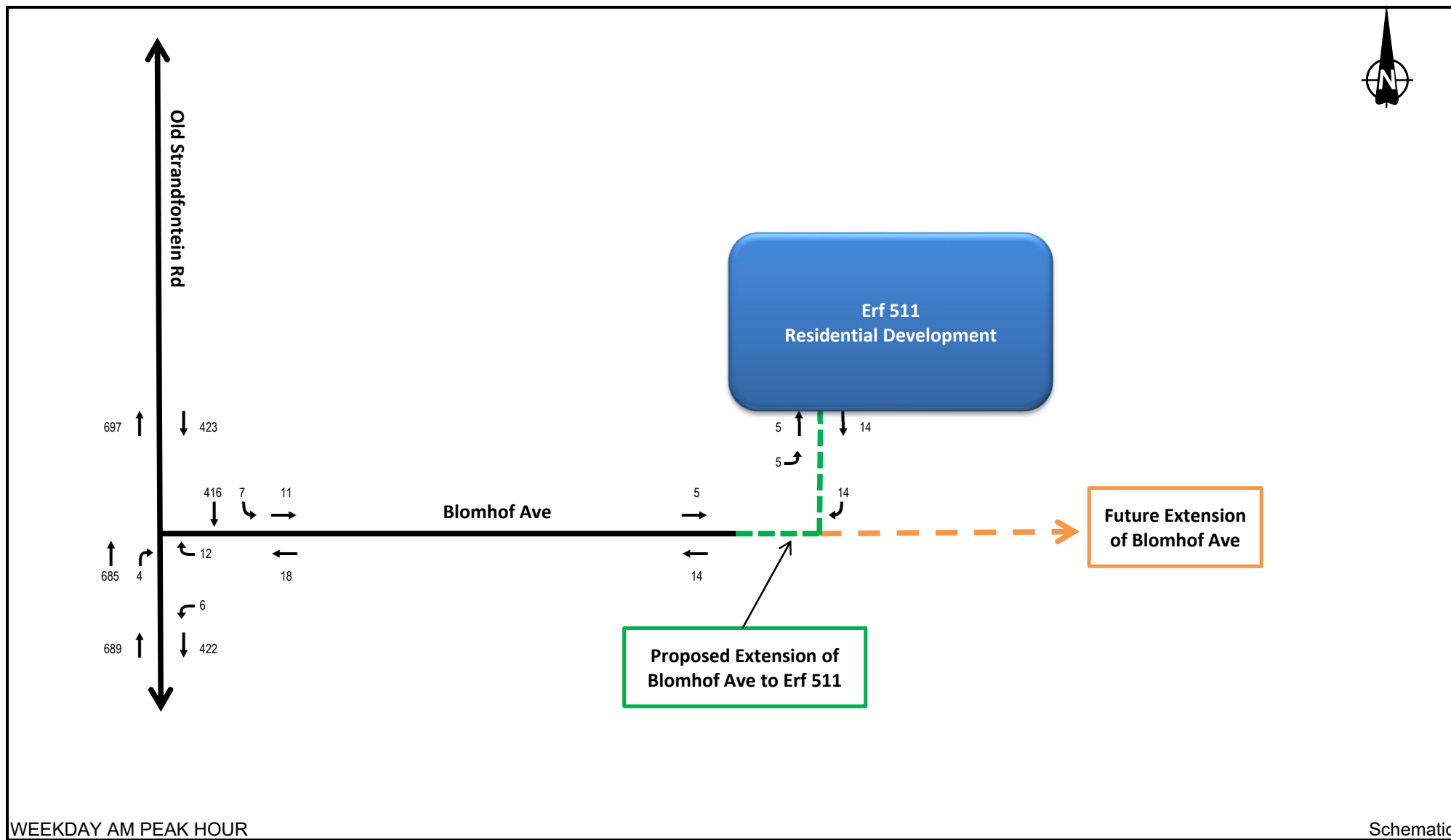
	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Present Traffic Demand (2021)	Fig: 4



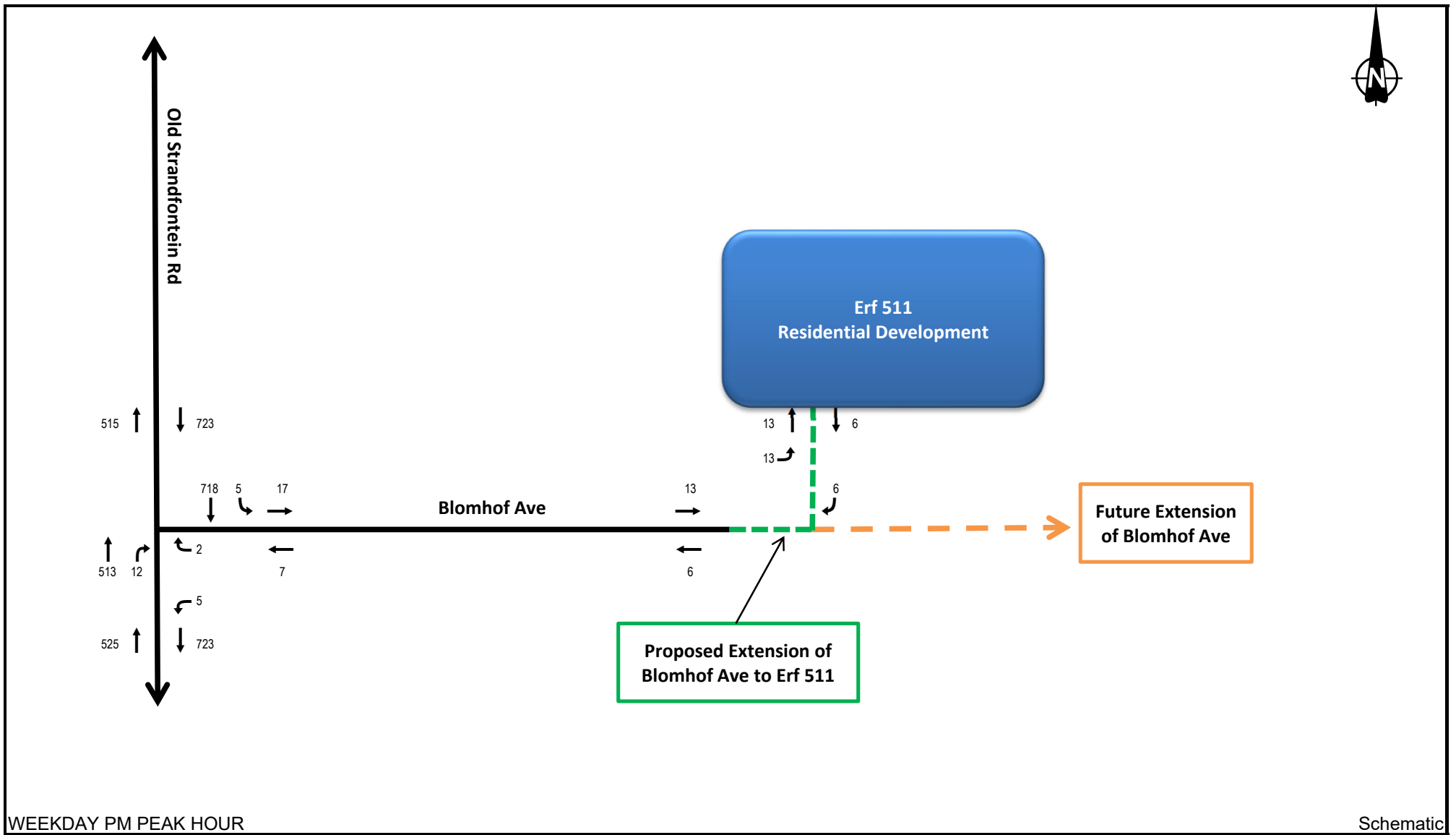
	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Development Traffic	Fig: 5



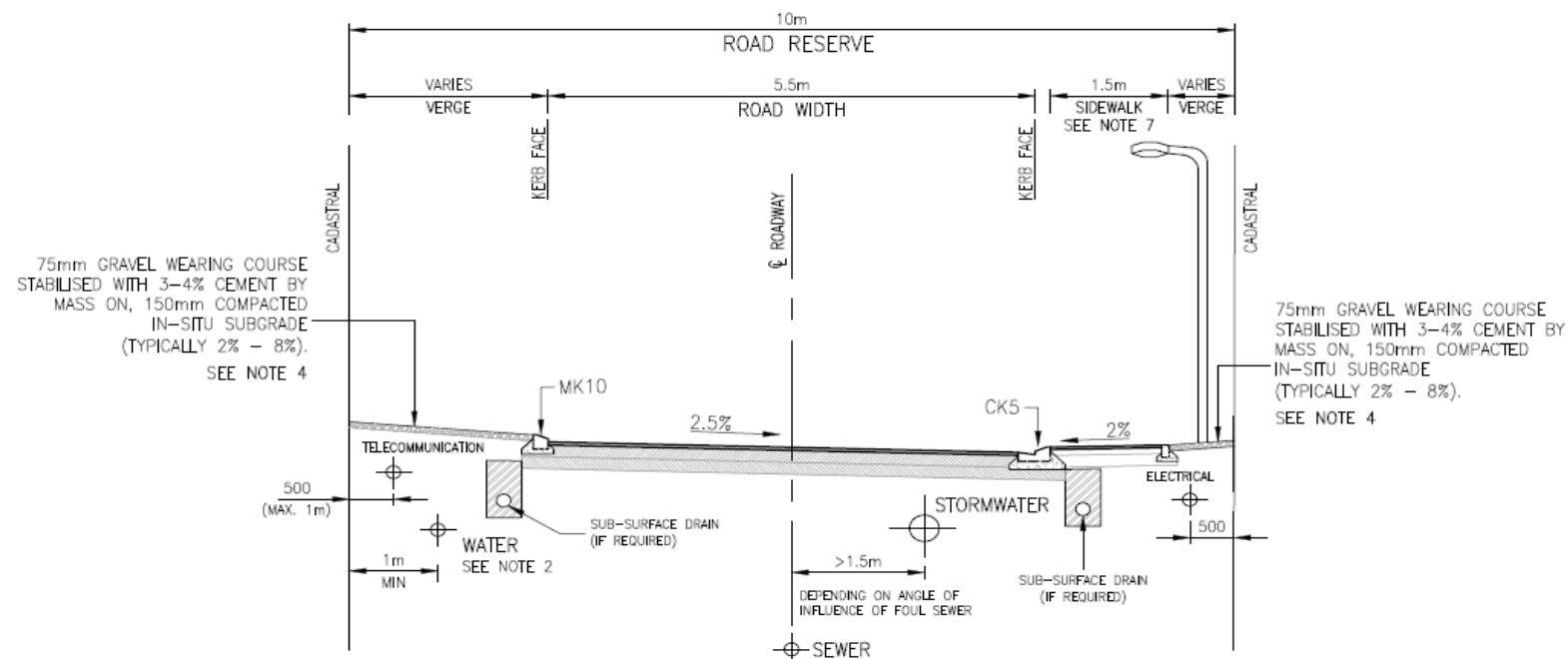
	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Development Traffic	Fig: 6



	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Present Traffic Demand plus Development	Fig: 7



	Erf 511 Residential Development, Wetton TIS	Job Ref No: STUR0322
	Present Traffic Demand plus Development	Fig: 8



NOTES:

1. DIMENSIONS IN mm, UNLESS STATED/ANNOTATED OTHERWISE.
2. POSITION OF WATERMAIN DEPENDS UPON VERGE WIDTH AND SIZE OF WATERMAIN.
3. STREET LIGHT POLES (AND OTHER STREET FURNITURE) MUST BE PLACED TO ALWAYS LEAVE A MINIMUM 1m LATERAL CLEARANCE SPACE ON FOOTWAYS.
4. THE SURFACING OF ROAD VERGES MAY BE REQUIRED FROM THE APPROVAL AUTHORITY.
5. PAVEMENT LAYERS SHALL BE DESIGNED AS PER CHAPTER 8.
6. ALL RADII AT INTERSECTIONS TO BE CONSTRUCTED WITH BARRIER KERBS.
7. PROVISION OF SIDEWALK SUBJECT TO APPROVAL AUTHORITY'S REQUIREMENTS.
8. NO OUTFALL CHANNELS ALLOWED.
9. DRAWING TO BE READ IN CONJUNCTION WITH SECTION 2.5.3.

TYPICAL CROSS SECTION

SOURCE: CITY OF CAPE TOWN



Transport Planning & Traffic Engineering
021 553 4167 / 083 701 2299

Project:

ERF 511 RESIDENTIAL DEVELOPMENT, WETTON TIS

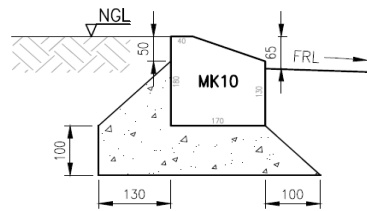
Job No:

STUR0322

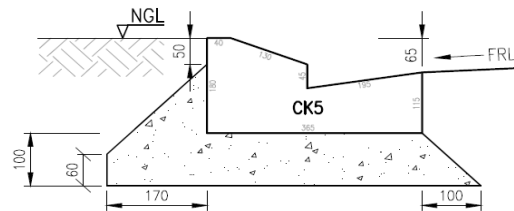
COCT TYPICAL CROSS SECTION: BLOEMHOF AVENUE (CLASS 5 LOCAL STREET)

Figure:

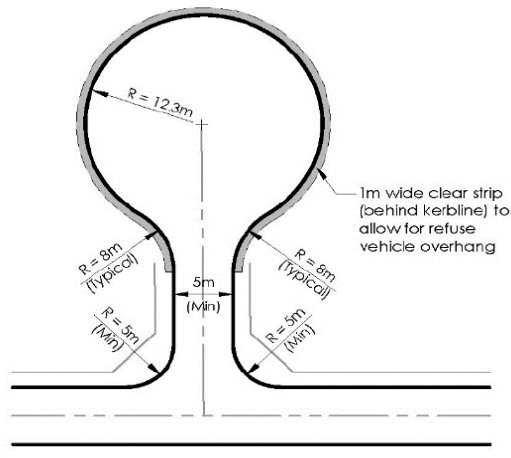
9



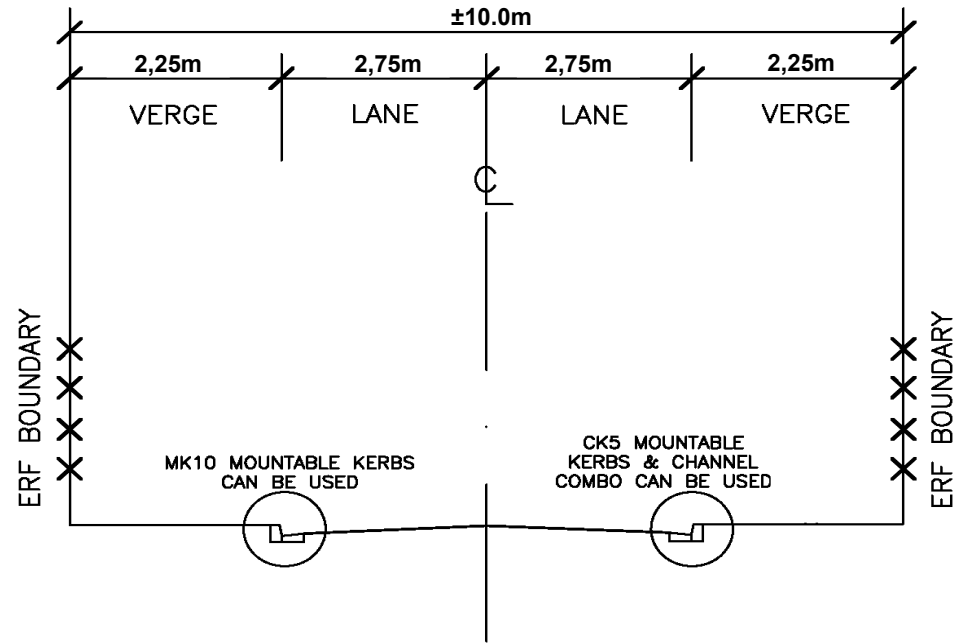
MK10 MOUNTABLE KERB ONLY



CK5 MOUNTABLE KERB & CHANNEL COMBINATION



Cul-de-Sac Turning Circle



PROPOSED CLASS 5 CROSS SECTION: BLOEMHOF AVENUE
SCALE 1:100

Source: COCT Standards & Guidelines for Roads & Stormwater, October 2020

APPENDIX B: TABLES

Table 1: Peak Hour Traffic Conditions at Old Strandfontein Road / Bloemhof Avenue Intersections

Scenario	Intersection Control	Peak Hour	Intersection Ave Delay (s)	Intersection LOS	Intersection v/c	Critical Approach			
						Approach	Avg Delay (s)	LOS	v/c
Existing Traffic (2021)	Stop Controlled	AM	0.1	N/A	0.373	East	11.0	B	0.006
Total Traffic (2021)	Stop Controlled		0.3	N/A	0.375	East	11.1	B	0.025
Existing Traffic (2021)	Stop Controlled	PM	0.2	N/A	0.389	East	13.0	B	0.005
Total Traffic (2021)	Stop Controlled		0.4	N/A	0.391	East	13.2	B	0.012

LOS – Level of Service, Delay in seconds per vehicle, V/C – Volume to Capacity Ratio

N/A – Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control

Table 2: Proposed Trip Generation Rates

Peak Hour	Land Use	Size	Units	Rate	Directional Split
AM	Single Dwelling Units	19	Dwelling	1.00	25:75
PM	Single Dwelling Units	19	Dwelling	1.00	70:30

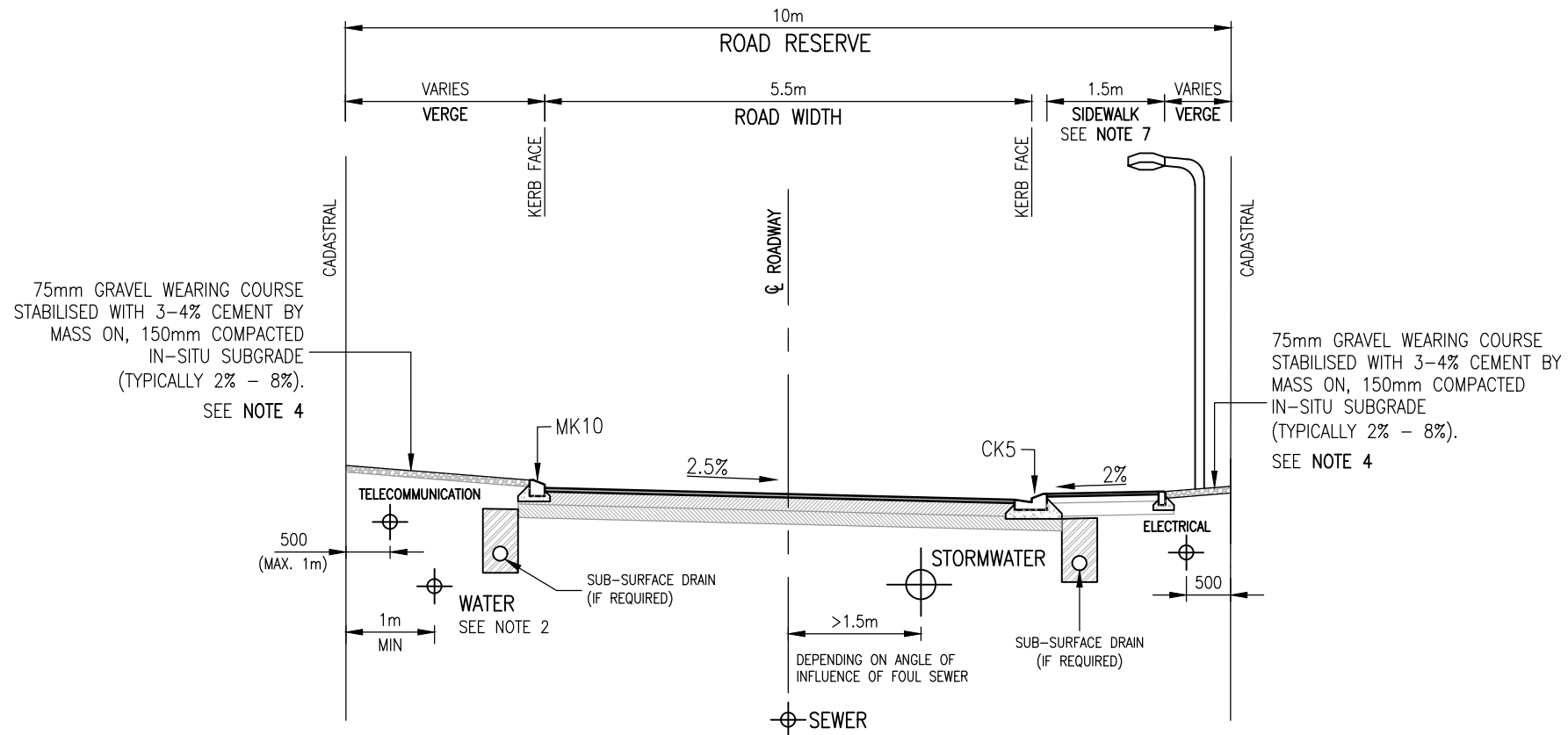
Table 3: Estimated Peak Hour Trips

Peak Hour	Total Trips	Peak Hour Trips	
		In	Out
AM	19	5	14
PM	19	13	6

Table 4: Expected Queueing and Required Stacking at Access on Bloemhof Avenue

Description	Analyses Results
Average arrival rate inbound (vph)	13
Average service rate (sec/veh)	24
Average services rate (services/hr)	150
Traffic intensity	0.09
Number of channels (gates)	1
85 th Percentile queue length (<n vehicles)	1
Average number of vehicles in the system	0.1
Average delay (sec)	26.3

APPENDIX C: CITY OF CAPE TOWN STANDARD DETAIL DRAWINGS



NOTES:

1. DIMENSIONS IN mm, UNLESS STATED/ANNOTATED OTHERWISE.
2. POSITION OF WATERMAIN DEPENDS UPON VERGE WIDTH AND SIZE OF WATERMAIN.
3. STREET LIGHT POLES (AND OTHER STREET FURNITURE) MUST BE PLACED TO ALWAYS LEAVE A MINIMUM 1m LATERAL CLEARANCE SPACE ON FOOTWAYS.
4. THE SURFACING OF ROAD VERGES MAY BE REQUIRED FROM THE APPROVAL AUTHORITY.
5. PAVEMENT LAYERS SHALL BE DESIGNED AS PER CHAPTER 8.
6. ALL RADII AT INTERSECTIONS TO BE CONSTRUCTED WITH BARRIER KERBS.
7. PROVISION OF SIDEWALK SUBJECT TO APPROVAL AUTHORITY'S REQUIREMENTS.
8. NO OUTFALL CHANNELS ALLOWED.
9. DRAWING TO BE READ IN CONJUNCTION WITH SECTION 2.5.3.

TYPICAL CROSS SECTION

TYPICAL ROAD CROSS SECTION CLASS 5 LOCAL STREET (10m ROAD RESERVE)

STANDARDS AND GUIDELINES DETAILS



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CITY OF CAPE TOWN
TRANSPORT

TITLE

SCALE

N.T.S.

PAPER

A4

DRAWING No.

RD6.4C

REV

A