

Vir CvaB & JM se oordag



**Western Cape
Government**

Transport and Public Works

ROAD NETWORK MANAGEMENT

Email: Grace.Swanepoel@westerncape.gov.za

tel: +27 21 483 4669

Rm 335, 9 Dorp Street, Cape Town, 8001

PO Box 2603, Cape Town, 8000

REFERENCE: 16/9/6/1-10/322 (Job 26804)

ENQUIRIES: Ms G D Swanepoel

DATE: 18 September 2019

The Municipal Manager
Drakenstein Municipality
PO Box 1
Main Street
PAARL
7622

Attention: Earl Cyster

Dear Sir

MAIN ROAD 191 (R45): FARM KUNNENBURG 811/38, PAARL: APPLICATION FOR REZONING

1. The following refer:
 - 1.1 Your letter of 28 February 2019 with attached land use application, reference 15/4/1 (F811/38) P;
 - 1.2 This Branch's letter ref. 16/9/6/1-10/322 (Job 26804) dated 21 June 2019;
 - 1.3 Technical memorandum by ITS Global, traffic engineers for the Applicant, ref. ITS 4033 dated 13 August 2019;
 - 1.4 E-mail from Johan Brink of ITS to Harry Thompson of this Branch dated 6 September 2019 with additional traffic analysis.
2. The application for the rezoning of the subject property from Agriculture Zone and Conventional Housing Zone to Community Use Zone in order to erect a school accommodating 125 children (see 1.1 above) was not supported due to concerns about access in the long term. The documents supporting the application indicated the intention to ultimately provide a school for 500 learners, but there was no plan for access to support this growth. Also, the proposed access point was not suitably spaced relative to adjacent accesses in terms of access management principles.
3. The current proposal has the initial unsignalised access relocated from the south side of the property to the north side, at ±km 1.62 LHS on Main Road 191 (the R45), opposite an existing access to the west.

4. A preliminary review of accesses and intersections along Main Road 191 proposes major intersections at the Brickfields (south of the School of Skills) and at the Val de Vie access. The space between these accesses is 1630m. Assuming a transition over time from semi-rural to suburban, an additional major intersection could be provided roughly midway between these two intersections. While not perfect in terms of spacing, it appears that the most suitable points taking into account existing property boundaries and accesses/intersections, would be either at the Contractor Road / Berg River Resort access at \pm km 1.27, or at the northern edge of Farm 811/38 (the Green School site) at \pm km 1.62, where there is also an existing access on the west side of Main Road 191 serving a number of properties. An intersection at the Contractor Road / Berg River Resort access at \pm km 1.27 would seem to be the more suitable, since it would be better placed relative to the proposed major mixed use developments on the brickfields site to the west. The Contractor Road / Berg River Resort access is 660m from the potential northern Brickfields major intersection, while the proposed access at the northern edge of the Green School site would be 635m from the Val de Vie intersection, so neither fully meets the Access Management Guidelines recommendation of 800m. However, it appears that either location would work as a compromise location for a major intersection (signals or roundabout).
5. Should it be decided that the proposed major intersection would be best located at the northern end of the subject property, rather than at the Contractor Road / Berg River Resort access, a servitude road or (preferably) a public street would be needed, extending west-east across Farm 811/38 to facilitate access to other developments located between the Berg River and Main Road 191, to supplement a priority controlled intersection with lower capacity at the Contractor Road / Berg River Resort intersection.
6. If the Contractor Road / Berg River Resort intersection is selected as a major intersection location, a road link (servitude or public street) across the adjacent property (Farm 811/37 Paarl) would be needed for full development of a 500-learner school to be supported.
7. An unsignalised intersection in a semi-rural environment should be at least 305m from the nearest major intersection in terms of the Access Management Guidelines (AMG), or 270m in a suburban environment. As the Contractor Road / Berg River Resort access and the proposed access to Farm 811/38 are \pm 335m apart, a major and a priority controlled intersection would be well spaced, whichever ultimately serves the major intersection role. A decision on this can therefore be deferred until further land use and road network planning has been carried out.
8. The proclaimed road reserve width of Main Road 191 is 40m. While this would be adequate for a single carriageway road with shoulders, turn lanes and NMT facilities, it is likely that a dual carriageway will be required in the future, at least between Main Road 189 Old Paarl Road and the Val de Vie intersection. In that event, 40m may not be sufficient, allowing for turn lanes, localised widening required by topography (cut and fill) and services. Existing development may also result in the road being widened asymmetrically relative to the existing road centre line in order to reduce property acquisition costs, services relocation, etc. Additional space should therefore be reserved adjacent to the existing road in order to allow for this until more detailed information is available.

9. Traffic analyses were carried out by ITS for various development scenarios, time horizons and school attendee numbers. These were as follows:

9.1 Scenario 1A: 2-year horizon, with 3.5% per annum background traffic growth on Main Road 191 and 100% development of Val de Vie, and with Main Road 191 remaining a single carriageway road. This scenario covers Phase 1 of the School development, with 170 to 225 learners, generating 136 to 180 trips in the AM peak and 51 to 79 in the PM peak. The trip distribution assumed 60% of vehicle trips arrived from and left towards the south (presumably largely from Val de Vie and Pearl Valley), with the balance from/to the north on Main Road 191. It was concluded that the proposed unsignalised full intersection could accommodate the 180 trips of the School plus full development of Val de Vie in the AM peak, with the critical movement (westbound right turn out of the subject property) being at level of service (LOS) D and a volume/capacity (v/c) ratio of 0.32.

Scenario 1B: If the distribution is changed, with more trips arriving from and leaving to the north, 65 right turns out can be accommodated at LOS E, with a v/c ratio of 0.60. Total vehicle trips would be 200.

9.2 Scenario 2A: 5-year horizon, 3.5% p.a. traffic growth + 100% of Val de Vie, Brickfields and Levendal. This scenario assumes that a dual carriageway will be required, and that right turners from the school cross in two stages, with storage in the median for 2 vehicles. With the 60/40 north/south directional distribution, the forecast traffic can be accommodated with LOS E, and a v/c ratio of 0.42.

Scenario 2B: With the distribution being more oriented to the north, 50 right turns out can be accommodated, with a total of 180 vehicles (ie. 225 learners).

9.3 Scenario 3: 10-year horizon with 3.5% p.a. background traffic growth + Val de Vie, Brickfields and Levendal. Here LOS F is experienced. Traffic would need to be accommodated by a full signalised intersection or roundabout.

9.4 The Technical Memorandum concluded that full development of the school to accommodate 500 learners would require access to utilise a major intersection on Main Road 191, with traffic signals or a roundabout located either at the school's northern boundary or at the Contractor Road / Berg River Resort access.

10. As the delayed upgrading of Main Road 191 is based on a single carriageway road, and significant funding has been allocated by the Western Cape Government to the dualling and upgrading of Main Road 201 to accommodate growth on the east side of the Berg River south of the N1, it is unlikely that Main Road 191 will be dualled for some years. If traffic on Main Road 191 grows beyond that forecast in Scenario 2, whether due to development or background growth, without the dualling of Main Road 191, operational and safety problems may arise. School learner numbers should therefore be limited to 170 (or 136 peak hour trips) while the proposed unsignalised access at ±km 1.62 LHS on Main Road 191 (the R45) is the only access serving the property. (It is noted that the original application for the school assumed only 125 learners.)

11. With sustainability being a core value of the Green School, it is likely that ride sharing and the use of public transport (possibly contracted by the school) will be encouraged. This may lead to a significant reduction in the number of vehicles accessing the school property from Main Road 191. A review of vehicle movements and potential capacity of the proposed unsignalised intersection accessing the school could therefore be considered once the school had reached a reasonable size – say, 100 learners. If it is established that trip rates, and therefore vehicle numbers, are lower than was assumed in the traffic analyses, new limits in learner numbers might be agreed without further infrastructure upgrades being required. It is also likely that by the time 100 learners are regularly attending the school, there will be greater clarity regarding land use development and access management, including the likely location and form of major intersections.
12. The Technical Memorandum (ref. 1.3 above) indicated that a northbound right turn lane was required to provide for safe access to the school for vehicles arriving from the south. With some clearance of vegetation in the verge, there is adequate sight distance from the access for vehicles turning out from the site into Main Road 191.
13. In light of the above, this Branch rescinds its objection to the proposed rezoning of Farm 811/38 Paarl as contained in paragraph 8 of its 21 June 2019 letter (ref. para. 1.2 above).
14. This Branch offers no objection to the proposed rezoning of Farm 811/38, Paarl from Agricultural Zone and Conventional Housing Zone to Community Use Zone in order to erect a school, subject to the following conditions:
 - 14.1 Learner numbers will be limited to 170. This may be reviewed upon submission of a fresh traffic study conducted when learner numbers exceed 100, and taking into account greater clarity regarding background traffic growth, development plans and access management proposals for Main Road 191;
 - 14.2 The Applicant shall register a public servitude road 15m in width from the access at \pm km 1.62 across the property to its north-eastern corner to serve through traffic in the event that a future major intersection on Main Road 191 is at some future date located at the access to the subject property;
 - 14.3 In terms of the Advertising on Roads and Ribbon Development Act, 21 of 1940, the applicant shall maintain a building line of at least 15m from the proclaimed 40m road reserve. This may in the future be reduced once a survey and preliminary design for a future dual carriageway road has been carried out;
 - 14.4 The installation of a right turn lane on Main Road 191 (the R45) northbound serving the access at \pm km 1.62, with the road widened to retain a constant width shoulder;
 - 14.5 The Applicant shall accept in writing to be responsible for all costs associated with the design and implementation of the required road upgrades;
 - 14.6 The design of the road widening, right turn lane and access road bell mouth shall be carried out by an appropriately registered person in accordance with this Department's design guidelines and requirements, and shall be coordinated with

the design of the upgrading of Main Road 191 by the Western Cape Government's appointed consulting engineers, iX Engineers (Mr S. Steenkamp, ph. 021 912 3000). Detailed drawings of the road geometry, pavement / materials, drainage and road markings shall be submitted to this Branch's Design Directorate for approval prior to the commencement of construction (Ms MK Hofmeyr, ph. 021 483 5713);

- 14.7 In the event that a lengthy delay in the Main Road 191 upgrading project is likely, the Applicant's contractor shall submit detailed construction drawings and proposals for traffic accommodation during construction for approval to the District Roads Engineer prior to construction;
- 14.8 In the above circumstance, the Applicant's contractor shall accept the handing over of the site in writing from the Road Authority prior to construction. In the event that the Department's project is likely to proceed to construction within six months of the design of the upgrades required for the school access, the additional cost of the works required for the school access (right turn lane, bell mouth to road reserve boundary) shall be determined by the Department's consulting engineers in consultation with the Design Directorate, and shall be to the Applicant's account, with the construction carried out by the Department's contractor;
- 14.9 Should the additional works be carried out by the Applicant's contractor (see 14.7 above), then after completion of the construction phases to the satisfaction of the District Roads Engineer, the Road Authority shall accept in writing the handing over of the site from the Applicant's contractor.
- 14.10 As built drawings shall be sent to this Branch (Ms GD Swanepoel 021 483 2009), the District Roads Engineer (Mr S Bain) - 021 863 2020) and the Roads Department of Cape Winelands District Municipality (Mr ACA Stevens - 086 126 5263).

Yours faithfully



SW CARSTENS

For CHIEF DIRECTOR: ROAD NETWORK MANAGEMENT

ENDORSEMENTS

1. Drakenstein Municipality
(e-mail: earl.cyster@drakenstein.gov.za; carel.lotz@drakenstein.gov.za)
2. Arch Town Planners
(e-mail Marike Bolz: marike@archtownplanners.co.za)
3. TV3 Architects and Town Planners
(e-mail Clifford Heys: clifford@tv3.co.za)
4. ITS Engineers
(e-mail: johan.brink@itsglobal.co.za)
5. District Roads Engineer
Paarl (e-mail: stewart.bain@westerncape.gov.za)
6. Schalk Carstens (email)
7. Harry Thompson (email)
8. Melanie Hofmeyr (email)