

STANDEV PROPERTY DEVELOPMENT (PTY) LTD

**ERF 1772
STANFORD**

ENGINEERING SERVICES

PROJECT NO. P243

DECEMBER 2021

AVDM
RAADGEWENDE INGENIEURS
& PROJEK BESTUURDERS

ENGINEERING SERVICES

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1. INTRODUCTION

This report discusses the engineering implications of the proposed development of erf 1772 at Stanford. The subdivision plan as prepared by Wrap Town Planners, was used as basis for discussion.

The site is situated to the east of Stanford on the southern side of the R 326 opposite the Birkenhead Brewery site.

Basic levels obtained from Google Earth was used for the preliminary design process. The site slopes from the south-eastern corner to the north-western corner.

2. WATER

A bulk water and sewer capacity report for this development, dated 30 September 2021, was done by GLS Consulting.

The proposed connection to the existing Stanford water system is to the existing 160mm dia. pipe along the R326 Road.

The AADD for the 91 erven is 54.6 kl/day. The development is seen as a low-risk group 1 fire risk area and a minimum flow of 15 L/s per hydrant and a minimum residual head of 7m will be required.

The internal network will consist of a 110mm dia. ring main with 22mm dia. water connections to individual erven. A bulk water meter will be installed at the entrance to the

development and each individual erf will be supplied with a water meter as required by the local authority.

The GLS report confirm that the network capacity, reservoir capacity and the bulk supply all has sufficient capacity to accommodate the proposed development.

3. SEWER NETWORK

A bulk water and sewer capacity report for this development, dated 30 September 2021, was done by GLS Consulting.

The proposed development will be accommodated within the existing Stanford pumping station drainage area. The proposed connection for the development will be to the existing 200mm dia. outfall sewer along the R326 Road.

The existing Stanford pumping station drainage area has insufficient capacity to accommodate the proposed development. Network upgrading of 260m of an existing 250mm dia. to be replaced with a 400mm dia. pipe, will be required.

The internal sewer network will consist of normal waterborne 160mm dia. main lines with 110mm dia. service connections.

4. ROADS

A traffic impact study was done by EFG Engineers and is attached as part of the re-zoning application.

Access to the development will be from the R326 Road on the northern side of the development through a controlled gate. Sufficient distance will be provided to allow the stacking of 4 motor vehicles in front of the gate.

The streets within the development will consist of 6m and 4.5m wide surfaced road with kerbs and channels on each side built on a cross fall.

The pavement layers will be designed in accordance with TRH4 guidelines.

5. STORMWATER

The proposed internal minor stormwater system will consist of catch pits installed in the kerbed channels of the roads, which will be connected to an underground pipe network. This network will discharge into a soak away retention pond situated in the north-western corner of the site. The internal minor system will cater for the 5-year design return period.

The roadways will act as the major stormwater system. This system will have a low point in the north-western corner with an overland flow channel into the soak away retention pond which will be adequate in size to accommodate the 50-year design storms.

The retention pond will have a gabion protected spillway over the whole length of the northern wall to cater for storms bigger than the 50-year design storm.

7. ELECTRICITY

See attached the electrical services report compiled by Driger Consulting for information on the electricity supply network.

8. CONCLUSION

All Civil and Electrical Engineering Services will have to be designed according to Standards and Specifications as laid down by the Overstrand Municipality.

A service agreement will have to be drawn up between the developer and the Overstrand Municipality which will spell out the exact bulk levy contributions as well as the standard of services required.

AS van der Merwe

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