CIVIL ENGINEERING SERVICES OVERVIEW

FOR THE PROPOSED DEVELOPMENT ON

ERF 301, WILDERNESS

16 OCTOBER 2024
REV 6

Developer:

Mr Sean Holms

Prepared By:

S&Z Consulting (Pty) Ltd

P O Box 2732
GEORGE
6530

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CIVIL ENGINEERING SERVICES OVERVIEW

S&Z Consulting (Pty) Ltd was appointed by Mr Sean Holmes for an overview of the Civil Engineering Services for the proposed development on Erf 301 Wilderness. Our findings and recommendations are as follows.

1. SITE AND LAND USE

The proposed development is situated on Erf 301 Wilderness., The Erf size is 39322m^2 (±4ha).

See attached the Locality plan in ANNEXURE A: LOCALITY PLAN.

The boundaries as per compass direction is as follows:

Northern Boundary -	Along Whites Road (gravel road) between erven 1244, and Remainder of erf 547.
Southern Boundary -	Along Waterside Road (tar road) between erven 1244, and Remainder of erf 547
Eastern Boundary -	Boundary with Remainder of erf 547.
Western Boundary -	Boundary with Erf 1244

The proposed development consists of the following:

Erf size	-	39322 m²
Proposed Main dwelling (including garage & store)	-	±446 m²
Proposed 6 x Single Eco Pods / Units	-	±38m² each
Entrance road & driveway platform	-	±812 m²

The estimated disturbed footprint area for the above development is as follows.

Proposed Main dwelling (including garage & store)	-	±200 m²
Proposed 6 x Single Eco Pods / Units	-	±10m² each
Entrance road & driveway platform	-	±812 m²

Total disturbed area inclusive of all structures, road, and driveway = 1072m2

Total disturbed site percentage = 1072m2 /39322m2 = **2.72%**

The intention of the development is to house a) main residential unit of ±446m^2 which includes an information site office and communal meeting area, b) 6 x single eco pods of approximately 38m^2 each, set back into the bush and accessed via forest walk paths.

The natural topography of the site falls at a slope of approximately 1:4 from North to South. The erf is currently overgrown with dense natural vegetation. No development has been undertaken on the site.

2. ROADS AND STORMWATER

Main access to the development is proposed from the northern boundary of the property leading out of Whites Road. This access can be accommodated for by means of a new road/driveway section of approximately 75m long, cut into the

Northern face of the property with a gradual slope from West to East, terminating on a level platform next to the proposed main dwelling and garage section.

Internal walkways are proposed between the separate buildings / units leading out of the new driveway / road section.

Stormwater run-off will be directed into soft landscaping and dispersed over large sections of the property and surrounding natural vegetation to prevent concentrated run off and erosion. Concentrated run off from roofs will be diverted into rainwater harvesting tanks with an overflow connected to an artificially constructed swale to prevent erosion.

The requirements of the Design Guideline for New Developments will be adhered to.

Recommended Stormwater Management:

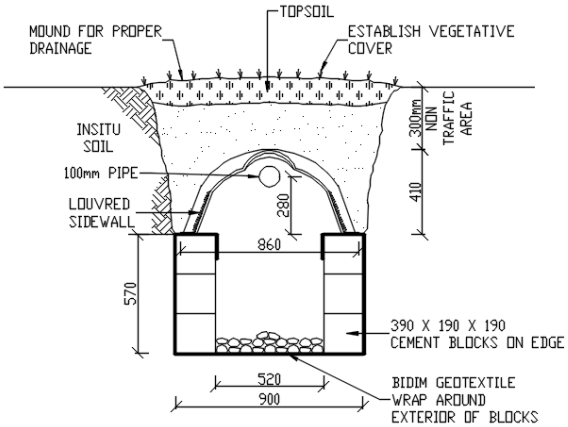
Driveway & Walkways:

- During Construction

  The drive/walkways to be cut with a minimum 2.5% cross fall sloping towards the embankment to drain stormwater runoff away from the surrounding undisturbed soil profile. Runoff to be collected in a shaped dish channel running the length of the drive/walkway, disbursing in a temporary shaped retention pond on the lower end of the driveway. Rocks to be placed on the perimeter of the retention pond to break the force of concentrated flow during large down pours.

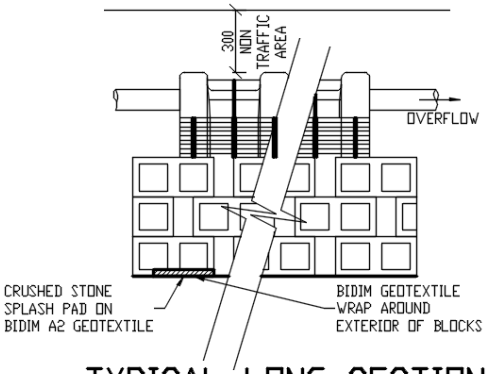
- After Construction

  The dish channel to the side of the drive/walkway to be neatly shaped and filled with rocks and suitable vegetation to break high velocity flow rate. Runoff be channelled into a sub-surface soakaway as per the following detail.



TYPICAL CROSS SECTION

SCALE: 1:NTS



TYPICAL LONG SECTION

SCALE: 1:NTS

Fenceline:

We recommend the use of conventional timber pole and “farm style fence” type installation to create the minimum impact on the surrounding vegetation and soil profile. Were practically possible the fence line to be altered to conform with the natural site contour lines to minimise surface erosion as far as possible. Rocks to

be placed along sections of the fence line to break any concentrated surface run-off.

3. WATER SUPPLY

A 50mm dia water connection exists on the northeast corner of the site (See ANNEXURE B: EXISTING MUNICIPAL SERVICES). This connection will be more than adequate to service the proposed development.

4. SEWER DRAINAGE

An existing 160mm dia municipal sewer line exist on the lower end of the property along its Southern boundary and Waterside Road. (See ANNEXURE B: EXISTING MUNICIPAL SERVICES). A switchback gravity sewer line with a series of back drop manhole structure is proposed to accommodate the steep site topography towards the southwest corner of the site.

5. SUMMARY AND CONCLUSION

From investigations of the existing infrastructure surrounding the site, it is evident that municipal and internal services can be provided for the proposed development in a feasible and sustainable manner.

Yours sincerely

IM ZAAIMAN
Pr Eng

ANNEXURE A: LOCALITY PLAN

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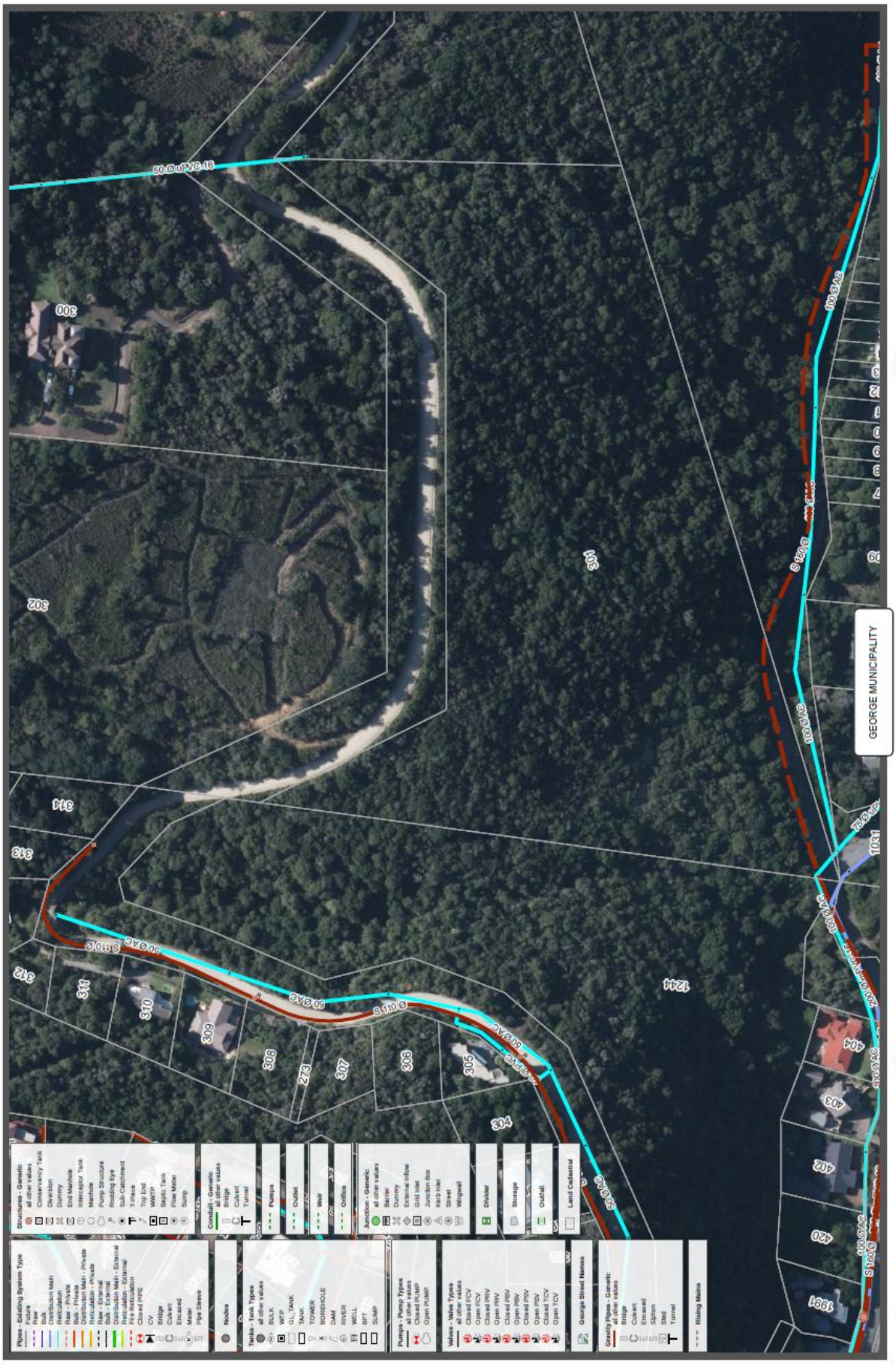
ANNEXURE B: EXISTING MUNICIPAL SERVICES



Existing Municipal Services