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TERMS OF REFERENCE FOR CIVIL ENGINEERING REPORT

THE PROPOSED DEVELOPMENT OF A RETIREMENT VILLAGE AND ASSOCIATED INFRASTRUCTURE ON ERF 103, 104 AND A PORTION OF ROTTERDAM STREET WITTEDRIFT, PLETTENBERG BAY, WESTERN CAPE

1. INTRODUCTION

Sharples Environmental Services cc (SES) has been appointed by Mr. Del Monte to undertake an Environmental Impact Assessment for the development of a retirement village and associated infrastructure on erf 103, 104 and a portion of Rotterdam street Wittedrift, Plettenberg bay, Western Cape.

Engineering Advice and Services cc (EAS) are required to compile a preliminary civil engineering report for input into the Environmental Impact Assessment applications. This report must be accompanied by a services layout with conceptual designs for all new civil infrastructure and identify routes for the bulk services.

The purpose of this report is to indicate the current infrastructure and services that are available to the site and to determine what needs to be included in the development description so that there is sufficient civil infrastructure to service and support this proposed development. The investigation must cover the availability of bulk services supply as well as the internal reticulation of potable water, sewage, solid waste and access to the site.

2.1 Specific Scope of Work

The report should focus on the receiving environment and determine the sphere of influence of the site from an engineering perspective by investigating the existing services, topography of the site, site storm water drainage patterns etc. It will be necessary to liaise with the Municipality regarding any issues or constraints in terms of service delivery to this site and for this development.

The following information must be provided in the civil engineering report:

1. Potable water supply network

- Determine the volumes of water required for the proposed development.
- Get written confirmation from the Municipality that this demand can be met (i.e. is sufficient capacity at the water treatment works to meet this demand).
- Explain the current and proposed route of water supply.

- Provide the dimensions of existing and proposed infrastructure including technology to be used, size, surface area, length, internal diameter of pipelines, throughput capacity of pipelines, etc. We note that it will not be possible due to the costs of the investigations to be 100% accurate with the dimensions of pipes etc. and therefore where this is the case various options in terms of pipe sizes and routes should be indicated.
- Identify where the new pipeline routes will run; if any pipeline has to traverse a watercourse, this will have to be indicated and means to cross the watercourse will have to be provided. Once again, the general area where the pipelines will cross should hopefully be sufficient for the Department of Water and Sanitation approval.
- Identify any proposed water saving devices to be employed e.g. rainwater tanks, low-flow shower heads and flush toilets etc.

2. Waste water network and associated infrastructure

- Determine the estimated amount of waste water to be generated by this development.
- Identify how and where waste water disposal will take place.
- Get written confirmation from the Municipality that this can be accommodated within the municipal network (i.e. there is sufficient capacity at the waste water treatment works to accommodate this additional effluent).
- Provide dimensions of existing and proposed infrastructure including technology to be used, size, surface area, length, internal diameter of pipelines, throughput capacity of pipelines, etc; We note that it will not be possible due to the costs of the investigations to be 100% accurate with the dimensions of pipes etc and therefore where this is the case various options in terms of pipe sizes and routes should be indicated.
- Identify new sewer line (if required) routes from the site. If any of these routes cross a watercourse, the proposed method for crossing the watercourse will have to be provided including a conceptual design for this section of the route. Once again, the general area where the pipelines will cross should hopefully be sufficient for the Department of Water and Sanitation approval.
- If required, provide conceptual designs for new pump stations and sewer lines.
- Comment on the method for back up should the pump station fail.

3. Storm water runoff

A Conceptual Storm Water Management Plan is required that takes into account the contour plan and site specific drainage conditions, keeping in mind that this area receives around 660mm of rain per year. The following must also be provided:

- The proposed mode of storm water drainage (retention ponds, formal storm water system, natural infiltration and dissipation or other).
- Identify suitable energy dissipation structures / measures to be implemented.
- Provide dimensions and location of proposed infrastructure (i.e. outlet structures), including size, surface area, length, of storm water network.
- Determine suitable screening methods and treatment of storm water prior to discharge from the site into a river system.
- Comment on the use of either silt traps and / or other erosion control measures to dissipate the energy of the storm water and reduce the overland flow speed to prevent erosion.
- Estimated total volume of storm water runoff to be generated (if possible).

4. Solid waste disposal

- Determine the volume of solid waste to be generated by the proposed development.
- Get written confirmation from the Municipality that they will be able to accommodate this at the current disposal site.

5. Access to the site

The current proposed entrance is planned via main road on Protea road as per the Town Planning Motivation. The proposed intersection provides adequate sight lines for the safe movement of vehicles. A double loop system of roads in 10m reserves, provides access to the retirement units.

For the completion of the development as proposed on the current site development plan attached to the following page a portion of Rotterdam Street Reserve (approximately 2 921m²). This will require a closure application for portion of the Rotterdam Street Reserve.

Internal road network:

- Investigate the suitable width of internal roads to accommodate the traffic.

Please indicate by when you would be able to provide the above

SEVEN OAKS



REVISIONS	
SYMBOL	DESCRIPTION
R1	
R2	
R3	
R4	
R5	
R6	
R7	
R8	
R9	
R10	

- CONTRACTOR & GEN. NOTES**
- ALL MATERIALS ETC. TO BE FITTED IN STREET ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 - ALL SPECIFICATIONS ETC. TO BE IN ACCORDANCE WITH SANS PRELIMINARIES FOR TRADES AS PUBLISHED BY THE ASSOCIATION OF SOUTH AFRICAN QUANTITY SURVEYORS.
 - ALL WORK TO BE DONE IN ACCORDANCE WITH THE NATIONAL BUILDING REGULATIONS (SOUTH AFRICAN CODE OF PRACTICE) AND BUILDING STANDARDS ACT, ACT 103 OF 1977.
 - CONTRACTOR TO ALLOW FOR ARCHITECTS BOARD REGULATIONS AND REQUIREMENTS OF ALL RELEVANT AUTHORITIES TO BE ADHERED TO.
 - CONTRACTORS TO CHECK ALL DIMENSIONS AND LEVELS ON SITE BEFORE COMMENCING WITH WORK.
 - FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED MEASUREMENTS.
 - ALL STRUCTURAL DESIGN TO BE THE RESPONSIBILITY OF A PROFESSIONAL ENGINEER.
 - COPYRIGHT RESERVED.



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PROJECT, TITLES & DATA		
Project PROP. RETIREMENT VILLAGE FOR L. DEL MONTE on ERVEN 103 & 104, WITTEDRIFT		
Drawing title SITE LAYOUT 53 UNITS		
Other data		
Job No. 5075-01	Draw. No. 01(CD)	Rev. No. R09
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