water & sanitation
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WATER USE LICENCE APPLICATION SUMMARY

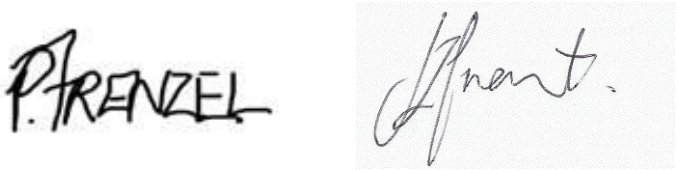
NAME OF APPLICANT:

Hartenbos Hills Propco (Pty) Ltd
(WU24914)

Compiled by:

Philip Frenzel & Justine Ewart-Smith

Signatures:



Date: 5 August 2022

1. Applicant details

Excluded due to Protection of Personal Information Act.

2. Person submitting application

Excluded due to Protection of Personal Information Act.

3. Background and purpose

The applicant, Hartenbos Hills Propco (Pty) Ltd (hereafter referred to as the developer), are applying for a Water Use Licence to establish a low-density residential development that will comprise of residential erven, a care centre, sports facilities with a club house and associated infrastructure. The proposed Hartenbos Garden Estate comprises a single property, Erf 3122, in an area known as Hartenbos Heuwels. It is situated on the hills to the west of the town of Hartenbos within the Mosselbay Municipal Area, about 1.5 km west of the N2 highway.

Due to the presence of wetlands and watercourses as well as areas of natural vegetation on the property, environmental authorisation required the need for botanical, faunal and aquatic specialist assessments. The development layout and design has undergone various iterations to minimise any impacts on both the freshwater and terrestrial environments. In 2017, the developer commissioned a Constraints (Sensitivity) Analysis which was followed by the Scoping Phase in 2018. The development layout and services plans were finalised in early 2022 which resulted in the commencement of the Environmental Impact Phase. The final development layout has accommodated the sensitive wetland and watercourse habitats within an area earmarked for conservation, incorporating buffer areas separating development from these habitats of between 30 and 50 m, following initial recommendations by the aquatic specialist. With Erf 3122 having a total area of 60.52 ha and the total development footprint being 24.2 ha, areas of large open space allow for the conservation and protection of aquatic ecosystems and associated flora and fauna.

The proposed development falls within the jurisdiction of the Breede Gouritz Catchment Management Agency (BGCMA). The applicant was advised by the BGCMA that given the need for construction of a sewer network as part of the development, a Water Use Licence Application (WULA) was required. Water uses applied for on 19 May 2022 as part of the WUL (WU24914) include Section 21(c) and 21(i) of the National Water Act, 1998 (Act 36 of 1998), which are defined as follows:

- 21 (c): Impeding or diverting the flow of water in a watercourse
- 21 (i): Altering the bed, banks course or characteristics of a watercourse

It is noted that there is no Existing Lawful Water Use for this site.

4. Location of water uses

The project in respect of which this WULA is submitted is located in the Western Cape Province, within the Eden District Municipality near Hartenbos. The water uses will take place on Erf 3122 Hartenbos, which straddles the K10A and K10B Quaternary Catchments, within the Breede Gouritz Water Management Area (Figure 1). The geographic location of the property (Table 1) where the water uses will take place are 34° 7'48.49"S, 22° 5'6.30"E.

Various aquatic ecosystems were identified within the proposed development (Figure 2). The non-consumptive water uses in terms of Section 21 (c) and (i) were identified for fence crossings (Figure 3), location of sewage pump stations (Figure 4) as well as stormwater retention ponds (Figure 5).

Table 1: Property details where the water uses will take place.

Property description	Title Deed number	Owner
Land Parcel 3122 of the Minor Region HARTENBOS (Erf 3122 Hartenbos)	T19822/1977	Hartenbos Hills Propco (Pty) Ltd*

***** Erf 3122 (Hartenbos) has been purchased by Hartenbos Hills Propco (Pty) Ltd from the ATKV, subject to the approval of development rights.

Figure 1: The study area, Hartenbos Heuwels (Erf 3122) is situated to the west of Hartenbos and straddles two quaternary catchments within the Breede-Gouritz Water Management Area (WMA).

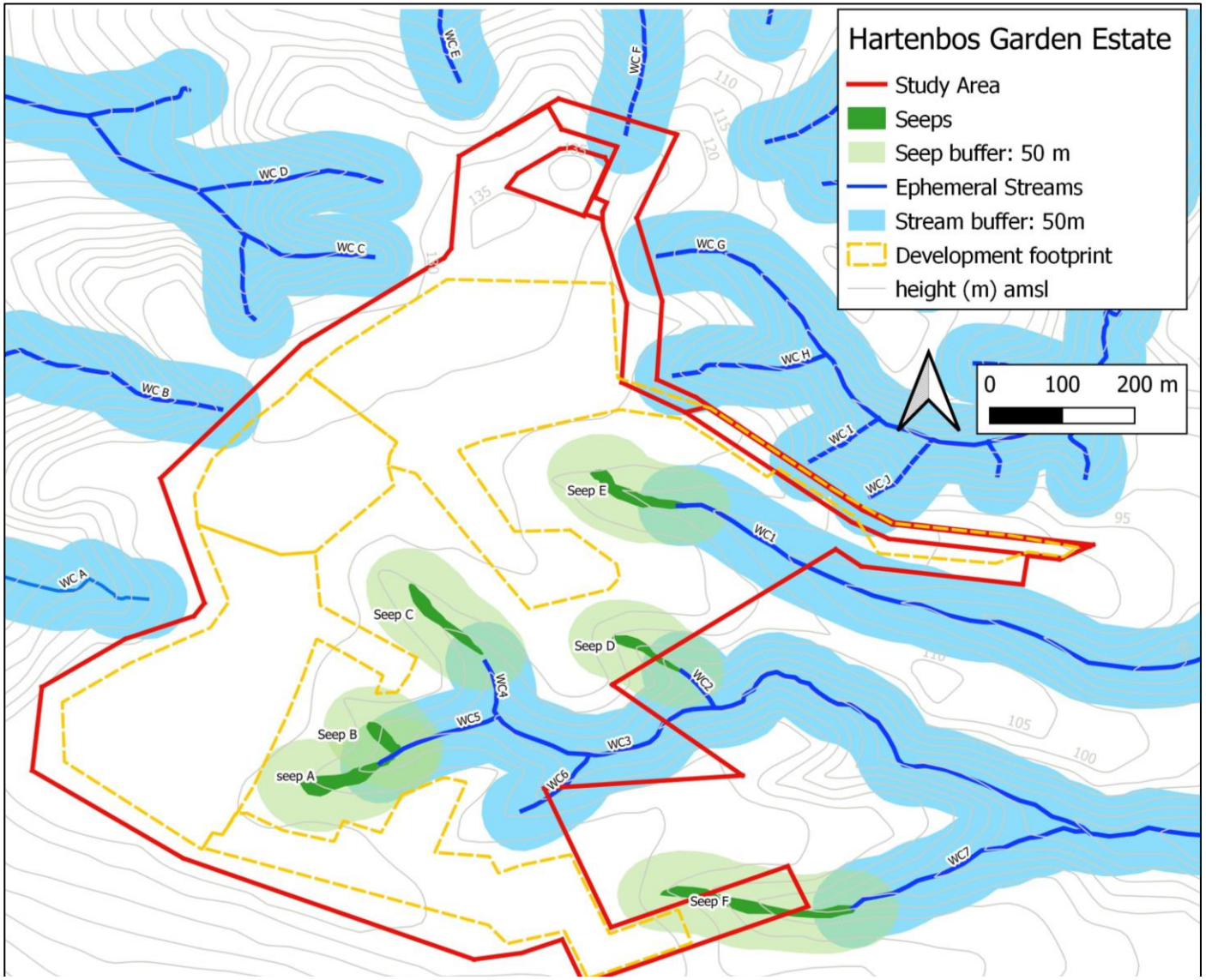


Figure 2: Seeps and watercourses identified within and surrounding the study area showing the recommended buffer of 50m around these habitats, relative to the outer edge of the development footprint within the study area boundary (i.e. Erf 3122).

Figure 3: Location of the perimeter fence crossings potentially affecting seeps and watercourse within the study area. These points have been registered as water uses in terms of Section 21 c and i of the NWA.

Figure 4: Location of the sewage pump stations potentially affecting seeps and watercourse within the study area. These points have been registered as water uses in terms of Section 21 c and i of the NWA.

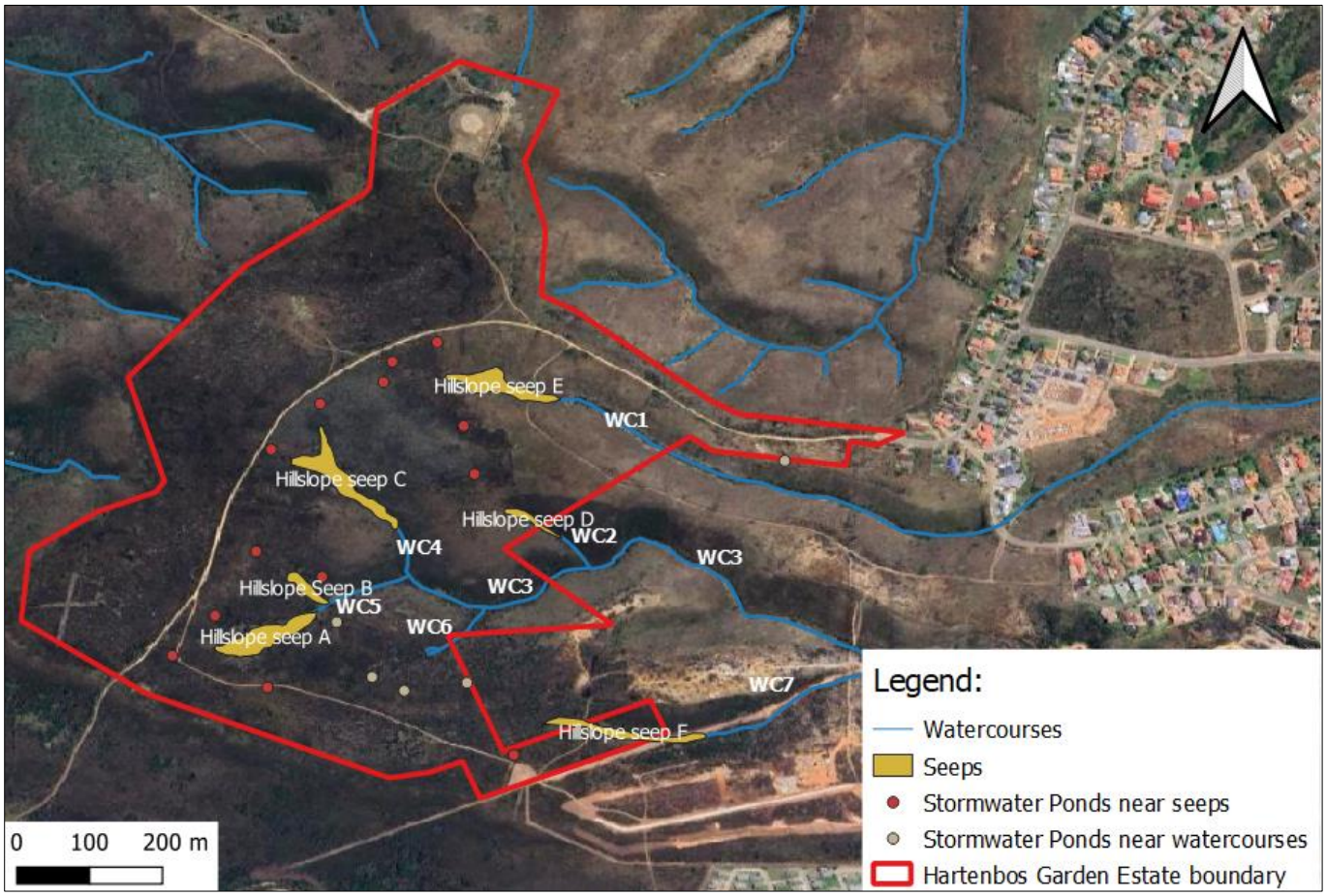


Figure 5: Location of the stormwater retention ponds potentially affecting seeps and watercourse within the study area. These points have been registered as water uses in terms of Section 21 c and i of the NWA.

5. Administrative documents and technical reports submitted by applicants

5.1 Administrative documents

The following administrative documents have been submitted in support of this application:

- Letter of appointment
- Title Deed of the property
- Purchase Agreement Letter of the property
- Tax invoice of the BGCMA administration fee
- Applicant's company registration certificate
- Applicants contact details and copy of ID
- Applicant's B-BBEE compliance certificate (sworn affidavit)

5.2 Reports and other technical documents

Technical documents	Author and Organisation	Date Compiled
Freshwater Ecosystem Assessment Report	Dr Justine Ewart-Smith (Freshwater Consulting cc)	May 2022
Botanical Scoping Assessment Report	Dr Dave McDonald (Bergwind Botanical Surveys)	April 2021
Faunal Scoping Assessment Report	Mr Simon Todd (Simon Todd Consulting)	March 2018
Services Report	Mr Louis Roets (LJR Civil Consultants cc)	June 2022

Technical documents	Author and Organisation	Date Compiled
Social Impact Scoping Assessment Report	Dr Tony Barbour (Tony Barbour Environmental Consulting and Research)	March 2021
Public Participation Report	Ms Louise-Mari van Zyl (Cape EAPrac)	Not yet concluded
WULA Technical Report/Summary Report	Mr Philip Frenzel and Dr Justine Ewart-Smith (Freshwater Consulting cc)	July 2022

6. Project Description

Of a total area of 60.52 ha, the preferred alternative has a total development footprint of 24.2 ha. The development consists of residential erven, a care centre, sports facilities with a club house and associated infrastructure. In terms of residential erven, 117 are relatively large (350-600 m^2), 122 are moderately sized (≤ 350 m^2), while 40 "garden houses" are small (200 m^2). There are 218 sectional title stands, including 54 one-to-three-bedroom terrace apartments, 144 village apartments (bachelor, 1 or 2 bedroom), and 20 assisted living stands. The care centre includes 34 sectional title stands for comprehensive care (Figure 6).

The proposed housing development will involve the construction of infrastructure which will include, roads, buildings, security fence, sewage and stormwater infrastructure. Despite the majority of the development layout falling outside the recommended ecological buffer, several aspects of the development infrastructure are considered water uses in terms of section 21 (c) and (i) of the NWA. These include the following:

- Runoff of poor quality water from earthmoving activities associated with construction of residential erven, roads and any related disturbances,
- Construction of the security fence around the development (which crosses several watercourses and wetlands),
- Construction and operation of sewage pump stations and associated infrastructure (30m from the closest seep – with all other pump stations well beyond the 50m buffer area surrounding water resources)
- Construction and operation of stormwater retention ponds (closest one being a minimum distance of 30m away from a wetland, and the vast majority between 40 and 70m away from water resources)

The above activities undertaken in this project will require a licence application as per Section 21 (c) and 21 (i) of the National Water Act.

Figure 6: Proposed Development Layout Plan for Erf 3122.

7. Methods statement (only for c and i activity) and mining method/ industrial process

Various mitigation measures have been recommended within the freshwater specialist report (Ewart-Smith 2022) to minimise negative impacts to aquatic ecosystem associated with the design, construction and operational phases of the proposed development. The following sections will provide guidance on the proposed interventions that will ensure that potentially affected water resources are not comprised.

7.1 Design phase mitigation

The development layout could result in the loss of connectivity across the landscape and between watercourses in the region. These could be somewhat mitigated through:

- the creation of underpasses across the road network at strategic locations to permit the movement of biota.
- Adequate provision for the movement of biota across fencing erected either around the development or within the development.
- Appropriately vegetated and maintained open space with indigenous vegetation to promote the quality of habitat that can function as corridors.

It is recommended that the finer detail of fence design, vegetation of the open spaces and bridge bypass structures be approved collaboratively between a botanist, faunal specialist and freshwater ecologist during the detailed design of these structures to ensure that these measures are adequately addressed, prior to construction. Furthermore, it is recommended that the design and maintenance of these structures be included in the Operational Environmental Management Programme to ensure that their efficacy in the long term.

7.2 Construction phase mitigation

All construction-related activities involving earthworks and heavy machinery constitute Section 21(c) and 21 (i) water uses. Construction methods, typical for a new housing development, would be followed. This would include earth moving, the use of heavy machinery and excavation work to be done to enable the construction of buildings and associated infrastructure.

In particular, the risk of contamination of seeps and watercourses can be minimised by:

- Ensuring that construction within the 50 m buffer area of watercourses and wetlands, does not take place during wet periods. In the Hartenbos region, historical rainfall records show that rainfall peaks in the spring (October/November) and again in autumn (April) with the lowest rainfall between December and February. While limiting construction within any watercourse or wetland buffer between December and January will reduce the risk of runoff into watercourses and wetlands from newly cleared areas and stockpiles, rainfall does occur beyond this period. Therefore, potential rainfall needs to be continuously monitored and additional measures implemented to either prevent or remediate any damage if necessary.
- Ensuring that all stockpiled materials are stored at least 50 m away from wetlands and watercourses.
- Ensuring that stockpile areas do not exceed 1.5 m in height.
- Ensuring that all stockpiles are covered and thus protected from wind to prevent spread of material.
- Ensuring that stockpile areas are adequately bunded such that there is no runoff from these areas into freshwater ecosystems, particularly where the terrain is steep.
- Ensuring that washing of vehicles and machinery take place well away from wetlands and watercourses (at least 50 m). All machinery should be regularly checked for leaks.
- The provision of adequate ablution facilities for construction workers to avoid contamination of wetland habitats through human waste.

- Ensuring that any disturbance created through construction related activities is identified by the ECO and effectively remediated through rehabilitation of the habitat.

A Construction Phase Environmental Management Programme (CEMP) must be compiled and its implementation enforced during the construction phase through regular inspection by an ECO with experience of freshwater ecosystems. The CEMP must include measures that adequately address the above construction-related issues, including specifications for:

- Adequate construction site setbacks from conservation areas (at least 50 m) such that runoff does not enter watercourses or seeps from these areas;
- Adequate bunding and other controls over refuelling areas;
- Litter controls;
- Construction phase stormwater management to prevent contaminated runoff entering the wetlands and watercourses;
- Remediation and/or rehabilitation of disturbed habitats, if necessary.

7.3 Operational phase mitigation

The below subsections provide more detail on the mitigation measures for the various impacts associated with the operational phase of the proposed development.

7.3.1 Increased catchment hardening and stormwater runoff

Besides effective implementation of the design criteria detailed in the Stormwater Management, it is recommended that the following measures be implemented as part of the operational phase of the development:

- Open spaces should be landscaped with indigenous vegetation with low water and fertilizer requirements and private title holders should be encouraged to do the same.
- Removal of alien vegetation and rehabilitation of eroded watercourses within the development footprint will somewhat offset the vulnerability of these systems to further erosion.
- Swales, or unlined channels should be vegetated with appropriate wetland plants to maximize the efficacy of nutrient uptake and attenuation of runoff. These swales will need to be maintained with the possibility of sediment and vegetation removal and replanting if and when necessary.
- All surface flow must be directed towards these vegetated swales, where trapping of sediments and pollutants can occur and infiltration is promoted within the development area.
- Stormwater outlets with energy dissipaters should all be fitted with litter and sediment traps, with sediment assumed to be an efficient mechanism for the removal of at least some of the total phosphorous load.
- The effectiveness of any Stormwater Management Plan should be monitored throughout the longevity of the development and adaptive management measures should be set in place to address any potential impacts should these measures not be effective at maintaining ecologically important wetland habitat. In this development, monitoring of potential erosion and increased saturation of wetlands is of particular importance.

An Operational Phase Environmental Management Programme (OEMP) must be prepared for the entire site. The EMP must provide sufficient detail on the management of buffer areas surrounding wetlands and watercourses to ensure protection of these systems. Specifications for rehabilitation of eroded channels and appropriate removal and long-term maintenance of invasive-alien-free private open space areas on the site must be included.

Also, it is recommended that a detailed monitoring plan be compiled which addresses the monitoring and management of stormwater such that adaptive measures can be implemented in the event that water quality and quantity changes to seeps and watercourses associated with stormwater runoff from the site are detected over the long term.

7.3.2 Disturbance of wetlands and watercourses within the conservation area

Disturbance of wetlands in the conservation area can be mitigated through managing the movement through these areas. In particular, users should be limited to accessing the area via boardwalks or set paths which will define the extent of disturbance and limit interruptions to surface and subsurface flows. Mitigation measures against increased likelihood of invasion by weeds and /or other alien plants can be achieved through the implementation of a policy for the estate that stipulates that only indigenous vegetation be planted in open space landscaping. The use of indigenous vegetation should also be encouraged among individual property owners / users as well. Furthermore, adequate financial and human resources provision must be made for long-term alien clearing in the open space corridors and rehabilitation of eroded channels.

7.3.3 Sewage contamination

The probability of sewage contamination can be reduced even further by ensuring that all sewage pumps are effectively managed and maintained and that any blockages in the system are dealt with timeously and effectively for the full longevity of the estate. Also, each pump station should be fitted with a generator so that, in the event of power failures, the sewer network can still function optimally. It is further recommended that all pump stations, regardless of the number of dwellings being serviced, be designed with emergency storage capacity with a minimum capacity equivalent to four hours flow at the average flow rate.

8. Stormwater Management Plan

The Stormwater Management Plan proposes to implement SUDS (Sustainable Urban Drainage System) principles to promote attenuation of stormwater runoff and maximise infiltration (LJR Civil 2022). In particular, the Stormwater Management Plan proposes the use of unlined vegetated buffer strips, unlined grass channels with rock/subsoil drains and energy dissipators to promote infiltration, enhance water quality amelioration and prevent erosion. Stormwater reticulation infrastructure includes a piped reticulation system designed for the 1 in 5 year storm events that will link with the retention infrastructure. Also, rain water harvesting is recommended such that stormwater events will be somewhat attenuated.

9. Rehabilitation Plan

As mentioned in Section 7.3, the details relating to the rehabilitation of eroded channels and alien clearing will be included within the Operational Phase Environmental Management Programme (OEMP), upon approval.

10. Water Uses applied for

The application includes the following water use activities in WULA (as listed in Table 2):

Table 2: Water Use Applied for as part of the Hartenbos Garden Estate development.

Water use(s) activities	Purpose	Capacity/ Volume (m3, tonnes and/or m3/annum)/ dimension	Property Description	Co-ordinates
Section 21 (c) and (i)				
Fence crossing affecting Seep F	Security	Not specified yet, but guided by the objectives as set out	Erf 3122 Hartenbos	-34.1327039204;22.0888209362

Water use(s) activities	Purpose	Capacity/ Volume (m3, tonnes and/or m3/annum)/ dimension	Property Description	Co-ordinates
Fence crossing affecting Seep F	Security	by the aquatic specialist report (Ewart-Smith 2022).	Erf 3122 Hartenbos	-34.1324821925; 22.0877838215
Fence crossing affecting Seep D	Security		Erf 3122 Hartenbos	-34.1295514494; 22.0871633408
Fence crossing affecting Watercourse 6	Security		Erf 3122 Hartenbos	-34.1312841462; 22.0858204561
Fence crossing affecting Watercourse 6	Security		Erf 3122 Hartenbos	-34.1311571891; 22.0859885402
Fence crossing affecting Watercourse 3	Security		Erf 3122 Hartenbos	-34.1303561074; 22.087277781
Fence crossing affecting Watercourse 1	Security		Erf 3122 Hartenbos	-34.1284177758; 22.089040876
Sewage Pump Station potentially affecting Seep E	Sewage management	Not specified yet, but guided by the sewage management objectives as set out within the Services Report (LJR 2022)	Erf 3122 Hartenbos	-34.1284557409; 22.0862433227
Sewage Pump Station potentially affecting Seep F	Sewage management		Erf 3122 Hartenbos	-34.1326785111; 22.087655597
Sewage Pump Station potentially affecting Watercourse 5	Sewage management		Erf 3122 Hartenbos	-34.1298609889; 22.0847116024
Sewage Pump Station potentially affecting Watercourse 3	Sewage management		Erf 3122 Hartenbos	-34.130802505; 22.0850910194
Stormwater Pond potentially affecting Seep D	Stormwater management	Not specified yet, but guided by the stormwater management objectives as set out within the Services Report (LJR 2022)	Erf 3122 Hartenbos	-34.1287719217;22.0861730603
Stormwater Pond potentially affecting Seep E	Stormwater management		Erf 3122 Hartenbos	-34.1280552452; 22.0860114568
Stormwater Pond potentially affecting Seep E	Stormwater management		Erf 3122 Hartenbos	-34.1268116007; 22.0856179874
Stormwater Pond potentially affecting Seep E	Stormwater management		Erf 3122 Hartenbos	-34.1270996766; 22.0849504946
Stormwater Pond potentially affecting Seep E	Stormwater management		Erf 3122 Hartenbos	-34.1274018049; 22.084816996
Stormwater Pond potentially affecting Seep C	Stormwater management		Erf 3122 Hartenbos	-34.1277250119; 22.0838754799
Stormwater Pond potentially affecting Seep C	Stormwater management		Erf 3122 Hartenbos	-34.1284065572; 22.0831447509
Stormwater Pond potentially affecting Seep B	Stormwater management		Erf 3122 Hartenbos	-34.1303007603; 22.083902845
Stormwater Pond potentially affecting Seep B	Stormwater management		Erf 3122 Hartenbos	-34.129924225; 22.0829199112
Stormwater Pond potentially affecting Seep A	Stormwater management		Erf 3122 Hartenbos	-34.1308797937;22.0823086283
Stormwater Pond potentially affecting Seep A	Stormwater management		Erf 3122 Hartenbos	-34.1314739562; 22.0816712224
Stormwater Pond potentially affecting Seep A	Stormwater management		Erf 3122 Hartenbos	-34.1319477821; 22.083088541
Stormwater Pond potentially affecting Seep F	Stormwater management		Erf 3122 Hartenbos	-34.1329532032; 22.086759322
Stormwater Pond potentially affecting Watercourse 1	Stormwater management		Erf 3122 Hartenbos	-34.128575187; 22.0907963262
Stormwater Pond potentially affecting Watercourse 5	Stormwater management		Erf 3122 Hartenbos	-34.1309766232; 22.0841196312
Stormwater Pond potentially affecting Watercourse 6	Stormwater management		Erf 3122 Hartenbos	-34.1317932049; 22.0846483663
Stormwater Pond potentially affecting Watercourse 6	Stormwater management		Erf 3122 Hartenbos	-34.1319969658; 22.0851261506

Water use(s) activities	Purpose	Capacity/ Volume (m3, tonnes and/or m3/annum)/ dimension	Property Description	Co-ordinates
Stormwater Pond potentially affecting Watercourse 6	Stormwater management		Erf 3122 Hartenbos	-34.1318775197; 22.0860606405

11. Impacts and mitigation measures

The potential impacts and mitigation measures that are expected from the proposed activities are presented in Table 3**.**

Table 3: Summary of impacts and mitigation measures

Water Use activity	Possible causes of the impacts of the activities Impacts to the water resources	Possible Impacts to the water resource and other water users	Mitigation Measures
Section 21 (c) and (i): Fence crossing various watercourses and seeps	Placement of infrastructure within watercourses.	Obstruction of flow with potential erosion and loss of longitudinal connectivity	Strategic placement of poles and appropriate fence design
Section 21 (c) and (i): location of sewage pump stations and associated infrastructure	Pump failure due to blockages, mechanical/electrical reasons, etc.	Water quality contamination of wetlands and watercourses with sewage effluent.	Regular maintenance; blockages dealt with timeously and effectively; each pump station should be fitted with a generator; emergency storage capacity with a minimum capacity equivalent to four hours flow at the average flow rate
Section 21 (c) and (i): location of stormwater retention ponds	Increase in the volume of runoff; concentration of flows, increased concentration of nutrients in stormwater runoff.	Change in the natural hydrology of ephemeral streams with an increase in size and volume of peak flows, leading to erosion and habitat loss; Increase in the duration and frequency of saturation of wetlands and loss of biotic integrity; Water quality deterioration a shift in vegetation community structure resulting in a loss of ecosystem integrity	Stormwater outlets with energy dissipaters should all be fitted with litter and sediment traps; vegetated swales

12. Water demand and water supply

Water demand
Based on the Services Report for the project (LJR Civil 2022) the expected water usage is based on the following:

The total annual daily demand is calculated as follows:

- Residential erven (350-600m²): 117 erven x 0.7kl/day = 81.9kl/day
- Residential erven (≤ 350m²): 122 x 0.6kl/day = 73.2kl/day
- Residential erven (200m²): 40 x 0.6kl/day = 24kl/day
- Residential (Terrace apartments): 54 x 0.6kl/day = 32.4kl/day
- Residential (Village apartments): 144 x 0.6kl/day = 86.4kl/day
- Care centre (apartments/rooms 45m²): 20 x 0.5kl/day = 10.0kl/day
- Care centre (rooms 28m²): 34 x 0.5kl/day = 17kl/day

Thus, a total of 324.9kl/day is the expected water demand.

Water supply

The Services Report (LJR Civil 2022) recommends the use of rain water harvesting through the installation of rainwater tanks at each house/building and rainwater collection tanks at some Stormwater Outlets. This water would be used for the irrigation of green areas but could also be used to supplement the water required for the sewer system and filling of swimming pools.

The Mossel Bay Municipality Water Master Plan dated April 2017 proposed that the erven for this development be supplied form the Hartenboskop Reservoir via a proposed booster pumping station (GLS Consulting, Annexure I in LJR Civil 2022).

Accordingly, GLS Consulting (see Annexure I of the Services Report: LJR Civilo 2022) indicate that the proposed development will be supplied from the existing 3500 kL Hartenboskop reservoir (TWL =137m). The reservoir is situated immediately north of the development and is supplied via an existing booster pumping station located at the lower 9140 kL Hartenbos reservoir (TWL = 80).

The annual average daily water demand (AADD) for the Hartenboskop reservoir zone was calculated taking into consideration the existing stands (fully occupied), the proposed development on ERF 3122 and including all the proposed future developments in the reservoir supply area as listed in the 2017 Master plan.

The total future water demand, supplied as proposed from the Hartenboskop reservoir, was calculated as follows:

- Future development Erf 3122 = 365 kL/d
- Hartenboskop zone fully occupied = 539 kL/d
- Other developments and rezoning = 900 kL/d

With a total of 1 804 kL/d. The total future water demand of 1 804 kL/d amounts to a required reservoir storage capacity of 3 608 kL to comply with the required 48 hours of AADD reservoir storage capacity. The existing 3 500 kL Hartenboskop reservoir will in future have a marginal deficit of 108 kL, which amounts to 47 hours of storage capacity. The 3 500 kL capacity should be sufficient to accommodate the proposed development including other future developments as stipulated in the Master Plan to comply with roughly 48 hours of AADD reservoir storage capacity.

GLS Consulting (Annexure I in LJR Civil 2022) indicate that there is sufficient capacity at the existing

Hartenbos Heuwels pumping station to meet the increased demand at the Hartenboskop reservoir, i.e. 50 L/s with two duty pumps and one standby.

13. Public participation

The public participation process follows Section 41 (4) of the National Water Act, Act no. 36 of 1998.

The public participation is currently in process as part of the Environmental Impact Assessment and the outcome thereof will be summarised in the final version of this report in Table 4.

Table 4: Outcome of the public participation

Person who commented	Comments (support or object)	Reasons for objection	Applicant's response to the objection

10. Other authorisations applicable to the activity

N/A

14. Section 27 (1)

The requirements contained in Section 27(1) of the National Water Act, 1998 (Act 36 of 1998) have been considered and are discussed further below.

a) Existing lawful water uses

There are no existing lawful water uses of relevance to this project as the properties downstream are supplied with water by the Mosselbay Local Municipality (MBLM). Furthermore, the Hartenbos Garden Estate does not propose any water abstraction (i.e. Section 21 a) or storage (i.e. Section 21 b) water uses as described in the NWA 1998 (Act 36 of 1998). The water uses applicable to this development include only non-consumptive water uses (i.e. Sections 21 c and i) and, through implementation of mitigation measures, there are no significant changes in the quality and quantity of discharge from water resources downstream of the development.

b) Need to redress the results of past racial and gender discrimination

According to the Social Impact Scoping Assessment Report for the Hartenbos Garden Estate (Barbour 2019), the majority of work during the construction phase is likely to be undertaken by local contractors and builders. Also, the majority of the employment opportunities are likely to benefit local Historically Disadvantaged (HD) members of the community. This would represent a significant opportunity for the local building sector and members of the local community who are employed in the building sector. Based in the assumption that about 100 units will be built per annum, the construction phase would extend over a period of approximately 4 – 5 years. Furthermore, it is estimated that about 600 employment opportunities will be created per annum during the construction phase for the residential component of the development.

In order to address past racial discrimination, the Social Impact Scoping Assessment Report (Barbour 2019) recommends that:

- The developer, in consultation with the MBLM, should inform local community leaders, business organizations and councillors of the project and the potential opportunities for local builders and contractors.
- The developer should liaise with the MBLM regarding the existence and or establishment of a database of local construction companies in the area, specifically SMME's owned and run by HDI's, prior to the commencement of the construction phase. These companies should be notified of the tender process and invited to bid for project related work.
- The developer, in consultation with the appointed contractor/s, should look to employ a percentage of the labour required for the construction phase from local area in order to maximize opportunities for members from the local HD communities.

It is anticipated that the majority of the building materials associated with the construction phase will be sourced from locally based suppliers from the Mosselbay Local Municipality (MBLM) and Eden District Municipality (EDM).

The Social Impact Scoping Assessment report (Barbour 2019) further recommends that the developer, in consultation with the appointed contractors, implement an HIV/AIDS awareness programme for all construction workers at the outset of the construction phase.

The establishment of a retirement facility that includes a clinic and frail care centre within the Hartenbos Garden Estate will provide long term employment opportunities during the operational phase of the project. These facilities are labour intensive and include health-care staff, housing keeping staff, catering staff, maintenance staff, security staff, administrative staff, drivers, and hairdressers. Furthermore, the general residential component will also create employment opportunities, such as domestic workers, gardeners, frail care providers and live-in care givers The majority of the employment opportunities are likely to benefit Historically Disadvantaged Individuals (HDIs) (Barbour 2019).

c) Efficient and beneficial use of water in the public interest

The preferred layout plan accommodates all water resources, including streams and seeps within an area set aside for conservation, thus providing an opportunity for their long-term protection. These freshwater ecosystems are currently impacted by alien invasion and the loss of natural vegetation that has resulted in significant erosion and threats to wetland habitat of high ecological importance and conservation value. Ewart-Smith (2022) indicates that removal of alien vegetation and rehabilitation of eroded watercourses within the development will improve the functional and biodiversity value of these freshwater ecosystems. Furthermore, a commitment to ongoing management of the development according to an Operational Phase Environmental Management Programme (OEMP) (which includes specifications for rehabilitation and management of buffer areas) will promote the integrity of these ecosystems and prevent risks to downstream environments.

The Integrated Development Plan (IDP) for Mosselbay indicates that Mosselbay should be developed as a retirement destination with safe and healthy environs, while the Conceptual Development Plan (CDP) indicates that significant resources should be set aside for biodiversity conservation, including amongst other attributes, its rivers, wetlands and natural vegetation. Thus, the proposed creation of nature walks through the conservation area will benefit the residence of the Hartenbos Garden Estate and supports the CDP which promotes the protection of resources for biodiversity conservation.

d) Socio-economic impact –

The socio-economic impact is considered both in terms of whether the water use is authorised or not (i.e. the no-go scenario) from a local, regional and national perspective.

i) Of water use or uses if authorised:

Construction Phase:
Construction of the Hartenbos Garden Estate not only creates part-time employment during the construction phase, but also ensures permanent work opportunities, which in turn create downstream employment opportunities.

In terms of business opportunities, Barbour (2019) indicates that the estimated capital expenditure costs for the development are expected to be region of R 800 million (2021 rand value). Most of the work will be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in the MBLM and Garden Route District Municipality (GRDM). The majority of the building materials associated with the construction phase will be sourced from locally based suppliers from the MBLM and EDM and thus represents a positive injection of capital into the area local economy. Barbour (2019) further emphasizes that the project should also be viewed within the context of the slump in the construction and building sector in the wake of the 2008 global financial crisis and COVID 19 pandemic of 2020. The proposed development therefore represents a significant opportunity for the local construction and building sector.

As indicated in Section 14b, it is estimated that about 600 employment opportunities will be created per annum for 4-5 years during the construction phase for the residential component of the development (Barbour 2019) (Table 5). This amounts to 3000 jobs over the construction period. Based on information from similar employment numbers the total annual wage bill is estimated to be in the region of R 100 million. Of this total the annual wage bill for semi-skilled and skilled workers will be in the region of R 60 million and R 40 million respectively. The total wage bill over 4 years will therefore be in the region of R 400 million. The majority of the annual and total wage bill will be spent in the MBLM and GRDM. This would in turn benefit local business.

The potential creation of employment opportunities for local HD members of the community is therefore regarded as an important social benefit given the impact of the COVID-19 pandemic.

Barbour (2019) lists potential negative socio-economic impacts during the construction phase as follows:

- Impacts on family networks and structures associated with the presence of construction workers on site.
- Security and safety impacts associated with the presence of construction workers.
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

Nevertheless, these are considered of low significance and can be effectively mitigated as follows:

- Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays. No work should be permitted after 13h00 on Saturdays and on Sundays.
- Drivers should be made aware of the potential risk posed to school children and other road users in the vicinity of the sites. All drivers must ensure that speed limit of 60 km per hour is enforced.
- Abnormal loads should be timed to avoid peak traffic hours.

- Dust suppression measures must be implemented for heavy vehicles such as wetting of gravel roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers.
- All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits.

Operational Phase:

Establishment of the Hartenbos Garden Estate will provide long term employment opportunities, broaden the rates base and create a safe and quality living space for retirees. Barbour (2019) indicates that retirement facilities, including clinics and frail care centres are labour intensive thus providing significant employment for permanent staff. Staff include health-care providers, housing keepers, catering staff, maintenance staff, security staff, administrative staff, drivers, and hairdressers. Furthermore, the residential component of the Estate will create employment opportunities for domestic workers, gardeners, frail care providers and live in care givers (See estimates in Table 5). Furthermore, Barbour (2019) indicates that the operational phase will create opportunities for local businesses in the Mossel Bay area, such as catering, security, landscaping, house maintenance, etc. Also, local shops, petrol stations, and restaurants will also benefit from local spend by occupants. The findings of the Social Impact Scoping Assessment Report also found that there is a growing demand for retirement facilities located within relatively close proximity to well-equipped private and public hospitals and specialists when the need arises. The proposed development is well located in this regard.

In terms of broadening the rates base, Hartenbos Garden Estate will provide a stable and reliable contribution to the local rates of the MBLM. In addition, the proposed development would also generate revenue for the MBLM from the consumption of water and electricity. The security measures in combination with facilities provided and the open space network are also likely to ensure that the value of the properties appreciate, which, in turn, will increase the contribution of the development to the MBLM rates base over time.

The Mossel Bay and George area is an established and favoured retirement option. There is also a growing demand for safe, quality residential and retirement facilities. Barbour (2019) quotes figures provided by Statistics South Africa which indicate that there is a growing demand for retirement facilities in South Africa as a whole. In particular, Statistics South Africa's mid-year population estimates for 2017 note that 8.1% of the South African population is 60 years or older and that the proportion of elderly persons aged 60 years or older is increasing over time, shown through the estimated growth rate over time rising from 1,34% for the period 2002–2003 to 3,0% for the period 2016–2017.

Currently, those aged 60 and over make up 8% of the population, while those 50 years and above comprise almost double that at 15.8% (Mid-2015 report, Statistics SA). The study also found that the development of retirement facilities was not keeping pace with the demand and, comprising only a small portion of SA's housing stock. A lack of supply means retirement homes are relatively scarce and expensive, especially for those with modest funds who battle to find accommodation and often face long waiting lists"[1].

The proposed development also includes a clubhouse complex, which is likely to provide a range of communal services and facilities such as a reception area, bistro/coffee bar/kitchen, dining room,

[1] http://www.fin24.com/Finweek/Investment/banking-on-retirement-property-20160503, May 3rd 2016).

lounge, games room, gym, pool, launderette and salon. This combined with the frail care facility, proximity to recreational and medical facilities and the regions weather will make the proposed development an attractive retirement option.

An integrated open space system is also included in the design, consisting of footpaths and trails through the open space system. The design of the open space system will be informed by relevant botanical and wetland specialist studies. The proposed development of a well- managed open space system would create an opportunity to improve the areas amenity value and create an asset for surrounding areas.

The proposed development therefore meets the growing need for safe and secure residential and retirement accommodation. The development does not however meet the need for more affordable residential and retirement accommodation.

Barbour (2019) lists potential negative socio-economic impacts during the operational phase as follows:

- Additional traffic generated will impact on adjacent residential areas, specifically those areas located along key access routes to the development.
- Impact on the sense of place and rural character. The site is however located on the urban edge and has therefore been identified as suitable for development.

Essentially, the Hartenbos Garden Estate will have a positive cumulative impact linked specifically to the creation of employment both during the construction and operational phases of the project. Other positive impacts include benefits to the local economy associated with expenditure by residents. This would create opportunities for local businesses in the MBLM, such restaurants, shops and service providers (security, landscaping, house, maintenance, medical etc.).

Table 5: Direct and indirect job opportunities that are envisioned to be created through the Hartenbos Garden Estate development.

Development Phase	Job Opportunities	Number of Job Opportunities	Type of employment	Affected sectors of the economy
Construction (over a 5-year period)	Direct	3000	Contract	Construction, building, logistics, transport
Operational	Direct	677	614 Contract 63 Permanent	Services including frail care support staff, domestic, gardening, catering transport, etc.
	Direct	15	15 Permanent	Logistics, security and operations
Construction and operational	Indirect	100	50 Permanent 50 Contract	Hospitality, retail and service provision.
TOTAL	**3792**			

In addition to the direct and indirect jobs created above, the number of residents of the proposed housing development (approximately 830 individuals) would also stand to benefit from the authorisation of this WULA. Therefore, the total number of people standing to benefit would be 3792+830 = 4622 individuals.

ii) Of the failure to authorise water use or uses:

Failure to approve the licence for the water uses identified by this project will result in the loss of employment opportunities listed in Table 5, as well as loss of business opportunities; loss of municipal income through broadening of the rates base; and the provision of safe living for retirees as supported by the IDP for Mosselbay Municipality.

e) Any catchment management strategy applicable to the relevant water resource

The Catchment Management Strategy developed in 2017 for the Breede-Gouritz Water Management Area is applicable to this development. The Breede-Gouritz Water Management Area (BGWMA) is described within the CMA document as a water stressed area that requires careful management of water resources. Accordingly, the Hartenbos Garden Estate has made provision for the protection of ecologically important freshwater ecosystems within the development through creation of a conservation area with buffers to protect watercourse and wetlands. Furthermore, the development will incorporate measures to minimise impacts to water resources. These measures include:

- the use of rainwater tanks to capture rainfall from residential developments as well as stormwater outlets (LJR Civil 2022) for the use in landscaping and swimming pools;
- the installation of low volume shower heads and double flush toilet systems (LJR Civil 2022).
- Implementation of WSUDS measures to minimise runoff from hardened surfaces and maximise attenuation and infiltration of runoff.
- Eradication of alien vegetation to reduce impacts on adjacent watercourses and wetlands.
- Rehabilitation of watercourses currently impacted by erosion such that habitat quality, and functional value of ecologically important resources is improved.

These measures directly address the vision set out in the Breede Gouritz Catchment Management strategy which strives to:

- ensure sustainable utilization of rivers and wetlands to ensure their functional value for the provision of clean and healthy water for the environment and people.
- Allocate and use water resources equitably, efficiently and responsibly.

f) Likely effect of the water use to be authorized on the water resource and on other water users.

The following sections provide detailed information on the description and evaluation of impact associated with the different phases of the proposed development. These are outlined in the freshwater specialist assessment report (Ewart-Smith 2022).

Design Phase: description and evaluation of potential impacts

Based on the layout plan for development of Erf 3122 (Figure 6), there are no structures that encroach into wetland habitat or bypasses any watercourses. Evidently, the development footprint for the Hartenbos Garden Estate will not result in the direct loss of any wetland or watercourse identified within the study area. Furthermore, the recommended buffer of 50 m around seeps and watercourses is largely achieved, particularly around systems with steep topography that are most vulnerable to water quality and quantity impacts. An exception is the extension of a single erf (Erf 299) to within 41 m of Seep F (Figure 2) and the location of the sewer pump station number 4 within 30 m of Seep F (Figure 4 and Figure 6). Furthermore, the entrance road extends to within 20 of the source of watercourses H, I and J draining northwards, beyond the boundary of Erf 3122 (Figure 2).

Nevertheless, a perimeter fence will be constructed around the development and will need to cross various seeps and watercourses, specifically along the south-eastern boundary (i.e. Watercourses 1, 3 and 6 as well as seeps D and F) (Figure 2 and Figure 3). Fence crossings could obstruct flow and result in erosion and/or change in the flow path of a watercourse. Furthermore, fence crossings may restrict the movement of biota that use watercourses a corridors, thus affecting linear connectivity in the landscape. Without mitigation, the impact would endure in the long term with a moderate intensity with a distinct probability of occurrence. Thus, it is rated as a negative impact of a medium significance prior to consideration of mitigation measures.

Considering the small size and longitudinal nature of these wetlands and watercourses, however, it is likely that fence poles can avoid these habitats entirely such that the risk of flow obstruction and potential erosion is negligible. Also, fence design can make provision for the movement of biota by ensuring that animals can move freely. Large mesh size crossing these resources will also ensure that flows are not impeded. With careful consideration of fence pole positions and fence design, it is likely that residual impacts will be negligible.

Further to the issue of connectivity, the layout does not provide continuous open space corridors between these habitats for the movement and dispersal of biota across the water shed within the study area. Nevertheless, it is possible that limited movement of biota may occur across residential erven. Considering the national importance of linking wetland clusters rated as CBA 1 habitats, the loss of connectivity may extend to the region with a distinct possibility of occurrence. The impact will endure in the long term but is considered of moderate intensity because some movement may still between systems within the conservation area and possibly through the gardens of residential erven, swales and urban open space. Thus, the impact is rated as medium significance prior to the consideration of mitigation measures. The loss of connectivity could be somewhat mitigated as described in Section 7.1:

Construction Phase: description and evaluation of potential impacts

If unmitigated, the likelihood of construction related impacts to watercourses and wetlands, within close proximity to proposed new infrastructure is medium to high, particularly in the case of Seep F and watercourses H, I and J immediately north of the study area which drain these steep north facing slopes with their source in close proximity to the proposed new entrance roads

Associated construction related activities and the associated impacts could include:

- Dumping of waste material in wetlands or watercourses. Dumping of sand, soil bricks, gravel, cement etc within freshwater ecosystems will result in the loss and/or degradation of habitat. Changes in soil structure associated with dumping can compromise the ability to effectively rehabilitate these systems and thus the impact could endure in the long term if unmitigated.
- Polluted runoff from stockpiles or work camps situated in close proximity to freshwater ecosystems. This includes runoff associated with vehicle washing, soil erosion from stockpiles and chemicals leached from stockpiles. Also, faecal contamination of freshwater ecosystems may occur through the use of open areas as toilets by construction staff. Considering the ephemeral nature of the streams and wetlands within the study area, it is likely that pollutants will accumulate and could persist in the medium term if not contained and removed from the site. The moderately steep topography of the site increases the likelihood of contamination if clear measures are not implemented to ensure containment and effective removal. Considering that these systems are largely intact, the impact would be considered of high intensity if not mitigated.
- Uncontrolled access and movement of personnel, vehicles and machinery through wetlands and watercourses that are largely intact. This would lead to damage of the soils and vegetation and may result in increased erosion of these systems. This could result in the loss of habitat that could endure in the medium term if not mitigated.
- Sedimentation due to landscaping and earth movement to level the areas for construction of infrastructure such as road and pipelines. Sediments may be particularly mobile during the wet months and the steep slopes surrounding wetlands and watercourses make them particularly vulnerable to sedimentation. This could lead to the loss of habitat that is largely unimpacted and would be considered an impact of high intensity that would endure in the medium term if not contained or removed.
- Disturbance of freshwater fauna and flora through the presence of construction staff and machinery will lead to noise and light pollution in an area that is currently unaffected by such impacts and thus the impact would be of a high intensity.
- Introduction of sand for construction purposes could contain alien seed with a distinct possibility of increased spread of aliens into watercourses and seep habitats. Although some alien invasion is already evident, the intensity of the impact could still be of medium intensity and would endure in the long term if not mitigated.

Given that all these habitats have a high ecological importance and sensitivity, and most are largely intact with few modifications, these impacts could be of medium to high intensity, depending on the nature of the activity. Without mitigation, there is a high probability of these impacts occurring and these impacts may endure in the medium or long term, even if the activities are remedied immediately. This would result in negative impacts of medium to high significance without mitigation. Mitigation measures to address these impacts have been outlined in Section 7.2.

<u>Operational Phase: description and evaluation of potential impacts</u>

1. Increased catchment hardening and stormwater runoff

The ephemeral seeps and watercourses within and surrounding the study area are particularly vulnerable to hydrological and water quality changes associated with catchment hardening (Ewart-Smith 2017). Consideration of the sensitivity of these habitats to changes in the quality and quantity of runoff was taken into consideration in the design philosophy for the management of Stormwater in the Civil Engineering Services Report (LJR Civil 2022) for the development. More specifically, design criteria included in the Stormwater Management Plan are based on the Water Sensitive Urban Design (WSUDS) principles which provide attenuation and promote infiltration. The design

therefore includes "*well vegetated buffer strips, unlined grass channels with rock/subsoil drains (retention channels), and energy dissipaters*" (LJR Civil 2022). Also, detention structures at all outlets are proposed as a means of reducing the risk of erosion (LJR Civil 2022). While these measures may minimise the risk of stormwater related impacts to freshwater ecosystems, there is still some possibility (albeit limited) that increased stormwater runoff could result in channel erosion, particularly during intense storm events. Considering the relatively steep topography of the study area and ephemeral/temporary nature, these systems are highly sensitive to changes in the nature and volume of runoff and thus prone to erosion. Erosion would lead to down-cutting and loss of in-channel habitat through unsightly donga formation and sedimentation of habitats further downstream. This would result in a long-term impact of high intensity although with a low likelihood of the impact occurring due to design criteria included in the Stormwater Management Plan. It is therefore considered a negative impact of medium significance.

Besides the effect on receiving streams, increased stormwater runoff could result in an increase in the duration and frequency of saturation of wetlands that are temporarily saturated and naturally dry for extended periods. This may result in a shift in community structure of the natural vegetation with associated impacts to biotic integrity. All these ecosystems are however well buffered by setbacks, and thus the likelihood of the impact occurring is low. This impact is therefore considered a long-term impact of medium intensity and is rated as a negative impact of low significance.

Stormwater runoff from gardens and landscaped open space can be rich in nutrients due to fertilisers and pesticides that may be used to manage these areas. Enrichment of seeps and watercourses could result in vegetation changes and associated loss of habitat integrity and biodiversity. This is considered a negative impact but of low intensity (due to provision of buffers) but with a distinct possibility of occurrence and is thus an impact of medium significance if not mitigated appropriately. Mitigation measures to address these impacts have been outlined in Section 7.3.

2. Disturbance of wetlands and watercourses in the conservation area

If not effectively managed, development of Hartenbos Garden Estate could result in disturbance of seep wetlands set aside for protection within the estate, as a result of increased passage of pedestrians across them, and their use for riding and walking. Such impacts would result in trampling of wetland plants and could create erosion pathways through wetland patches. Also, such disturbance would result in an increased likelihood of invasion by weeds and /or other alien plants, established in local gardens and including species such as highly invasive kikuyu grass. There is a distinct possibility that these habitats could be impacted and that the impacts would be of medium intensity and ensure in the long term. This would result in a negative impact of medium significance if not mitigated. Mitigation measures to address these impacts have been outlined in Section 7.3.

3. Sewage contamination

The Sewer Network Layout Plan for the Hartenbos Garden Estate development (LJR 2022) indicates that sewer pump stations will be located at low points on the edge of the development. Essentially, these pump stations are thus situated on the boundary between development and the buffer areas surrounding Hillslope Seeps C, D and F, as well as Watercourse 5 (Figure 4). Despite the buffer area between these pumps and wetlands and watercourse, undetected leakage from these pumps could result in contamination of by unprocessed sewage of these ecological habitats. This would result in severe water quality changes to these largely unmodified systems with a resultant loss of ecological integrity. Nevertheless, the Services Report for the development (LJR Civil 2022) stipulates that each pump station should be provided with a standby pump that will automatically come into operation if a duty pump fails and thus the risk of contamination is somewhat addressed.

Also, lined sumps for emergency containment downstream of each pump station will ensure that, in the event of a sewage spill, effluent will be largely contained. The efficacy of fully operational sewage pumps however relies heavily on ongoing management and maintenance of these pump stations. Considering there is significant distance (more than 50 m in most instances) between sewer pumps and water resources, it is unlikely that raw effluent will discharge into any water course or seep, in the event of pump failure and spillage from the emergency sumps. One exception is Seep F which is 30 m downstream from sewer pump 4 (Figure 4). In the event of pump failure and delayed response to a sewer spill with effluent discharge beyond the emergency sump, the intensity of the impact would be of medium intensity due to the buffer distance. However, considering the measures in place to contain effluent, there is a very low probability of the impact occurring and thus it is considered a negative impact of low significance without mitigation. Mitigation measures to address these impacts have been outlined in Section 7.3.

g) Class and the resource quality objectives of the water resource

The classification of water resources and the development of Resource Quality Objectives (RQO) for the Breede-Gouritz CMA was finalised in 2018. The development straddles two quaternary catchments, namely K10A and K10B. The Target Ecological Class for these catchments is given in the Gazetted RQOs as a Class D. Essentially, resources should be management such that no further deterioration in water quality or quality is permitted. Through the provision of water resources within a conservation area with adequate buffering from development, implementation of measures to minimise impacts associated stormwater runoff, rehabilitation of wetlands and watercourse and the long term management of alien invasion in the area will ensure that the TEC for the water resources potentially impacted by the development are maintained with a possible trajectory for improvement.

h) Investments already made and to be made by the water user in respect of the water use in question

None.

i) Strategic importance of the water use to be authorised

The National Water Resources Strategy sets out three core objectives, namely:

- water supports development and the elimination of poverty and inequality
- water contributes to the economy and job creation, and
- water is protected, used, developed, conserved, managed and controlled sustainably and equitably.

Through the creation of employment, particularly for Historically Disadvantaged Individuals, while protecting water resources through the provision of a conservation area and long-term commitment to the management of this area for protection of resources, this application is in line with the National Water Resources Strategy.

Furthermore, approval of this application satisfies the provision of safe living for retirees as supported by the IDP for Mosselbay Municipality.

j) The quality of water in the water resource which may be required for the Reserve and for meeting international obligations

No residual impacts to the water quality or quantity of downstream water resources are expected as indicated by the Freshwater Ecological Assessment (Ewart-Smith 2022). Essentially, the layout for the development has made provision for the protection of wetlands and watercourses within the site with adequate provision of buffers for protection from stormwater and increased activity. Furthermore, implementation of WSUDs measures in the management of stormwater further reduces the risk of changes to the quality and quantity of water in these ecosystems.

In terms of water demand, the project will promote rainwater harvesting to reduce demand for landscaping. Also, the installation of low volume shower heads and double flush toilet systems will reduce consumption of municipal water supply.

Also, the supply of water from the adjacent supply dam (i.e. the Hartenboskop Reservoir) has been included in the regional management of water resources as indicated in the Water Master Plan for the region. Essentially, the Water Master Plan proposed that future development of ERF 3122 be supplied from the reservoir, suggesting that the Mosselbay Municipality has sufficient raw water allocated for the development such that the Resource Quality Objectives for the catchment can be met.

k) Probable duration of any undertaking for which a water use is to be authorised

It is unlikely that any additional future developments on Erf 3122 will be proposed beyond those described in this application as the existing proposed development is permanent with limited opportunity for further development.

15. Declaration by the applicant with signature confirming that the information submitted is correct

To the authors knowledge, the information included within this document is correct and accurate.

[END OF WATER USE LICENCE APPLICATION SUMMARY]

Appendices:

Appendix A: Freshwater Ecosystem Assessment Report
Appendix B: Botanical Scoping Assessment Report
Appendix C: Faunal Scoping Assessment Report
Appendix D: Services Report
Appendix E: Social Impact Scoping Assessment Report