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FINAL

**AQUATIC ECOLOGY COMPLIANCE STATEMENT FOR THE
PROPOSED
KLIPROAD CEMETERY EXPANSION**

ZUTARI (PTY) LTD

**Kliproad Cemetery,
Cape Town, Western Cape Province**



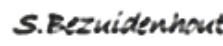
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DECLARATION OF INDEPENDENCE

I, Hanjo Fourie, declare that I act as an independent specialist for the Aquatic Ecological Assessment of this application. I conduct assessments in an objective manner, even when the views and findings might not be favourable to the Applicant. I have the expertise to conduct the assessment and will comply with the Act, regulations and other applicable legislation. I do not have conflicting interests in the undertaking of the activity. I undertake to disclose all material information in my possession that has or may have the potential of influencing any decision to be taken in respect to the application.

SIGNATURE OF SPECIALIST	
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DATE	02/2025

INDEMNITY STATEMENT

Although Biosphere Enviro Solutions (Pty) Ltd exercises due care and diligence in rendering services and preparing documents, the client takes full responsibility for this report and its implementation in terms of the National Environmental Management Act of 1998, and National Water Act (Act 36 of 1998).

This statement exempts Biosphere Enviro Solutions and its associates and their sub-contractors from any legal responsibility based on the timing of the assessment, the result and the duration thereof, which has an influence on the credibility and accuracy of this report.

Biosphere Enviro Solutions accepts no liability, and the client, by receiving this document, indemnifies Biosphere Enviro Solutions and its directors, managers, agents and employees against all actions, claims, demands, losses, liabilities, costs, damages and expenses arising from or in connection with services rendered, directly or indirectly by Biosphere Enviro Solutions and by the use of the information contained in this report.

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LIST OF ABBREVIATIONS

ASPT	Average Score per Taxon
BSC	Biodiversity Sub-catchment Category
BA	Basic Assessment
BPA	Biodiversity Priority Areas
CBA	Critical Biodiversity Area
CMA	Catchment Management Area
DEC	Default Ecological Class
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EcoStatus	Ecological Status
EIS/C	Ecological Importance and Sensitivity / Category
ESA	Ecological Support Area
FEPA	Freshwater Ecosystem Priority Area
FRAI	Fish Response Assessment Index
GA	General Authorisation
GN	Government Notice
IHI	Index of Habitat Integrity
Km	Kilometers
NBA	National Biodiversity Areas
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NFEPA	National Freshwater Ecosystem Priority Area
NWA	National Water Act (Act 36 of 1998)
PA	Protected Area
PES/C	Present Ecological State / Category
PV	Photovoltaic
QDG	Quarter Degree Grid
REC	Recommended Ecological Category
RHP	River Health Programme
RQO	Resource Quality Objectives
SANBI	South African National Biodiversity Institute
SASS5	South African Scoring System Version 5
SEF	Solar Energy Facility
Sub-WMA	Sub Water Management Area
WMA	Water Management Area
WUL	Water Use License

GN 320 OF 20 MARCH 2020: PROTOCOLS FOR THE COMPLIANCE STATEMENT AND MINIMUM REPORT CONTENT
REQUIREMENTS FOR ENVIRONMENTAL IMPACTS ON AQUATIC BIODIVERSITY

3 Aquatic Biodiversity Compliance Statement			
3.1	The compliance statement must be prepared by a suitably qualified specialist registered with the SACNASP, with expertise in the field of aquatic sciences.		The author, Hanjo Fourie, is an accredited SASS5 practitioner with more than 13 years' experience in the aquatic field. SACNASP: 125420 WISA: 40759 SASAqS: 0028
3.2	The compliance statement must:		
	3.2.1	be applicable to the preferred site and the proposed development footprint	Location Section
	3.2.2	confirm that the site is of "Low" sensitivity for aquatic biodiversity; and	SSV Section
	3.2.3	Indicate whether or not the proposed development will have an impact on the aquatic features.	Impacts Section
3.3	The compliance statement must contain, as a minimum, the following information:		
	3.3.1	contact details of the specialist, their SACNASP registration number, their field of expertise and a curriculum vitae;	Page vii, Addendum 3
	3.3.2	a signed statement of independence by the specialist;	Page vii
	3.3.3	a statement on the duration, date and season of the site inspection and the relevance of the season to the outcome of the assessment;	Findings Section
	3.3.4	a baseline profile description of biodiversity and ecosystems of the site;	Biodiversity Section
	3.3.5	the methodology used to verify the sensitivities of the aquatic biodiversity features on the site including the equipment and modelling used where relevant;	Assessment Method Section
	3.3.6	in the case of a linear activity, confirmation from the aquatic biodiversity specialist that, in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase;	N/A
	3.3.7	where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr;	Impact Section
	3.3.8	a description of the assumptions made as well as any uncertainties or gaps in knowledge or data; and	Assumptions & Limitations
	3.3.9	Any conditions to which this statement is subjected.	Discussion &

			Conclusion
3.4	A signed copy of the compliance statement must be appended to the Basic Assessment Report or Environmental Impact Assessment Report.		



INTRODUCTION

Biosphere Enviro Solutions (Pty) Ltd is appointed as independent specialists by Zutari (Pty) Ltd to undertake an Aquatic Ecological Assessment in support of the proposed upgrade and transformation works to be undertaken at the Kliproad Cemetery, Cape Town, Western Cape Province.

Zutari has been appointed as independent Environmental Assessment Practitioners (EAP) to undertake the BA for the required EA application. As part of the processes, specialist studies need to be undertaken, and this report details the methods, analysis, and findings of the Aquatic Ecological Compliance Statement.

LOCATION

The Kliproad Cemetery site is located in the central area of Cape Town, situated between the surrounding residential areas and the mountain slopes. It is bordered by Kliproad to the north, residential properties to the south and west, and the M5 Highway which runs along the western boundary of the project area. The cemetery expansion itself occupies a site of approximately 5ha in extent. Kliproad Cemetery falls within the jurisdiction of the City of Cape Town Metropolitan Municipality and within the 3418AB quarter degree grid cell. **Figure 1** provides the regional setting of the Kliproad cemetery.

The Kliproad Cemetery site is located within a semi-urban zone characterized by a mix of residential and commercial land use. The cemetery itself is well-maintained with a mix of cleared and vegetated areas, the latter featuring scattered trees and shrubbery. The surrounding landscape is dominated by a mosaic of residential properties and small-scale commercial activities, typical of central urban areas.

The project will entail the expansion of an existing cemetery within the following location:

Table 1: Structure to be developed

Development Description	Type	Corner Coordinates	Central Coordinate	Activity
Kliproad Cemetery	Expansion	34° 2'27.05"S 18°29'24.71"E	34° 2'21.69"S 18°29'27.87"E	Expansion of a formal existing Cemetery
		34° 2'10.19"S 18°29'39.54"E		
		34° 2'29.33"S 18°29'36.72"E		
		34° 2'33.82"S 18°29'29.13"E		

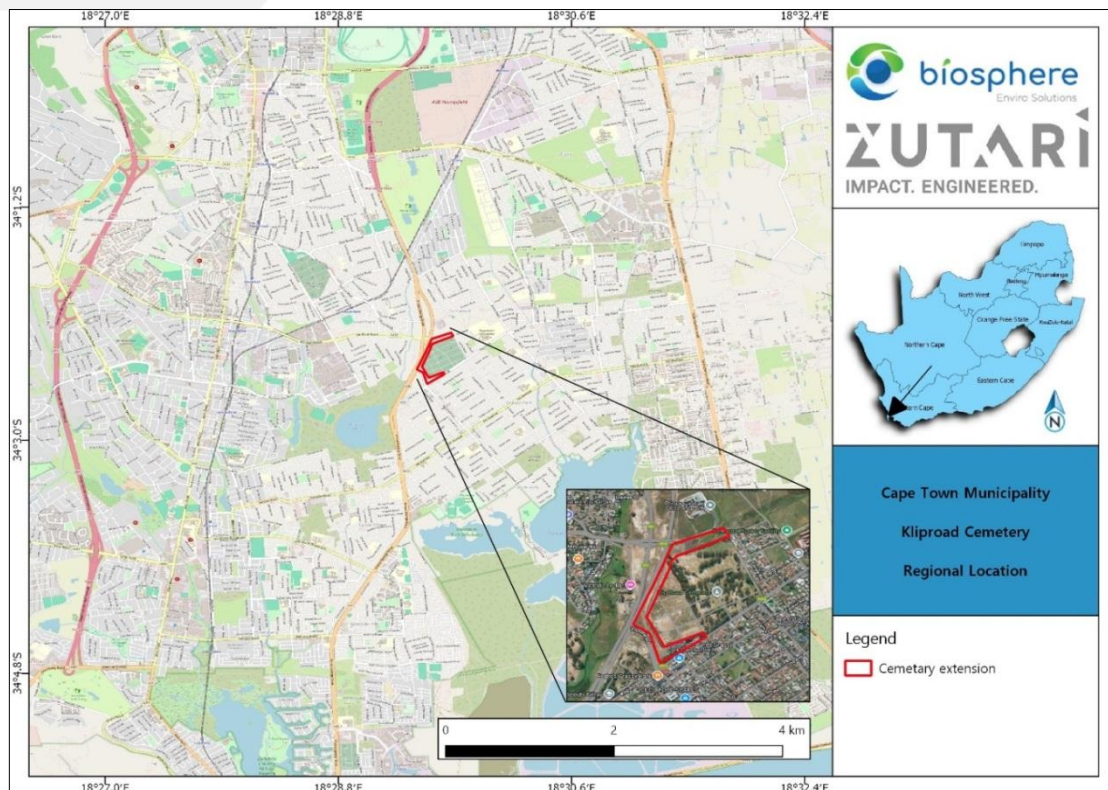


Figure 1: Regional setting of project

TERMS OF REFERENCE

Government Notice (GN) 320 of March 2020 provides protocols and criteria for the assessment and reporting of impacts on aquatic biodiversity for any activity requiring EA as per the NEMA. The assessment and minimum reporting requirements of this protocol are associated with detected levels of environmental sensitivity identified by the national web based environmental screening tool (screening tool). The requirements for aquatic biodiversity are dictated by sites which support various levels of aquatic biodiversity, inclusive of the presence of potential species of concern.

Prior to commencing with the specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the screening tool were confirmed by undertaking site sensitivity verification (SSV) on the 4th of February 2025. As part of the SSV, a desktop analysis was done on the site in question and followed by a preliminary on-site inspection. The Screening Reports and SSV can be viewed under **Addendum 1 and 2**.

An applicant intending to undertake an activity identified in the scope of GN 320, on a site identified on the screening tool as being of "very high sensitivity" for aquatic biodiversity, must submit an Aquatic Ecological Specialist Assessment. However, where the information gathered from the site sensitivity verification differs from the screening tool designation of "very high" or "high", and it is found to be of a "low" sensitivity, then an Aquatic Ecological Compliance Statement must be submitted. Based on the Site

Sensitivity Verification report (**Addendum 2**), the site in question has a Low to Very Low site sensitivity, and as such requires the compilation of a Compliance Statement (this report).

The key activities that require environmental authorisation relate to the expansion of the existing Kliproad Cemetery. The structures in question and the project as a whole triggered themes and sensitivities (Table 2) and Site Sensitivity Verification, followed by the relevant level of environmental assessment.

Table 2: Screening Tool outcomes

Theme/specialist assessment	Sensitivity	Rationale
Aquatic Biodiversity	Very High	SWSA (SW)_Table Mountain

LEGAL FRAMEWORK

- The National Environmental Management Act (107 of 1998).
- National Environmental Management: Biodiversity Act (10 of 2004).
- Environmental Impact Assessment (EIA) regulations.
- Aquatic Biodiversity protocols, gazetted 30 October 2020 (Government Notice number 1150).
- Western Cape Nature Conservation Ordinance (Ordinance 19 of 1974, as amended).
- Western Cape Nature Conservation Laws Amendment Act (Act No. 3 of 2000).
- Western Cape Biodiversity Act, 2021 (Act 6 of 2021).

The National Environmental Management Act (NEMA, Act 107 of 1998) and the National Environmental Management Biodiversity Act (NEMBA, Act 10 Of 2004) ensure the protection of ecological processes, natural systems and the preservation of biotic diversity within the natural environment. They also ensure the protection of the environment against disturbance, deterioration, defacement or destruction as a result of man-made structures, installations, processes, products or activities.

GN 4167 of December 2023 stipulates that the application of Section 21 (c and i) water use activities may be done without being subject to a Risk Assessment Matrix if no direct impact on a watercourse will occur. Th Kliproad Cemetery Expansion project will have no direct impacts on any freshwater resources or any NBA (NWM5) Wetlands in the vicinity. As evidence Risk Matrix Assessment has been conducted only for this site (Refer to **Addendum 4**).

ASSUMPTIONS AND LIMITATIONS

The report is subject to the following limitations and assumptions:

Due to the scarcity of biotopes and water resources, the implementation of aquatic methodologies proved to be impractical. Consequently, it is assumed that the selected sample sites for the aquatic assessment effectively represent the broader aquatic conditions in the project area. It is further assumed that the environmental conditions during the study period are typical of the broader conditions in the semi-arid environment.

The concrete drainage channel that discharges into the Princess Vlei wetland is primarily fed by stormwater originating near the Royal Cape Golf Club. Sampling within this channel was not feasible due to the complete blockage by invasive water hyacinth (*Eichhornia crassipes*) and the channel's concrete construction, which prevents effective aquatic sampling and ecological assessment.

The open field to the northeast of the cemetery, currently utilised as a football field, and the area further east where potential wetland conditions were observed, are heavily impacted by anthropogenic activities. No wetland characteristics were identified in these areas. Additionally, severe pollution surrounding the Kliproad cemetery contributes to the overall degradation of the local environmental conditions.

The absence of site-specific data posed challenges in determining the Present Ecological Status (PES) directly for the project site. Therefore, the PES of the broader catchment was considered as a proxy. During the cemetery expansion, it is recommended that appropriate measures be implemented to prevent any potential spillages that could affect the Princess Vlei wetland. However, the likelihood of such an impact occurring is considered low.

The desktop component of this assessment utilized the most recent and relevant data sources available. However, it is important to note that these datasets typically cover a broader spatial scale, focusing on the entire catchment area rather than the specific project site. Based on the available information, no significant impacts on the aquatic ecosystems are anticipated, and the cemetery expansion is expected to proceed without causing substantial long-term harm to the receiving environment.

ASSESSMENT METHODOLOGY

A site sensitivity verification (refer **Addendum 2**) was conducted to dispute the Screening Tool findings, concluding that an Aquatic Ecology Compliance Statement is required to fulfil the specific theme covered by this report.

A desktop survey was conducted where available data from the site was obtained for the aquatic communities that have been recorded from this area as well as the conservation importance of the site. In line with NEMA and NWA data was obtained from the following resources:

- FBIS: Freshwater Biodiversity Information System (FBIS). 2022. Downloaded from <https://freshwaterbiodiversity.org> on 3rd of February 2025.
- SANBI Biodiversity GIS.
- RWQO version 4.1.
- CapeFarmMapper3 Web-based Mapping Application.
- Relevant maps through GIS mapping, and information on the natural environment of the area concerned.

In addition to the desktop survey, the site in question was investigated on foot by means of a site walk-over by a field specialist. The site visit took place during the 4th of February 2025. This study does not warrant intensive long term field sampling and as such, the conditions on site were evaluated during a

rapid field assessment. The infield findings are a true representation of the current conditions and is unlikely that the conditions will improve in the near future.

Aquatic scientific procedures were followed during the site visit however, formal protocols could not be completed due to the lack of aquatic and surface water features on site. As a result of site conditions, surrounding urban land-use and the distance to the nearest surface water resources, no sampling occurred.

SENSITIVITY ANALYSIS AND CONSERVATION ANALYSIS TOOLS

There are several assessments for South Africa as a whole, as well as on provincial levels that allow for detailed conservation planning as well as meeting biodiversity targets for the country's variety of ecosystems. These guides are essential to consult for development projects and will form an important part of the sensitivity analysis. Areas earmarked for conservation in the future, or that are essential to meet biodiversity and conservation targets should not be developed and have a high sensitivity as they are necessary for overall functioning. In addition, sensitivity analysis in the field based on much finer scale data can be used to ground truth the larger scale assessments and put it into a more localised context.

Of particular relevance for this project is the Biodiversity Network for the City of Cape Town which used a systematic biodiversity planning approach to prioritise sensitive areas in the metropolitan.

CRITICAL BIODIVERSITY AREAS AND ECOLOGICAL SUPPORT AREAS

Critical Biodiversity Areas (CBA) are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. Ecological Support Areas (ESA) are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services. Critical Biodiversity Areas and Ecological Support Areas may be terrestrial or aquatic.

The primary purpose of a map of Critical Biodiversity Areas and Ecological Support Areas is to guide decision-making about where best to locate development. It should inform land-use planning, environmental assessment and authorisations, and natural resource management, by a range of sectors whose policies and decisions impact on biodiversity. It is the biodiversity sector's input into multi-sectoral planning and decision-making processes (SANBI Biodiversity Advisor, 2017).

The fine-scale systematic biodiversity plan for Cape Town, known as the Biodiversity Network or BioNet was recently updated and now comprises maps for the Terrestrial BioNet 2023, Aquatic BioNet 2023, and combined BioNet 2023 with extended planning domain (10 km buffer around the City and all of Cape Town's major water supply dams and their associated sub-catchments). According to the BioNet (2023), there are no ESA areas in close proximity to the site. The site is separated from nearby biodiversity areas by major road infrastructure which limits the connectivity of the site to any aquatic ecosystem.

Table 3: Overall sensitivities

Structure	Screening Tool and Biodiversity Network	Observations
Kliproad Cemetery Expansion	No CBAs or ESAs overlapping with site <i>CBA 1b – 1.3 km south-west</i> <i>CBA 1d – 30m west</i> <i>CBA 2 – 470m south-west</i>	No CBAs or ESAs overlapping with site
	Strategic Waters Source Area – Table Mountain	Noted – area already disturbed and impacted in terms of run-off
	Critically Endangered Cape Flats Sand Fynbos	Site not representative of regional vegetation type - altered, degraded and invaded

PROTECTED AREAS (PA) AND NATIONAL PROTECTED AREA EXPANSION STRATEGY (NPAES)

Officially protected areas, either provincially or nationally that occur close to a project site could have consequences as far as impacts on these areas are concerned. The National Protected Area Expansion Strategy (NPAES) sets targets for protected area expansion, provides maps of the most important areas for protected area expansion, and makes recommendations on mechanisms for protected area expansion.

The project area is not located in a protected area or in a NPAES focus area. The nearest protected area, the False Bay Nature Reserve, is located approximately 1.8km south-east of the proposed project site. In addition, a single CapeNature Stewardship Site (City Parks) surrounding the Princess and Little Princess Vleis is located on the opposite side of the M5.

National Freshwater Ecosystem Priority Areas (NFEPAs) and National Wetland Map 5: South Africa's freshwater ecosystems are diverse, ranging from sub-tropical in the north-eastern part of the country, to semi-arid and arid in the interior, to the cool and temperate rivers of the fynbos. "Freshwater ecosystems" refer to all inland water bodies whether fresh or saline, including rivers, lakes, wetlands, sub-surface waters and estuaries. Consistent with global trends, high levels of threat have been reported for freshwater ecosystems. According to the National Biodiversity Assessment 2018 nearly 80% of inland wetland ecosystem types in South Africa are threatened and approximately 75% of inland wetland ecosystem types are both threatened and under-protected (SANBI, 2019). South Africa's freshwater fauna also displays high levels of threat: at least one third of freshwater fish indigenous to South Africa are reported as threatened, and a recent southern African study on the conservation status of major freshwater-dependent taxonomic groups (fishes, molluscs, dragonflies, crabs and vascular plants) reported far higher levels of threat in South Africa than in the rest of the region.

Urgent attention is needed to ensure that we conserve some representative natural examples of the different ecosystems that make up the natural heritage of this country for current and future generations.

NFEPA responds to this need, providing strategic spatial priorities for conserving South Africa's freshwater ecosystems and supporting sustainable use of water resources (Driver *et al.*, 2011). However, the NFEPA database is largely outdated.

The National Wetland Map version 5 (NWM5), an output from the NBA 2018 assessment, shows the distribution of inland wetland ecosystem types across South Africa and includes estuaries and the extent of some rivers (CSIR, 2018). These delineated wetlands are generally more accurate than the older NFEPA database. Even more representative of the wetlands in the project vicinity are the wetlands delineated in the City of Cape Town Wetlands (2017) data, which forms part of the updated Aquatic BioNet data (2023).

The NWM5 and Aquatic BioNet data largely overlap, however more wetlands in areas surrounding the site are delineated by the Aquatic BioNet data. These data (Figure 2) indicate that depressions wetlands are located approximately 400m east and 600m (Princess Vlei) south-west of the site. In addition to these, floodplain wetlands associated with the inlet of the Princess Vlei system are located 80m west of the site.

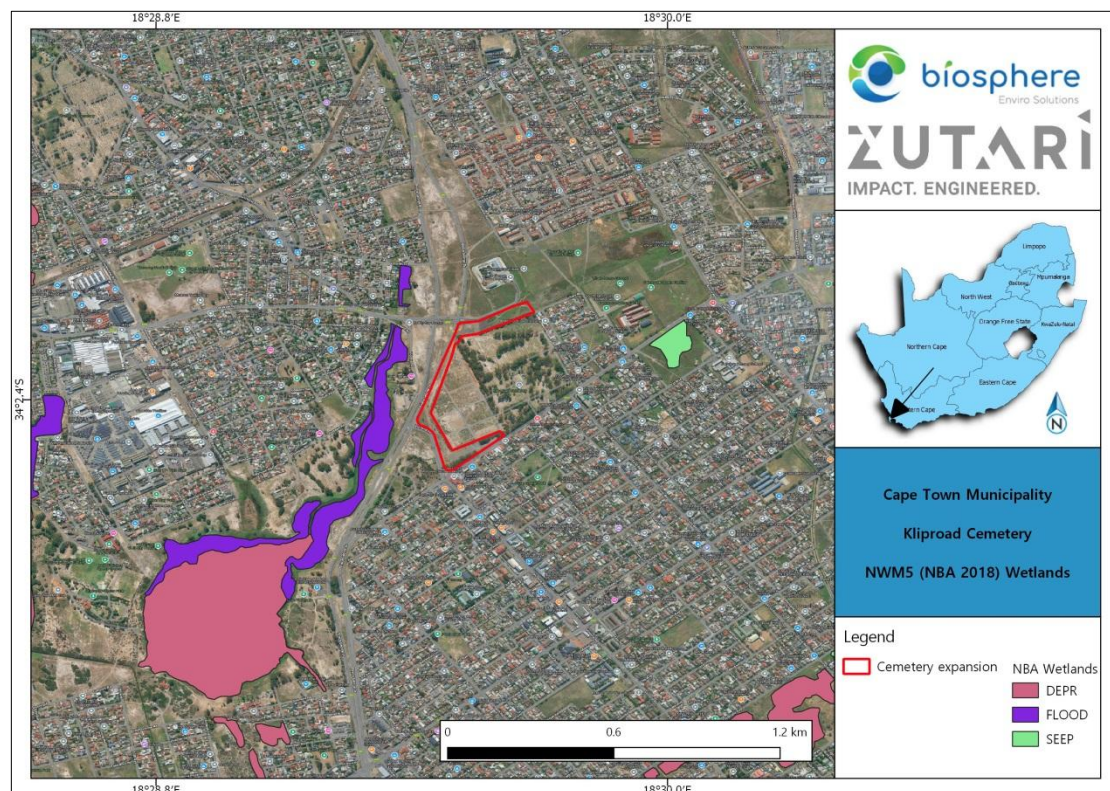


Figure 2: NWM5 Sensitive Features

AQUATIC CONSIDERATIONS: IMPACT FINDINGS & RESULTS

AQUATIC BIODIVERSITY

The Kliproad Cemetery falls within the G22D Quaternary Catchment as indicated below in Figure 3. Table 4 provides an overview of the G22D and provides a regional EcoClassification and EcoStatus of the quaternary catchment. Although the project is not situated near a NFPEA River or watercourse the Princess Vlei Wetland were taken into consideration. The Default Ecological Management Class (DEMC) for the G22D is set at a Class D indicating that a Large Risk is allowed within this catchment due to the low sensitivity. The Ecological Importance and Sensitivity Category (EISC) and South African National Biodiversity Institute (SANBI) National Freshwater Ecosystem Priority Area (NFEPA) Status indicate that the area falls within a Low Sensitivity indicating that a Large Risk is allowable.

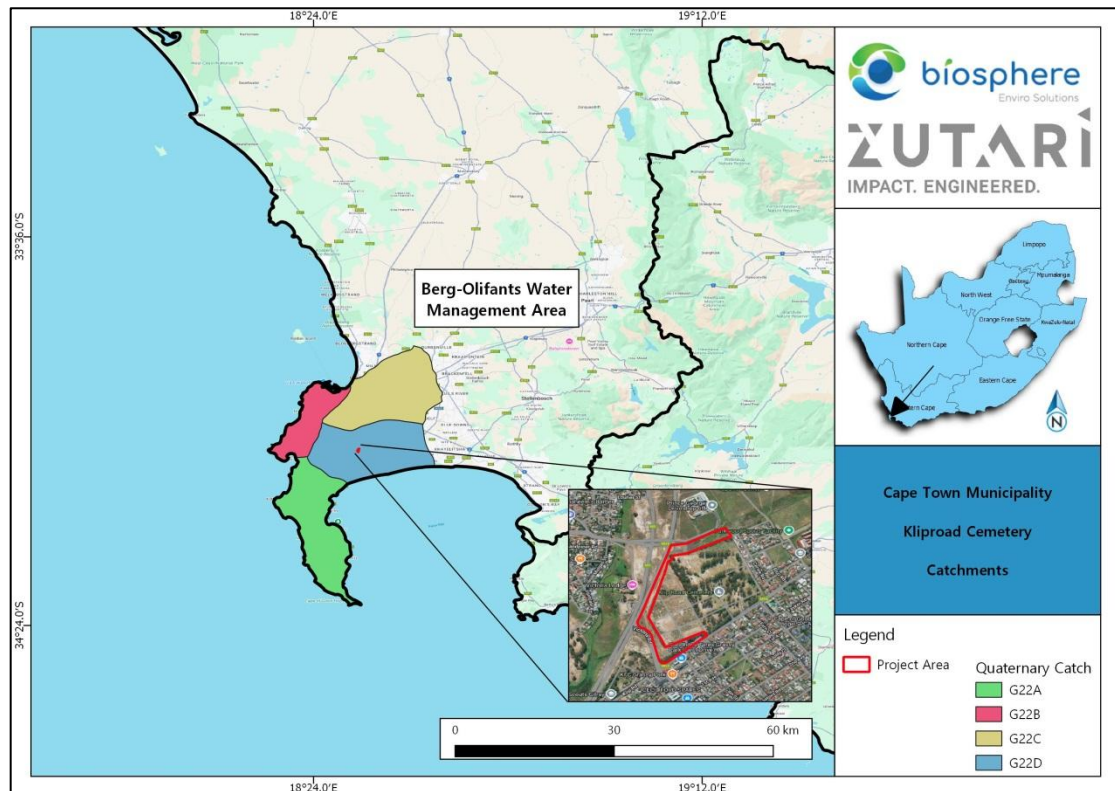


Figure 3: Catchments

Table 4: Regional Characteristics of the Project Area

Attribute	Project Details
Project	Klip Road Cemetery
Water Management Area	Berg-Olifants
Sub-water Management Area	Berg
Primary Catchment Region	Region G
Quaternary Drainage Region	G22D

Level 1 Eco-region	South Western Coastal Belt (24)
Level 2 Eco-region	24.03
Main River in Catchment and Site Specific	Diep River
Site Specific River Condition	No river on site
DWS RQO Catchment PESC	Class D: Largely Modified
Best Attainable Management Class	Class C: Moderately Modified
Catchment EISC	Low Sensitivity
SANBI NFEPA Status	Moderate Importance

SITE INVESTIGATION & FINDINGS

The Diep River (River Order 1) is the main river within this catchment however this system drains approximately 1.8 km to the west of the project boundary and is not relevant to the project site. There are no non-perennial tributaries associated with the site and only two concrete stormwater drainage channels in close proximity to the site. To the east which is not relevant to the project and to the west which was assessed during the site visit.

Aquatic sampling within the stormwater channel was not feasible due to a combination of physical and biological constraints observed on-site. The channel is constructed entirely of concrete, offering minimal to no natural substrate for benthic macroinvertebrate colonization or aquatic habitat establishment. The hardened surfaces prevent the development of critical ecological features such as sediment deposition, aquatic vegetation growth, and habitat heterogeneity, which are essential for supporting aquatic life.

Additionally, the channel is heavily infested with invasive water hyacinth (*Eichhornia crassipes*), forming a dense mat that entirely covers the water surface. This infestation creates a physical barrier that obstructs access to the water column and inhibits the use of standard aquatic sampling methodologies. The thick vegetation also restricts light penetration, alters dissolved oxygen levels, and significantly impacts the natural flow regime of the channel, further degrading its potential as an aquatic habitat.

The combination of the engineered concrete structure and the invasive plant dominance results in an artificial and ecologically compromised system. Consequently, no meaningful or representative aquatic samples could be collected, and the channel cannot be considered a natural or functional aquatic ecosystem for the purposes of this assessment.

The floodplain wetland located adjacent to the western concrete stormwater drainage channel and the M5 Highway demonstrates characteristics of a highly modified and impacted aquatic ecosystem. This wetland feature, while classified as a floodplain wetland, exhibits significant degradation primarily due to ongoing anthropogenic influences. The primary hydrological input into this system is stormwater runoff from the M5 Highway, which introduces not only excessive volumes of water but potentially also pollutants such as hydrocarbons, heavy metals, and sediment loads. The wetland's ecological integrity is further compromised by the absence of natural perennial tributaries, with water flow being largely dependent on episodic stormwater inputs. This artificial hydrological regime disrupts the natural wetting

and drying cycles typical of healthy floodplain wetlands, thereby limiting the habitat's capacity to support diverse aquatic biota.

Vegetation within the wetland is dominated by common reed (*Phragmites australis*) and other hydrophilic species, which, while indicative of wetland conditions, also suggest nutrient enrichment, likely driven by urban runoff. The wetland's poor protection status, as noted in the NWM5 database, aligns with field observations of habitat alteration and reduced ecological functionality.

Given the floodplain wetland's proximity to the Princess Vlei, which is classified as a Natural Channeled Valley Bottom Wetland (NFEPA) and a Natural Depression Wetland (NWM5), any interventions in this area must prioritise the mitigation of further anthropogenic impacts. However, due to its current state of degradation, the floodplain wetland offers limited ecological services and functions primarily as a stormwater management feature rather than a natural aquatic ecosystem. Future development or project activities in the vicinity should incorporate best management practices to prevent further degradation of the wetland, ensure proper stormwater management, and explore opportunities for ecological rehabilitation where feasible.

An NBA Seep Wetland has been identified to the east of the project area adjacent the Fairmount Secondary School. According to the NBA/ NWM5 database this Seep Wetland is well preprotected with a Vulnerability status. Although no impact will occur on this freshwater system as it falls outside of the 500m regulated area the status of this wetland features is disputed as the site does not exhibit the defining characteristics of a seep wetland. Seep wetlands typically present with hydrophytic vegetation, saturated soils, and visible indicators of groundwater discharge, particularly in the form of moist or waterlogged conditions. However, the site appears to be a highly modified open field with predominantly dry, terrestrial conditions, lacking any discernible wetland flora or hydrological indicators.

The absence of wetland vegetation, the dry and compacted soil profile, and the evident anthropogenic modification of the landscape further support the conclusion that this area does not function as a seep wetland. Consequently, the site does not qualify for formal wetland protection status under relevant environmental legislation and guidelines, including the National Water Act (NWA). It is therefore recommended that this area not be subject to wetland-specific conservation measures, as its current ecological function aligns more closely with a disturbed terrestrial environment than a sensitive aquatic or wetland ecosystem.

In conclusion to the infield findings, it is confirmed that the aquatic ecological footprint of the expansion project of the cemetery will have a low impact without mitigation measures and a very low impact with mitigation measures and that the proposed expansion will not infringe on the surrounding sensitive areas nor the water bodies associated with the greater project area. Please refer to **Figure 4** for the location and description of where the site photographs were taken.





Figure 4: Site Characteristics

SITE SENSITIVITY VERIFICATION

BUFFERS REQUIRED

In terms of GN 4167 of 2023 in terms of the NWA, 500 m from a wetland is defined as a regulated area and thus development within the regulated area of a wetland triggers a water use in terms of Section 21 (c) and (i) irrespective of the condition of such a freshwater feature. Although the Kliproad Cemetery expansion project falls within the regulated area it is confirmed that there are no aquatic sensitivities to be considered that fall within the site. There are no regulated buffers zones required nor calculated for the minor drainage channels and the proposed development could be executed without any impacts on the aquatic ecosystem.

The 500 m regulated area of the wetland does encroach the site, however regardless of the status quo of the wetland this activity may still trigger a water use and may require a WUL or a GA. GN 4167 stipulates that any activity with a Low-Risk Rating will qualify for a GA, which is the case for these aquatic features. Figure 5 provides an overview of the aquatic sensitivities for the Site.

Should the development of the site progress, the (DWS) should be contacted for the relevant application processes for either a GA or a WUL. It is recommended that the low importance and sensitivity of the wetlands, and drainage channels are taken into account by DWS to make an informed decision on whether a GA or WUL is required.

This report should and could be used as motivation to exclude an authorisation process for the applicant by submitting an exemption letter to the department.

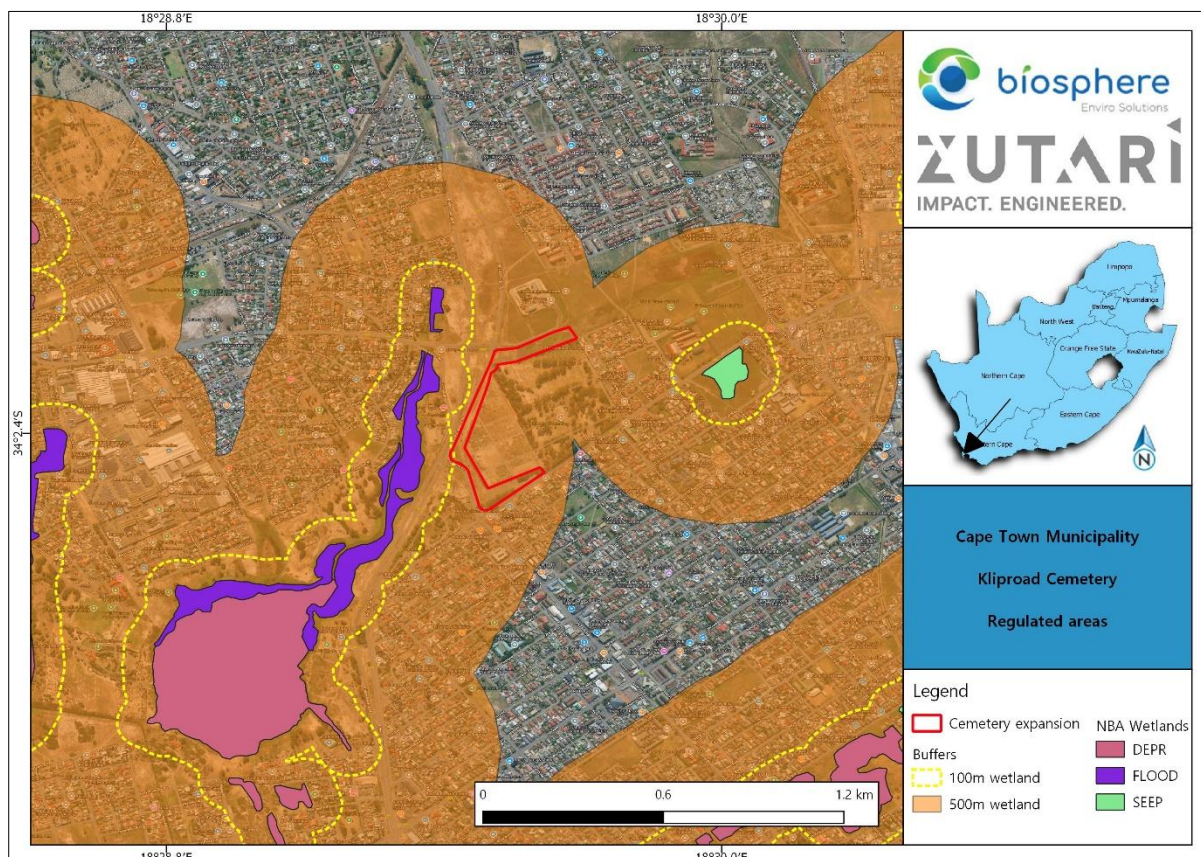


Figure 5: Kliproad Cemetery Regulated Areas

POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

DIRECT IMPACTS TO WATERCOURSES OR WETLANDS

Finding: No direct impacts to watercourses or wetlands anticipated despite location within regulated buffer zone.

Rationale:

- While the site falls within the 500m regulated buffer zone of wetland systems, there is no functional hydrological connection (Figure 5);
- A major road reserve (M5) creates a physical barrier between the site and the wetlands to the west;
- The wetlands visible on the map are primarily maintained by municipal stormwater through a concrete channel, no natural drainage from the site area;
- Despite being within the regulated 500m buffer, the lack of functional connection significantly reduces potential impact pathways; and
- The physical separation by the road reserve effectively isolates the site's hydrology from the identified wetland features

POTENTIAL INDIRECT IMPACTS

Stormwater Management and Runoff

Finding: Negligible impact significance due to physical separation from wetland systems.

Rationale:

- The site is physically separated from nearby wetlands by a major road reserve;
- Runoff from the site cannot reach the concrete stormwater channel or wetlands due to this barrier;
- The wetlands west of the site are artificially maintained by municipal stormwater infrastructure, not natural drainage;
- Changes to the site's imperviousness would not affect the hydrology of nearby wetland systems due to this separation; and
- Local stormwater management should still follow municipal requirements but is not critical for wetland protection

Groundwater Contamination

Finding: Potential medium significance impact that can be mitigated.

Rationale:

- Cemetery developments can potentially impact groundwater quality through decomposition products;
- The wetland areas visible near the site may be partially groundwater-dependent;
- The Diep River system and associated wetlands could be affected by groundwater quality changes;
- The quaternary catchment's "Large Risk Allowed" classification (Class D) indicates some environmental degradation is permissible, though best practices should still be implemented; and
- The site's proximity to wetland systems necessitates careful consideration of potential groundwater impacts

DISCUSSION & CONCLUSION

Based on the site assessment and critical site-specific information regarding physical barriers, the proposed expansion of Kliproad Cemetery is not anticipated to have significant impacts on aquatic ecological resources despite being located within the 500m regulated wetland buffer zone. The presence of a major road reserve that completely separates the site from the wetland features and stormwater infrastructure is a key factor in this determination.

The absence of functional hydrological connection between the site and nearby wetland features effectively eliminates direct impact pathways. The wetlands visible on the map are primarily maintained by municipal stormwater through engineered channels rather than natural drainage from the development area. This artificial hydrological regime further reduces the ecological relationship between the site and the wetland systems.

While the project falls within a regulated buffer zone based on mapping, the physical realities of the site dramatically reduce the likelihood of actual impacts. In such cases, DWS often considers the functional rather than just cartographic relationship between proposed developments and water resources when determining water use authorization requirements.

RECOMMENDED MITIGATION MEASURES

Given the physical separation between the site and nearby wetland features, mitigation requirements are significantly reduced. However, the following measures are still recommended as good practice:

Authorisation Requirements:

- Consult with DWS regarding the need for water use authorisation, providing evidence of the physical separation (road reserve) between the site and wetland systems; and
- A potential motivation for exemption from water use licensing requirements could be made based on the lack of functional hydrological connection.

Construction Phase:

- Implement standard dust control measures;
- Ensure proper management of construction waste; and
- Follow municipal requirements for stormwater management during construction.

Operational Phase:

- Design cemetery layout according to standard best practices;
- Comply with municipal stormwater requirements for the catchment; and
- Maintain site drainage patterns that direct water away from the road reserve boundary.

COMPLIANCE WITH LEGISLATION

The proposed development, with appropriate mitigation measures, complies with:

- National Environmental Management Act (No. 107 of 1998)
- National Water Act (No. 36 of 1998)
 - Due to proximity to the 500m wetland buffer zone (a regulated area), consultation with DWS is recommended to confirm whether a General Authorisation might be required
 - The site avoids direct encroachment on the 100m river buffer zone
- City of Cape Town's Stormwater Management By-laws

The principle of "functional significance" rather than strict cartographic interpretation is often applied by DWS when physical barriers clearly separate developments from water resources, even when they fall within regulated buffer zones. This consideration acknowledges that the purpose of buffer protections is to prevent actual impacts to water resources, which in this case are effectively prevented by existing infrastructure.

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ADDENDUM 1: SCREENING TOOL REPORT

ADDENDUM 2: SITE SENSITIVITY VERIFICATION REPORT