Western Cape Government
Environmental Affairs and Development Planning

FORM NO. BAR10/2019

BASIC ASSESSMENT REPORT

THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) AND THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS.

NOVEMBER 2019

(For official use only)	
Pre-application Reference Number (if applicable):	
EIA Application Reference Number:	**16/3/3/1/D5/11/0006/20**
NEAS Reference Number:	
Exemption Reference Number (if applicable):	
Date BAR received by Department:	
Date BAR received by Directorate:	
Date BAR received by Case Officer:	

GENERAL PROJECT DESCRIPTION

(This must Include an overview of the project including the Farm name/Portion/Erf number)

Following the initial public participation process contemplated in Regulation 19 (1)(a) of the NEMA EIA Regulations, 2014 (GN. No. R 982 of 4 December 2014, as amended 7 April 2017), the following significant information was highlighted by the respective commenting authorities, resulting in significant changes to the Draft Basic Assessment Report. These changes have been included in the respective documents, as listed in the Table 1 below:

Table 1: Summary of significant changes to revised documentation.

Commenting Authority / Competent Authority	***Comment Received***	***Changes made as per the Revised Basic Assessment report***	***Changes made as per the Revised EMPr***
Heritage Western Cape	- Requested that a Palaeontological Impact Assessment be included in the Basic Assessment Report.	Appendix E.1. has been included with the full comment from Heritage Western Cape and comments and responses table in Section E, page 36 -37. - Palaeontological and Integrated	- Section 5.3: Sub-surface Environment, page 12. - Appendix D of the EMPr, page 71.

		Heritage Assessment. - Executive Summary page 8. - Section C, point 6: Protocols, page 25. - Section G, point 6: Heritage Resources, page 79 – 80. - Section G, point 7: Historical and Cultural Aspects, page 80 – 90. - Section I, page 148 and 151.	
Department of Environmental Affairs and Development Planning	- As advised by DEA&DP: George, Operational Alternatives including vertical burials were taken into consideration.	Full comment has been included in Appendix E.24. and Comments and Responses Table, Section E of the Revised BAR, page: 40. - Updated Geotechnical and Geohydrological Report, Appendix G.3. - Section Executive Summary, page: 3. - Section H, point 1. 1.5, page: 89 - 90	
	- Requested that the roles of the ECO vs Environmental Auditor, be clarified in the EMPr.		- Section 15.3: Duties and Responsibilities of the ECO, page 55. - Section 15.4 Environmental Auditor, Page 56. - Section 17.1: Environmental Auditing, Page 57.

Taking into account the aforementioned significant changes, a notification for a 50-day extension period, from the current final submission date, 27th November 2020, was given to the Competent Authority, the Department of Environmental Affairs and Development Planning, on 10 November 2020. This is in terms of Regulation 19(1)(b) of the NEMA EIA Regulations, 2014 (GN. No. R 982 of 4

December 2014, as amended 7 April 2017). Acknowledgement of the receipt of the notification and approval of the amended public participation plan, to reflect this extension, was received on 18th November 2020. Please refer to Appendix F.1.2. for the Revised Public Participation Plan and letter of approval.

As per the The Beaufort West Local Municipality has identified the need for the expansion of the existing 'Goue Akker" cemetery located within ward 4 of the Beaufort West Local Municipality, within the town of Beaufort West, Central Karoo District Municipality of the Western Cape.

The existing cemetery already occupies approximately 78 655m^2 of the RE/185 farm portion. Following the undertaking of the Technical Report and Motivation for the Expansion of the Existing "Goue Akker" Cemetery in Beaufort West compiled by Zutari (dated 23 October 2019), it has been determined that there is a shortage of burial sites at the existing cemetery. According to this report, the existing cemetery has approximately 16 months remaining (at the time of the study), before reaching capacity, hence the urgency to expand the cemetery.

The proposed site is located within the Remainder of Farm 185, along the southern border of the existing "Goue Akker" cemetery, extending to the unnamed road at the southern border of RE/185. The site is confined between the Kuils River to the east, and Blythe Street to the west. The proposed expansion will entail an outdoor cemetery (approximately 82 500m^2), ablution and caretaker facility (approximately 69m^2), resulting in a total footprint of approximately 82 569 m^2.

A 28m buffer has been established by the Freshwater Specialist, to prohibit access into the aquatic habitat of Kuils River. Two alternative layouts were considered for the proposed development, along with the no-go alternative, which remains as a baseline comparison, as the site is considered to not be transformed by the proposed development, resulting in the persistence of the status quo. Both the preferred alternative 1 and alternative 2 layouts, remain outside of this buffer and outside of the 100-year floodline.

Four Operational Alternatives were investigated, these included:

- Operational Alternative 1 (Horizontal Burial)
- Operational Alternative 2 (Vertical Burial)
- Operational Alternative 3 (Combination of Vertical & Horizontal Burial)
- Operational Alternative 4 (Cremation)

It was determined that Operational Alternative 1 is the preferred alternative. While Operational Alternative 3 can be considered for future developments, only if:

- The By-Law accommodates vertical burial, in terms of specifications etc.
- The technology and information are adopted by the local funeral services.
- The information becomes readily available in the community, and they are comfortable with this form of burial, therefore willingly request this be undertaken.
- The soil and underground conditions permit it.

ENGINEERING SERVICES

BULK SERVICES:

The Beaufort West Municipality has confirmed that should the proposed development take place on the proposed site, bulk services will be able to accommodate the additional water and sanitation services required by the Beaufort West "Goue Akker" Cemetery project (See Appendix E.16).

Water Supply

The Beaufort West Municipal area is supplied with water from the Gamka Dam, ground water from the Lemoenfontein, Gamka, Springfontein, Tweeling, Walker Dam and Brandwacht aquifers via 17 boreholes, two fountains as well as a Wastewater Recycling Plant. The water is treated to (potable) standards, at the Beaufort West Water Treatment Plant.

According to Engineering calculations and designs the following information was determined:

- Annual Average Daily Demand (AADD) = 1 460 ℓ/day for the caretaker and ablution facility.
- Peak Domestic Demand = 0.507 ℓ/s
- The proposed development is classified as a low risk-group 1 category and as such, the following would apply:
- 900 ℓ/min
- 2-hour design fire flow

The proposed cemetery site is not connected to any water reticulation network of the Beaufort West Municipality. However, there is an existing water reticulation network in the vicinity of the site for the proposed development to connect to. The facility will connect to an existing watermain running next to the existing road on the Western side of the proposed development. Based on the above, there is sufficient capacity to accommodate the proposed development.

Bulk Sewage System

According to Beaufort West Municipality Sewer Master Plan, the Beaufort West wastewater treatment plant (WWTP) has a maximum capacity of ± 6.787 Mℓ/d which includes unaccounted-for-water (UAW), this is wastewater generated from each town which is treated in each town's WWTP. Therefore, wastewater generated from the proposed site will gravitate to the Beaufort West WWTP, where it will be treated.

Calculated Flow Demand:

Based on the assumption that approximately 85% of the water demand of the Caretaker & Ablution facility will enter the sewer system, the following was determined.

- Average Dry Weather Flow (ADWF) = 1.241 x10-3 Mℓ/d
- Peak Dry Weather Flow (PDWF) = 0.05 ℓ/s
- Peak Wet Weather Flow (PWWF) = 0.058 ℓ/s

There is currently no sewer infrastructure on site at the proposed development, however there is a 375mm ø gravity sewer mainline adjacent to the road on the Western Side of the proposed site which gravitates to the nearest WWTW's. The existing pipeline gravitates to the WWTW as shown on the enclosed Beaufort West Sewer Distribution System BWS-D5C, BWS-D6A and BWS-D6C (see Appendix K.1). Based on the above, there is sufficient capacity to accommodate the proposed development.

STORMWATER

No bulk stormwater systems are required as the stormwater will be collected and dispersed by means of a proposed stormwater berm towards the east of the site channelling run-off to an existing low-lying disturbed area which is proposed to be formalized into a stormwater detention area as shown on Drawing no. 505510 GE 201 - REV D – Layout Plan (see Appendix K.1 or Appendix B.1).

Accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater.

Currently, no formal stormwater exists within the proposed development. The greater total actual drainage area is subject to confirmation during the detailed design phase. No treatment of stormwater is envisaged on site.

Stormwater Management Techniques Proposed During Construction

The stormwater surface run-off water will be managed carefully during construction. The following management techniques will be implemented:

- Temporary cut-off channels and berms;
- Routing of run-off towards the existing watercourse and drainage routes;

- Erosion protection by means of Silt fences, Geofabric, Sandbags and/or any combination thereof;
- Compliance with a site-specific Environmental Management Plan; and
- Provision for dealing with water, in accordance with SABS 1200, will be stipulated in the Project Specification and Contract Documents. Of specific importance will be the following clauses:
  i. Clause 5.5 in SABS 1200 A;
  ii. Clause 5.3 in SABS 1200 AA;
  iii. Clause 5.1.3 in SABS 1200 D; and
  iv. Clause 5.1.2 in SABS 1200 DB.

Stormwater Management Techniques Proposed for Post Construction

Any development brings about changes to the natural environment of a site, which in turn has an effect or disrupts the natural hydrological cycle. Changes include, among other:

- Increase in impermeable surfaces (roads, roofs etc.) resulting in lower infiltration, higher run-off volumes and velocities;
- Changes to natural flow routes through earthworks, infrastructure and shaping of terrain; and
- Changes to local water course environment and ecology.

The management of the increased run-off volumes and velocities is important as it can be detrimental to the receiving drainage system and communities downstream of the site, as it could cause severe erosion, property damage and even loss of life.

By restricting peak flows to pre-development levels, the status quo of the catchment is maintained. This could be achieved through the implementation of the following recommended practices, as described below.

- According to the CoCT's "Management of Urban Stormwater Impacts Policy" all stormwater management systems shall be planned and designed in accordance with best practice criteria and guidelines laid down by Council, to support Water Sensitive Urban Design principles and the following specific sustainable urban drainage system objectives:
  - Improve quality of stormwater runoff;
  - Control quantity and rate of stormwater runoff; and
  - Encourage natural groundwater recharge through infiltration.
- Infiltration
  - By dispersing the run-off to numerous outfalls spread across the proposed site into the proposed cut-off berm, the recharge of the underground water table is promoted thus reducing the risk of localised erosion.
  - Channels with longitudinal slopes flatter than 4% will be earth channels. The topography of the site is relatively flat and no slopes steeper that 4% are expected.
- Attenuation
  - Attenuation are already available on site in the form of the disturbed area adjacent to the proposed site.

ACCESS ROADS

Based on the enclosed Drawing no. 505510 GE 201 - REV D – Layout Plan (see Appendix K.1), it is recommended that the existing access road be maintained as the best suited option to provide access to the proposed cemetery extension. Therefore, no additional access roads will be created.

It must be noted that the existing gravel surfaced road will require the re-working of the in-situ material to the required compaction.

SOLID WASTE

Refuse removal will be dealt with once a week as is applicable to all the current residential areas in the Beaufort Municipal area.

The caretaker/ablution facility is seen as the only property, that would generate solid waste, therefore approximately 0.005 tons/day to 0.12 m³/month, of solid waste, is predicted.

FLOODLINES

The proposed cemetery development is affected by a floodline at the Eastern side of the development where the Kuils River flows past the site. Refer to the enclosed (see Appendix K.1) Drawing: 100 Year Floodline Layout by Fraser Consulting Civil Engineers for details regarding the 1:100-year floodline affecting the development area.

INTERNAL SERVICES

Sewage

- ±100 m of 160mm dia. PVC-u heavy duty sewer pipe; and
- 2 No. Manholes.

Water

- ±100 m of 90mm dia. HDPE Class 12 water pipe;
- 1 No. Gate valves;
- 1 No. Fire hydrants; and
- 32 mm dia. HDPE Class 12 water pipe connections.

Roads

- Approximately 15 730m² gravel wearing course surfaced roads. Road width is proposed to be 4.5m wide.

Stormwater

- 640m of In-situ Stormwater berm;
- Stormwater detention pond; and
- 1 No. In-situ Stormwater Outlet/Overflow.

EIA TRIGGERED ACTIVITIES

According to the National Environmental Management Act, 1998 (Act 107 of 1998), in terms of the Environmental Impact Assessment Regulations, 2014 (as amended 07th April 2017), Listing Notice 1 & 3 (GNR 327 and 324 respectively), the following activities are applicable:

Table 2: Triggered Activities

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The proposed expansion will entail the clearance of approximately 10 hectares of indigenous vegetation, but less than 20 hectares.

44	The expansion of cemeteries by 2 500 square metres or more.	The proposed development is estimated to cover approximately 82 569m^2 of Farm RE/185, to the south of the existing cemetery.
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
4	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape i. Areas zoned for use as public open space or equivalent zoning; ii. Areas outside urban areas; (aa) Areas containing indigenous vegetation; (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or iii. Inside urban areas: (aa) Areas zoned for conservation use; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	The proposed development entails the development of an internal gravel road network, wider than 4 meters, outside of an urban area which contains indigenous vegetation, as noted in the Botanical Assessment completed by Mark Berry Environmental Consultants (2020)

Based on the latest Department of Environmental Affairs screening tool report, dated 01st June 2020, the following sensitivities were detected on site:

Table 3: DEA Screening Tool Results

THEME	VERY HIGH	HIGH	MEDIUM	LOW
Agriculture Theme.			**X**	
Animal Species Theme.			**X**	
Aquatic Biodiversity Theme.				**X**
Civil Aviation Theme.		**X**		
Palaeontology Theme.		**X**		
Plant Species Theme.				**X**
Defence Theme.				**X**
Terrestrial Biodiversity Theme.	**X**			

A Botanical Impact Assessment, Freshwater Impact Assessment and Geohydrological Assessment was undertaken to address the sensitivities on site, in accordance with the Guideline for Environmental Risk Assessment, Monitoring and Management of Cemeteries. Additionally, a Palaeontological Study and an Integrated HIA was initiated, to inform the concerns raised by Heritage Western Cape.

The following was concluded:

Freshwater Impact Assessment:

All watercourses within the 500m radius study area of the proposed site were identified, delineated, investigated infield, and screened in accordance to their risk of being impacted upon. It was found that the Kuils River will be impacted upon.

The direct and indirect impacts associated with the project were identified and grouped into three encapsulating impact categories. The impacts identified are:

- The disturbance of aquatic vegetation
- Sedimentation and erosion
- Flow modification

The impacts associated with the project are assessed as being of Low-Medium significance. However, this may potentially be decreased to Low impact significance with the implementation of effective mitigation measures. The impacts are considered to be easily mitigated provided the mitigation measures and monitoring plan within this report are implemented and adhered to during the construction and operational phase of the project. Mitigation measures must focus on avoiding sensitive areas as far as possible and stabilising erosion features. The proposal is deemed acceptable from an aquatic habitat perspective.

A General Authorization has been obtained from the Breede Gouritz Catchment Management fulfilling the water use requirements of the National Water Act (Act 36 of 1998), under Section 21 (c) and (i) (see Appendix E23).

Botanical Impact Assessment:

The vegetation recorded on site is described as fair to good quality Southern Karoo Riviere. Due to Southern Karoo Riviere being well represented in the larger area and not threatened, the impact on vegetation type per se is of a low to moderate concern. If construction activities are restricted to the indicated footprint area and the adjacent disturbed areas, the direct impact involves the removal of ±10 ha of vegetation. No known Species of Conservation Concern, regional endemics or protected species will be affected. All the recorded species are widespread and common.

The impact on the biodiversity network, including the CBA's and ESA's, is of a lesser concern since the project only marginally affects mapped ESA's. The extensive ESA's to the west and east will remain intact and unaffected. Strict mitigation measures will be required before and during the construction phase to minimise the impact.

During construction, mitigation should focus on the protection of veld adjacent to the works areas, and maybe the rehabilitation of the disturbed areas outside the site. The following mitigation measures should be considered:

- In order to minimise disturbance of the adjacent vegetation and Kuils River, the construction area should be demarcated/fenced off prior to the start of construction activities. No disturbance or spoiling may occur outside this area.
- Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint.
- Implement alien control on and around the site as a long-term management requirement.
- Prohibit further waste dumping in the area.
- Rehabilitate the disturbed area and section of the Kuils River on the southern side where waste dumping occurred. The affected section of the Kuils River should be reinstated or included as part of the biodiversity network.

Geohydrological and Geotechnical Assessment

The study site has been classified as having a groundwater vulnerability classification of "low to medium". Given the relatively deep-water table and shallow burial depths, the extension is deemed to have minimal impact on groundwater and proximal drainage channel.

The proposed expansion will need to conform to the standard industry mitigations measures for developing a cemetery in order to ensure no contamination occurs on site. GEOSS recommends

the installation of a groundwater monitoring system on site, as specified in Section 9.1 (see Appendix G.3)

Palaeontological Study and Integrated Heritage Impact Assessment (HIA)

The following heritage resources were identified:

- The site is adjoining, and directly south, of the existing Goue Akker Cemetery and on the banks of the Kuils River.
- The current site is undeveloped and covered in a mix of indigenous and exotic vegetation. There are no structures on the site. No archaeological remains were identified by M. Tusenius.
- The Palaeontological Impact Assessment was conducted by Dr John Almond on the 8th November 2020. He notes the following: "No Permian or Caeonozoic fossils were observed within the cemetery expansion study area itself. No fossil remains were recorded in good exposures of the Teekloof Fromation and overlying alluvial deposits in the beds and banks of the Kuils River which are all situated on the periphery of and outside the study area".

It has been concluded that the palaeo-sensitivity of the site is in fact Low and the Impact Significance of the development is rated as LOW (-ve) without mitigation. This assessment applies to all project alternatives. The No-Go option (i.e. no cemetery expansion) would have a neutral impact on local fossil heritage resources".

Therefore, the expansion of the cemetery will have no impact on the local archaeology of the area. While there is a possibility of informal burials in the alluvial soils of the Kuils River, such as elsewhere in Beaufort West, the likelihood of this is considered Low. Similarly, the impacts on the Cultural Landscape, which include the banks of the Kuils River are considered to be low in view of the Goue Akker Cemetery to the north, and the wastewater treatment works to the west of the site.

Pending the potential discovery of important new fossil remains – such as vertebrate fossil bones and teeth, petrified wood, plant-rich lenses or layers, fossil shells, fish remains or dense fossil burrow assemblages – during the construction of operational phases of the cemetery, no further specialist palaeontological studies or mitigation area recommended for this project.

- A protocol for Chance Fossil Finds is incorporated into the Environmental Management Programme (EMPr) (Appendix H), for the proposed development.

ADDITIONAL APPLICATIONS

An application was submitted to Beaufort West Municipality Planning Department on the 5th of June 2020, for the following:

(i) In terms of Section 15(2)(a) of the Beaufort West Municipality By-Law on Municipal Land Use Planning, 2019, for the rezoning of a portion of the Remainder of the Farm 185, Beaufort West from "Agricultural Zone I" to a "Sub divisional area" to make provision for:

- 1 Open Space Zone II erf (±25,407ha);
- 1 Utility Zone erf (±20,9823 ha); and
- 1 Remainder Agricultural Zone I erf.

(ii) Consent use in terms of Section 15(2)(o) to permit a cemetery on the Open Space Zone II erf.

(iii) Subdivision of the Remainder of Farm 185 in terms of Section 15(2)(d) in order to give effect to the above approved sub divisional zoning.

This was approved on the 16th of October 2020 (see Appendix E21).

IMPORTANT INFORMATION TO BE READ PRIOR TO COMPLETING THIS BASIC ASSESSMENT REPORT

1. **The purpose** of this template is to provide a format for the Basic Assessment report as set out in Appendix 1 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment ("EIA") Regulations, 2014 (as amended) in order to ultimately obtain Environmental Authorisation.

2. The Environmental Impact Assessment ("EIA") Regulations is defined in terms of Chapter 5 of the National Environmental Management Act, 19998 (Act No. 107 of 1998) ("NEMA") hereinafter referred to as the "NEMA EIA Regulations".

3. The required information must be typed within the spaces provided in this Basic Assessment Report ("BAR"). The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided.

4. All applicable sections of this BAR must be completed.

5. Unless protected by law, all information contained in, and attached to this BAR, will become public information on receipt by the Competent Authority. If information is not submitted with this BAR due to such information being protected by law, the applicant and/or Environmental Assessment Practitioner ("EAP") must declare such non-disclosure and provide the reasons for believing that the information is protected.

6. This BAR is current as of **November 2019**. It is the responsibility of the Applicant/ EAP to ascertain whether subsequent versions of the BAR have been released by the Department. Visit this Department's website at http://www.westerncape.gov.za/eadp to check for the latest version of this BAR.

7. This BAR is the standard format, which must be used in all instances when preparing a BAR for Basic Assessment applications for an environmental authorisation in terms of the NEMA EIA Regulations when the Western Cape Government Department of Environmental Affairs and Development Planning ("DEA&DP") is the Competent Authority.

8. Unless otherwise indicated by the Department, one hard copy and one electronic copy of this BAR must be submitted to the Department at the postal address given below or by delivery thereof to the Registry Office of the Department. Reasonable access to copies of this Report must be provided to the relevant Organs of State for consultation purposes, which may, if so indicated by the Department, include providing a printed copy to a specific Organ of State.

9. This BAR must be duly dated and originally signed by the Applicant, EAP (if applicable) and Specialist(s) and must be submitted to the Department at the details provided below.

10. The Department's latest Circulars pertaining to the "One Environmental Management System" and the EIA Regulations, any subsequent Circulars, and guidelines must be taken into account when completing this BAR.

11. Should a water use licence application be required in terms of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA"), the "One Environmental System" is applicable, specifically in terms of the synchronisation of the consideration of the application in terms of the NEMA and the NWA. Refer to this Department's Circular EADP 0028/2014: One Environmental Management System.

12. Where Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") is triggered, a copy of Heritage Western Cape's final comment must be attached to the BAR.

13. The Screening Tool developed by the National Department of Environmental Affairs must be used to generate a screening report. Please use the Screening Tool link https://screening.environment.gov.za/screeningtool to generate the Screening Tool Report. The screening tool report must be attached to this BAR.

14. Where this Department is also identified as the Licencing Authority to decide on applications under the National Environmental Management: Air Quality Act (Act No. 29 of 2004) ('NEM:AQA"), the submission of the Report must also be made as follows, for-
Waste Management Licence Applications, this report must also (i.e., another hard copy and electronic copy) be submitted for the attention of the Department's Waste Management

Directorate (Tel: 021-483-2728/2705 and Fax: 021-483-4425) at the same postal address as the Cape Town Office.

Atmospheric Emissions Licence Applications, this report must also be (i.e., another hard copy and electronic copy) submitted for the attention of the Licensing Authority or this Department's Air Quality Management Directorate (Tel: 021 483 2888 and Fax: 021 483 4368) at the same postal address as the Cape Town Office.

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 and REGION 2 (Region 1: City of Cape Town, West Coast District) (Region 2: Cape Winelands District & Overberg District)	**GEORGE OFFICE: REGION 3** **(Central Karoo District & Garden Route District)**
BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1 or 2) Private Bag X 9086 Cape Town, 8000 Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town Queries should be directed to the Directorate: Development Management (Region 1 and 2) at: Tel: (021) 483-5829 Fax (021) 483-4372	BAR must be sent to the following details: Western Cape Government Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530 Registry Office 4th Floor, York Park Building 93 York Street George Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 805 8650

MAPS

Provide a location map (see below) as Appendix A1 to this BAR that shows the location of the proposed development and associated structures and infrastructure on the property.	
Locality Map:	The scale of the locality map must be at least 1:50 000. For linear activities or development proposals of more than 25 kilometres, a smaller scale e.g., 1:250 000 can be used. The scale must be indicated on the map. The map must indicate the following: • an accurate indication of the project site position as well as the positions of the alternative sites, if any; • road names or numbers of all the major roads as well as the roads that provide access to the site(s) • a north arrow; • a legend; and • a linear scale. For ocean based or aquatic activity, the coordinates must be provided within which the activity is to be undertaken and a map at an appropriate scale clearly indicating the area within which the activity is to be undertaken. Where comment from the Western Cape Government: Transport and Public Works is required, a map illustrating the properties (owned by the Western Cape Government: Transport and Public Works) that will be affected by the proposed development must be included in the Report.
Provide a detailed site development plan / site map (see below) as Appendix B1 to this BAR; and if applicable, all alternative properties and locations.	
Site Plan:	Detailed site development plan(s) must be prepared for each alternative site or alternative activity. The site plans must contain or conform to the following: • The detailed site plan must preferably be at a scale of 1:500 or at an appropriate scale. The scale must be clearly indicated on the plan, preferably together with a linear scale. • The property boundaries and numbers of all the properties within 50m of the site must be indicated on the site plan.

	• On land where the property has not been defined, the co-ordinates of the area in which the proposed activity or development is proposed must be provided. • The current land use (not zoning) as well as the land use zoning of each of the adjoining properties must be clearly indicated on the site plan. • The position of each component of the proposed activity or development as well as any other structures on the site must be indicated on the site plan. • Services, including electricity supply cables (indicate aboveground or underground), water supply pipelines, boreholes, sewage pipelines, storm water infrastructure and access roads that will form part of the proposed development **must** be clearly indicated on the site plan. • Servitudes and an indication of the purpose of each servitude must be indicated on the site plan. • Sensitive environmental elements within 100m of the site must be included on the site plan, including (but not limited to): o Watercourses / Rivers / Wetlands o Flood lines (*i.e.,* 1:100 year, 1:50 year and 1:10 year where applicable); o Coastal Risk Zones as delineated for the Western Cape by the Department of Environmental Affairs and Development Planning ("DEA&DP"): o Ridges; o Cultural and historical features/landscapes; o Areas with indigenous vegetation (even if degraded or infested with alien species). • Whenever the slope of the site exceeds 1:10, a contour map of the site must be submitted. • North arrow A map/site plan must also be provided at an appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred and alternative sites indicating any areas that should be avoided, including buffer areas.
Site photographs	Colour photographs of the site that shows the overall condition of the site and its surroundings (taken on the site and taken from outside the site) with a description of each photograph. The vantage points from which the photographs were taken must be indicated on the site plan, or locality plan as applicable. If available, please also provide a recent aerial photograph. Photographs must be attached to this BAR as **Appendix C**. The aerial photograph(s) should be supplemented with additional photographs of relevant features on the site. Date of photographs must be included. Please note that the above requirements must be duplicated for all alternative sites.
Biodiversity Overlay Map:	A map of the relevant biodiversity information and conditions must be provided as an overlay map on the property/site plan. The Map must be attached to this BAR as **Appendix D**.
~~Linear activities or development and multiple properties~~	~~GPS co-ordinates must be provided in degrees, minutes and seconds using the Hartebeeshoek 94 WGS84 co-ordinate system. Where numerous properties/sites are involved (linear activities) you must attach a list of the Farm Name(s)/Portion(s)/Erf number(s) to this BAR as an Appendix. For linear activities that are longer than 500m, please provide a map with the co-ordinates taken every 100m along the route to this BAR as **Appendix A3**.~~

ACRONYMS

DAFF:	Department of Forestry and Fisheries
DEA:	Department of Environmental Affairs
DEA& DP:	Department of Environmental Affairs and Development Planning
DHS:	Department of Human Settlement
DoA:	Department of Agriculture
DoH:	Department of Health
DWS:	Department of Water and Sanitation
EMPr:	Environmental Management Programme
HWC:	Heritage Western Cape
NFEPA:	National Freshwater Ecosystem Protection Assessment
NSBA:	National Spatial Biodiversity Assessment
TOR:	Terms of Reference
WCBSP:	Western Cape Biodiversity Spatial Plan
WCG:	Western Cape Government

ATTACHMENTS

Note: The Appendices must be attached to the BAR as per the list below. Please use a ✓ **(**tick) or a **x** (cross) to indicate whether the Appendix is attached to the BAR.

The following checklist of attachments must be completed.

APPENDIX			**✓ (Tick) or x (cross)**
Appendix A:	**Maps**		
	Appendix A1:	**Locality Map**	✓
	Appendix A2:	**Coastal Risk Zones as delineated in terms of ICMA for the Western Cape by the Department of Environmental Affairs and Development Planning**	**X (N/A)**
	Appendix A3:	**Map with the GPS co-ordinates for linear activities**	**X (N/A)**
Appendix B:	**Appendix B1.1:**	**Site development plan(s): Preferred Alternative 1 Layout**	✓
	Appendix B1.2:	**Site development plan(s): Alternative 2 Layout**	✓
	Appendix B2	**A map of appropriate scale, which superimposes the proposed development and its associated structures and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffer areas;**	✓
Appendix C:	**Photographs**		✓
Appendix D:	**Biodiversity overlay map**		✓
Appendix E:	**Permit(s) / license(s) / exemption notice, agreements, comments from State Department/Organs of state and service letters from the municipality.**		
	Appendix E1:	**Draft BAR_Comment/ROD from HWC**	✓
	Appendix E2:	**Copy of comment from Cape Nature – Draft BAR**	✓
	Appendix E3:	**Comment from the BGCMA_Draft BAR**	✓
	Appendix E4:	**Comment from the DEA: Oceans and Coast**	**X (N/A)**
	Appendix E5:	**Comment from the DAFF**	**X**
	Appendix E6:	**Comment from WCG: Transport and Public Works**	**X**
	Appendix E7:	**Comment from WCG: DoA**	**X (N/A)**
	Appendix E8:	**Comment from WCG: DHS**	**X (N/A)**
	Appendix E9:	**Comment from WCG: DoH**	**X**

	Appendix E10:	**Comment from DEA&DP: Pollution Management**	**X**
	Appendix E11:	**Comment from DEA&DP: Waste Management**	**X**
	Appendix E12:	**Comment from DEA&DP: Biodiversity**	**X**
	Appendix E13:	**Comment from DEA&DP: Air Quality**	**X (N/A)**
	Appendix E14:	**Comment from DEA&DP: Coastal Management**	**X (N/A)**
	Appendix E15:	**Comment from the local authority (Beaufort West)**	**X**
	Appendix E16:	**Confirmation of all services (water, electricity, sewage, solid waste management)**	✓
	Appendix E17:	**Comment from the District Municipality – Draft BAR**	✓
	Appendix E18:	**Copy of an exemption notice**	**X**
	Appendix E19	**Pre-approval for the reclamation of land**	**X**
	Appendix E20:	**Proof of agreement/TOR of the specialist studies conducted.**	✓
	Appendix E21:	**Proof of land use rights**	✓
	Appendix E22:	**Proof of public participation agreement for linear activities**	**X**
	Appendix E23:	**General Authorization**	✓
	Appendix E24:	**Draft BAR_Comment from DEA&DP: Development Management**	✓
Appendix F:	**Public participation information: including a copy of the register of I&APs, the comments and responses Report, proof of notices, advertisements and any other public participation information as is required.**		✓
	Appendix F.1.1	**Original agreed upon Public Participation Plan**	✓
	Appendix F.1.2	**Revised Public Participation Plan**	✓
	Appendix F.2	**Interested and Affected Parties (I&AP's) Register**	✓

	Appendix F.3	**Proof of On-Site Notices_Draft BAR**	✓
	Appendix F.4	**Proof of Advert_Draft BAR**	✓
Appendix G:	**Specialist Report(s)**		
	Appendix G.1	**Botanical Impact Assessment**	✓
	Appendix G.2	**Freshwater Impact Assessment**	✓
	Appendix G.3	**Geotechnical and Geohydrological Impact Assessment**	✓
	Appendix G.4	**Draft Palaeontological Study and Integrated HIA**	✓
Appendix H:	**EMPr**		✓
Appendix I:	**Screening tool report**		✓
Appendix J:	**The impact and risk assessment for each alternative**		X
Appendix K:	**Need and desirability for the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013)/DEA Integrated Environmental Management Guideline**		X
Appendix…..	**Any other attachments must be included as subsequent appendices**		
Appendix L:	**Appendix L.1**	**Engineering Services Report (Goue Akker Cemetery)**	✓
	Appendix L.2	**28m Buffer Coordinate Table**	✓

SECTION A: ADMINISTRATIVE DETAILS

Highlight the Departmental Region in which the intended application will fall	~~CAPE TOWN OFFICE:~~		GEORGE OFFICE:
	~~REGION 1~~ ~~(City of Cape Town, West Coast District~~	~~REGION 2~~ ~~(Cape Winelands District & Overberg District)~~	REGION 3 (Central Karoo District & Garden Route District)
Duplicate this section where there is more than one Proponent Name of Applicant/Proponent:	Beaufort West Local Municipality		
Name of contact person for Applicant/Proponent (if other):	Christopher Wright		
Company/ Trading name/State Department/Organ of State:	Beaufort West Local Municipality		
Company Registration Number:	Not applicable		
Postal address:	112 Donkinstraat Beaufort West		
		Postal code: 6970	
Telephone:	(023) 414 8140	Cell:	
E-mail:	manager.techservice@beaufortwestmun.co.za	Fax: ( )	
Company of EAP:	Sharples Environmental Services.cc		
EAP name:	Ameesha Sanker		
Postal address:	PO BOX 443, Milnerton		
		Postal code: 7435	
Telephone:	(021) 554 5195	Cell: 072 126 0161	
E-mail:	ameesha@sescc.net	Fax: ( )	
Qualifications:	BSc (Hons) Environmental Management		
EAPASA registration no:	Ameesha is not EAPASA registered, however her work will be reviewed by Betsy Ditcham, EAPASA Registration No: 1480		
Duplicate this section where there is more than one landowner Name of landowner:	Beaufort West Local Municipality		
Name of contact person for landowner (if other):	Christopher Wright		
Postal address:	112 Donkinstraat Beaufort West		
		Postal code: 6970	
Telephone:	(023) 414 8140	Cell:	
E-mail:	manager.techservice@beaufortwestmun.co.za	Fax: ( )	
Name of Person in control of the land:	Beaufort West Local Municipality		
Name of contact person for person in control of the land:	Christopher Wright		
Postal address:	112 Donkinstraat Beaufort West		
		Postal code: 6970	
Telephone:	(023) 414 8140	Cell:	
E-mail:	manager.techservice@beaufortwestmun.co.za	Fax: ( )	

Duplicate this section where there is more than one Municipal Jurisdiction Municipality in whose area of jurisdiction the proposed activity will fall:	Beaufort West Local Municipality is the applicant, details as above.		
~~Contact person:~~			
~~Postal address:~~			
		~~Postal code:~~	
~~Telephone~~	~~( )~~	~~Cell:~~	
~~E-mail:~~		~~Fax: ( )~~	

SECTION B: CONFIRMATION OF SPECIFIC PROJECT DETAILS AS INLCUDED IN THE APPLICATION FORM

1.	Is the proposed development (please tick):	New		Expansion	✓
2.	Is the proposed site(s) a brownfield of greenfield site? Please explain.				
The proposed site for the expansions is classified as a Greenfield site as the proposed site has not been developed.					
3.	**For Linear activities or developments**				
~~3.1.~~	~~Provide the Farm(s)/Farm Portion(s)/Erf number(s) for all routes:~~				
~~3.2.~~	~~Development footprint of the proposed development for all alternatives.~~	~~m²~~			
~~3.3.~~	~~Provide a description of the proposed development (e.g. for roads the length, width and width of the road reserve in the case of pipelines indicate the length and diameter) for all alternatives.~~				
~~3.4.~~	~~Indicate how access to the proposed routes will be obtained for all alternatives.~~				
~~3.5.~~	~~SG Digit codes of the Farms/Farm Portions/Erf numbers for all alternatives~~				
~~3.6.~~	~~**Starting point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**Middle-point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
	~~**End point co-ordinates for all alternatives**~~				
	~~Latitude (S)~~	~~º~~	~~'~~	~~"~~	
	~~Longitude (E)~~	~~º~~	~~'~~	~~"~~	
~~**Note: For Linear activities or developments longer than 500m, a map indicating the co-ordinates for every 100m along the route must be attached to this BAR as Appendix A3.**~~					
4.	**Other developments**				
4.1.	Property size(s) of all proposed site(s):				35 523 500 m² to be subdivided into 1 Open Space Zone II erf (±254 070 m²) utilized for the existing

		and proposed cemetery;
4.2.	Developed footprint of the existing facility and associated infrastructure (if applicable):	78 655 m^2
4.3.	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives: Preferred Alternative 1: Layout	82 569 m^2
	Development footprint of the proposed development and associated infrastructure size(s) for all alternatives: Alternative 2: Layout	61 287 m^2
4.4.	Provide a detailed description of the proposed development and its associated infrastructure (This must include details of e.g. buildings, structures, infrastructure, storage facilities, sewage/effluent treatment and holding facilities).	

The Beaufort West Municipality proposes to expand the existing "Goue Akker" cemetery by approximately 82 569m^2 on the remainder of Farm Nr.185 to accommodate additional burial spaces for the next decade. The proposed expansion of the existing cemetery will entail:

- The provision of approximately 7 410 – 10 545 new burial spaces separated into 18 - 26 blocks, segregated by internal gravel roads.
- Reworking of the existing access road, as well as in-situ stormwater management is proposed within the internal road network has been proposed.
- An outer stormwater berm and a detention pond.
- A caretaker and ablution facility (for equipment storage).
- Cavcon palisade fence.

The location and preferred alternatives are depicted below.

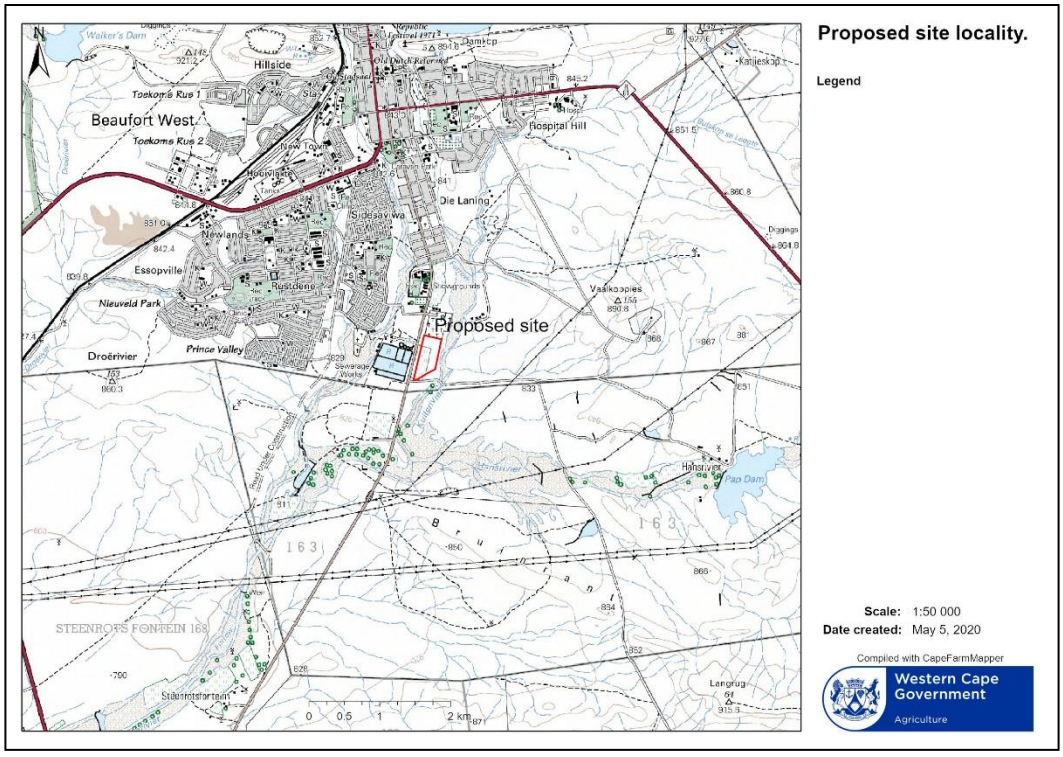

Figure 1: Locality of the proposed expansion.

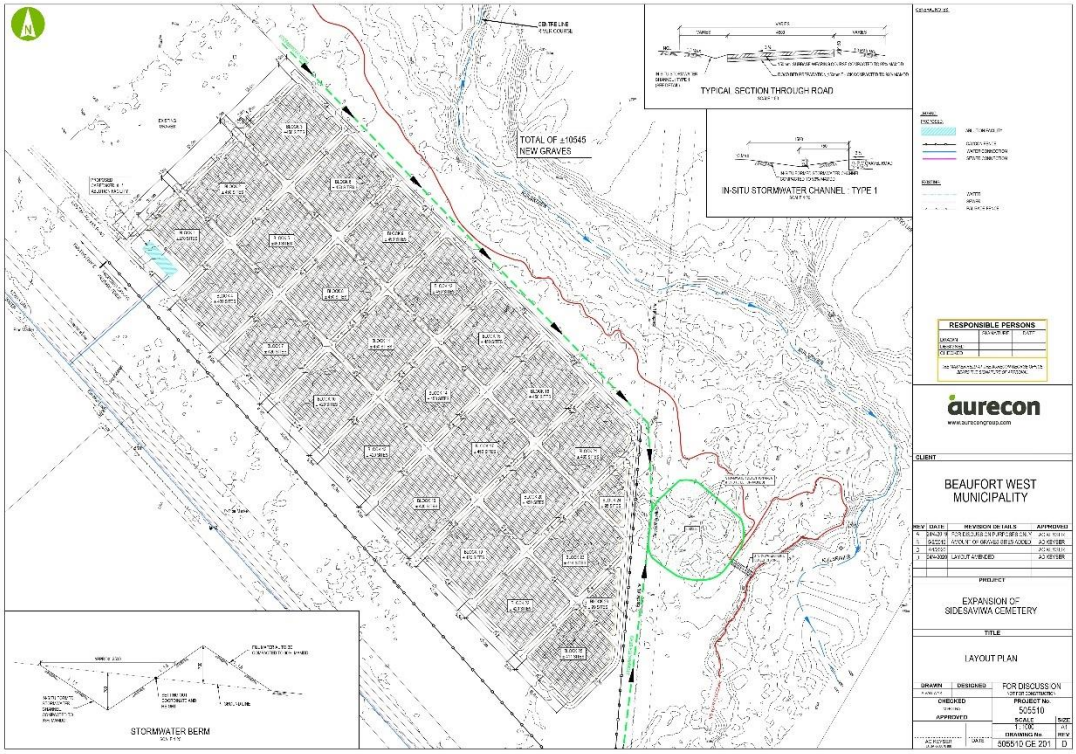

Figure 2: Preferred Alternative 1 – Layout.

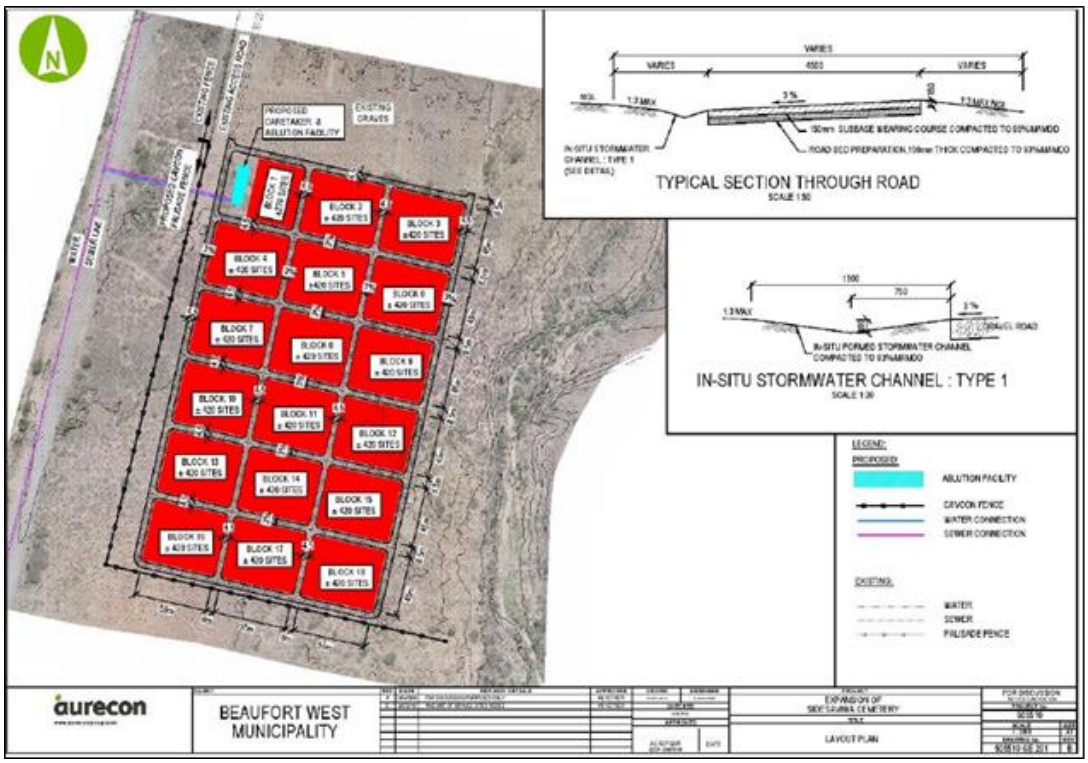

Figure 3: Alternative 2 – Layout.

An application was submitted to Beaufort West Municipality Planning Department on the 5th of June 2020, for the following:

(i) In terms of Section 15(2)(a) of the Beaufort West Municipality By-Law on Municipal Land Use Planning, 2019, for the rezoning of a portion of the Remainder of the Farm 185, Beaufort West from "Agricultural Zone I" to a "Subdivisional area" to make provision for:

- 1 Open Space Zone II erf (±25,407ha);
- 1 Utility Zone erf (±20,9823 ha); and

• 1 Remainder Agricultural Zone I erf.

(ii) Consent use in terms of Section 15(2)(o) to permit a cemetery on the Open Space Zone II erf.

(iii) Subdivision of the Remainder of Farm 185 in terms of Section 15(2)(d) in order to give effect to the above approved subdivisional zoning.

This was approved on the 16th of October 2020 (see Appendix E21).

4.5.	Indicate how access to the proposed site(s) will be obtained for all alternatives.

Access for both the Preferred Alternative 1 and Alternative 2 Layout, will be off of Blyth Street, located to the West of the proposed site. This road also acts as the current access for the existing cemetery site to the North of the proposed site.

Figure 4: Existing entrance to "Goue Akker" Cemetery, (22°35'23.61"E ; 32°22'32.77"S).

4.6.	SG Digit code(s) of the proposed site(s) for all alternatives:	C	0	0	9	0	0	0	0	0	0	0	0	0	1	8	5	0	0	0	0	0

4.7.	Coordinates of the proposed site(s) for all alternatives: Both the preferred alternative 1 and alternative 2 layout are proposed on the same site.			
	Latitude (S)	32°	22'	50.02"
	Longitude (E)	22°	35'	35"

SECTION C: LEGISLATION/POLICIES AND/OR GUIDELINES/PROTOCOLS

1. Exemption applied for in terms of the NEMA and the NEMA EIA Regulations

Has exemption been applied for in terms of the NEMA and the NEMA EIA Regulations. If yes, include a copy of the exemption notice in Appendix E18.	~~YES~~	**NO**

2. Is the following legislation applicable to the proposed activity or development.

The National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008) ("ICMA"). If yes, attach a copy of the comment from the relevant competent authority as Appendix E4 and the pre-approval for the reclamation of land as Appendix E19.	~~YES~~	**NO**

The National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA"). If yes, attach a copy of the comment from Heritage Western Cape as Appendix E1.	**YES**	~~NO~~
The National Water Act, 1998 (Act No. 36 of 1998) ("NWA"). If yes, attach a copy of the comment from the ~~DWS as~~ Appendix E3. BGCMA Comment attached.	**YES**	~~NO~~
The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("NEM:AQA"). If yes, attach a copy of the comment from the relevant authorities as Appendix E13.	~~YES~~	**NO**
The National Environmental Management Waste Act (Act No. 59 of 2008) ("NEM:WA")	~~YES~~	**NO**
The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004 ("NEMBA").	**YES**	~~NO~~
The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003) ("NEMPAA").	~~YES~~	**NO**
The Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). If yes, attach comment from the relevant competent authority as Appendix E5.	~~YES~~	**NO**

3. Other legislation

List any other legislation that is applicable to the proposed activity or development.

- Spatial Planning Land Use Management Act 16 of 2013.
- National Health Act, 2003 (Act no.61 of 2003), Regulations Relating to Management of Human Remains (GN. R363 of 22 May 2013).

Section 15 (2) Burial sites are required to comply with the following environmental requirements, namely that the burial site-	***Does the proposed development meet the requirement (Yes (Y) / No (N))***	***Applicability to Proposed Expansion***
(a) does not lie below the 1:100 flood line;	**Y**	The proposed expansion is outside of the identified 1:100 floodline.
(b) is located 350 metres from ground water sources used for drinking and at least 500 metres from the nearest habitable building.	**Y**	A watercourse is located East of the proposed site. From the hydrocensus, it is clear that the number of groundwater users surrounding the proposed site is limited, however, the water is mainly used for drinking. No groundwater was intersected in any of the ten trial pits. No existing boreholes are located within 350m's of the proposed site. The nearest habitable building is located within 500m's of the existing cemetery, positioned to the north. The proposed development is the expansion of the existing cemetery to the south, and therefore will not encroach upon the existing dwellings.

	(c) For a preferred burial site with a soil of sand-clay mix of low porosity and a small and fine grain texture, the water table should be at least 2.5m deep in order to allow for traditional grave depth of 1.8 meters;	**Y**	According to the Geotechnical Report, the soil profile exhibits clayey sandy SILT, upto approximately 3m's, with the occurrence of boulders or calcrete between 1.60 - +3.00m's. The traditional depth can be accommodated.	
	(d) For areas with higher water tables, the local government may determine a reasonable depth with additional walling recommendations to protect underground water; and	**Y**	The water table is considered to be deep, compared to the shallow burial depths therefore minimal impacts are expected, upon groundwater and proximal drainage channels.	
	(e) The covering soil shall not be less than 1 m, should two bodies be buried in the same grave, 300mm of soil shall be maintained between the coffins.	**Y**	This has been accounted for, and the site meets will allow for this requirement to be complied with when applying traditional burial methods.	

4. Policies

Explain which policies were considered and how the proposed activity or development complies and responds to these policies.
Provincial Spatial Development Framework (PSDF) The Provincial Spatial Development Framework (PSDF) released in 2014 for the Western Cape notes the policy framework that the will be adopted by the province in order to take forward the province's spatial development agenda and fulfil the mandate ascribed to the PSDF by the Spatial Planning and Land Use Act 16 of 2013 (SPLUMA). The policy framework covers Provincial spatial planning's three interrelated themes, namely: 1. Sustainable use of the Western Cape's spatial assets, 2. Opening-up opportunities in the Provincial space-economy, and 3. Developing integrated and sustainable settlements. Each of these spatial themes contributes to the achievement of the Western Cape's strategic objectives.

The third theme relates to the development of integrated and sustainable developments, in order to achieve this, the PSDF outlines objectives that are to be met. The two Objectives which align with the proposed expansion are;
1. The protection and enhancement of the sense of place and settlement patterns.
2. Ensure effective and equitable social services and facilities.

Objective 1 outlines the need for the protection and enhancement of heritage and cultural resources which have indirect but strong links to its economic development mandate, especially with respect to skills retention in the knowledge economy. The expansion of the Goue Akker cemetery protects the heritage and maintains the culture of Beaufort West by ensuring that a burial facility will be available within the area for those who call Beaufort West home. The opportunity to retain the remains of those who have passed within the town of which they and their descendants reside in allows for a unique link which protects the heritage and culture by ensuring that a legacy of sort remains within the area, thus maintaining the sense of place.

Objective 2 notes that in order to ensure that current and future developments take place in an integrated and sustainable manner, equitable and accessible distribution of social services and facilities across the Provincial landscape is required. The transformation of the Province's spatial environments is highly dependent on the improvement of adequate and appropriate facility provision. The current capacity of the Goue Akker Cemetery indicates that the Cemetery will have no more space in approximately 16 months. This development is aligned with this objective as the provision of this service and facility will allow for the equitable use of the facility for the next decade for the population of Beaufort West.

Beaufort West Spatial Development Framework (Beaufort West SDF)

The Beaufort West Spatial Development Framework released in 2013 mentions various service delivery and infrastructure projects noted by Integrated Development Plan (IDP). The upgrading of all cemeteries within the municipality is recognised as a project to be developed.

According to the Beaufort West Spatial Development Framework, the proposed expansion occurs outside of the delineated Urban Edge. However, the site is an expansion, not a new development, and therefore the existing cemetery has been developed, and is functioning as a service to the community.

5. Guidelines

List the guidelines which have been considered relevant to the proposed activity or development and explain how they have influenced the development proposal.

Guidelines	Describe how the proposed development complies with and responds:
Guideline on Public Participation (2013)	Guideline considered in the undertaking of the public participation for the proposed development. All relevant provisions contained in the guideline were adhered to in the basic assessment process as appropriate, except where an exemption/ deviation has been granted by the Competent Authority.
Guideline on Alternatives (2013)	Guideline considered when identifying and evaluating possible alternatives for the proposed development. Alternatives that were considered in the impact assessment process are reported on in this Basic Assessment Report (see section E)
Guideline on Need and Desirability (2013)	Guideline considered during the assessment of the Need and Desirability of the proposed development project.
Guideline on Environmental Management Plans (2005)	Guideline considered in the compilation of the EMP attached to this Basic Assessment Report.

Guideline for the Review of Specialist Input into the EIA Process (2005)	Guideline considered during the review and integration of specialist input into this Basic Assessment Report
External Guideline: Generic Water Use Authorization Application Process (2007)	Guideline considered during the process of applying for the required water use authorization
Integrated Environmental Management Information Series 5: Impact Significance (2002)	Guideline considering during the identification and evaluation of potential impacts associated with the proposed development, and the reporting thereof in this Basic Assessment Report
Integrated Environmental Management Information Series 7: Cumulative Effects Assessment (2004)	Guideline considering during the assessment of the cumulative effect of the identified impacts.
Circular EADP 0028/2014: One Environmental Management System	Guideline regulating multiple environmental activities under NEMA, including mining related activities.
Guideline on Generic Terms of Reference for EAPs and Project Schedules (March 2013)	Guideline provides a generic terms of reference for an Environmental Assessment Practitioner ("EAP") for both Basic Assessment and Scoping and Environmental Impact Reporting.
Guideline for determining the scope of specialist involvement in EIA processes, June 2005.	Guideline considered when determining the scope of specialist involvement for this assessment.
Guideline for involving biodiversity specialists in the EIA process, June 2005.	Guideline considered when determining the scope of specialist involvement for this assessment, pertaining to the botanical studies.
Environmental Risk Assessment, Monitoring and Management of Cemeteries	Guideline considered for assessment and recommended management of the cemetery.

6. Protocols

Explain how the proposed activity or development complies with the requirements of the protocols referred to in the NOI and/or application form

Taking into consideration the protocols, promulgated on the 09th of May 2020, the following is a summary of the development footprint environmental sensitivities identified by the DEA Screening Tool (see Appendix I). Only the highest environmental sensitivity is indicated.

Table 4: DEA Screening Tool Results

THEME	VERY HIGH	HIGH	MEDIUM	LOW
Agriculture Theme.			**X**	
Animal Species Theme.			**X**	
Aquatic Biodiversity Theme.				**X**
Civil Aviation Theme.		**X**		
Palaeontology Theme.		**X**		
Plant Species Theme.				**X**
Defence Theme.				**X**

Terrestrial Biodiversity Theme.	**X**			

Based on these results, the Screening tool recommended the following specialist assessments be conducted:

- Agricultural Statement:
  An Agricultural statement will not be completed, despite the fact the property is zoned as Agricultural I, it has not been used for agricultural purposes in years' and has been transformed and disturbed.
- Landscape/Visual Impact Assessment:
  A Landscape/Visual Impact Assessment will not be completed as the proposed development is an expansion from the existing cemetery, thus maintaining the development theme in the area. The proposed expansion also takes place away from the popular N1 and N12.
- Palaeontology Impact Assessment:
  The palaeontological study and integrated HIA has been undertaken and included in this report under appendix 4
- Hydrology Assessment:
  The Freshwater Habitat Impact Assessment completed by Sharples Environmental Services (2020) includes an assessment of the hydrology.
- Traffic Impact Assessment:
  The proposed development is an expansion of the existing cemetery and therefore there is no expected increase in traffic during the operational phase of the expansion. The site is also outside of the delineated urban edge.
- Socio-Economic Assessment:
  A Socio-Economic Assessment will not be conducted as the proposed site is not near to or adjacent any settlements, nor will the proposed expansion physically displace anyone.
- Plant Species Assessment:
  The Botanical survey was completed by Mark Berry Environmental.

In response to these recommendations, the following studies were compiled for the proposed expansion:

- Fresh Water Habitat Impact Assessment - Sharples Environmental Services CC (Appendix G.2)
- Biodiversity Survey - Mark Berry Environmental Consultants (Appendix G.1).
- Geohydrological and Geotechnical Assessment- GEOSS South Africa (Pty) Ltd (Appendix G.3).

In response to the comments received during the public participation period, a Palaeontological Study with an integrated HIA was completed by Dr John Almond and Dr Lita Webley, in November 2020, see Appendix G.4.

SECTION D: APPLICABLE LISTED ACTIVITIES

List the applicable activities in terms of the NEMA EIA Regulations

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 1**	Describe the portion of the proposed development to which the applicable listed activity relates.
27	The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—	The proposed expansion will entail the clearance of more than 10 hectares of indigenous vegetation, but less than 20 hectares.

	(i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	
44	The expansion of cemeteries by 2 500 square metres or more.	The proposed development entails the expansion of the existing Goue Akker cemetery by more than 2 500 square meters
Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Listing Notice 3**	Describe the portion of the proposed development to which the applicable listed activity relates.
4	The development of a road wider than 4 metres with a reserve less than 13,5 metres. i. Western Cape i. Areas zoned for use as public open space or equivalent zoning; ii. Areas outside urban areas; (aa) Areas containing indigenous vegetation; (bb) Areas on the estuary side of the development setback line or in an estuarine functional zone where no such setback line has been determined; or iii. Inside urban areas: (aa) Areas zoned for conservation use; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority.	The proposed development entails the development of an internal gravel road network, wider than 4 meters, outside of an urban area which contains indigenous vegetation, as noted in the Botanical Assessment completed by Mark Berry Environmental Consultants (2020).

Note:
- The listed activities specified above must reconcile with activities applied for in the application form. The onus is on the Applicant to ensure that all applicable listed activities are included in the application. If a specific listed activity is not included in an Environmental Authorisation, a new application for Environmental Authorisation will have to be submitted.
- Where additional listed activities have been identified, that have not been included in the application form, and amended application form must be submitted to the competent authority.

List the applicable waste management listed activities in terms of the NEM:WA **(Not applicable. The amendment to NEMWA through the National Environmental Management: Waste Amendment Act (2014) gives no direct mention of the management or disposal of the deceased, (Dippenaar *et al*, 2018)).**

Activity No(s):	Provide the relevant **Basic Assessment Activity(ies)** as set out in **Category A**	Describe the portion of the proposed development to which the applicable listed activity relates.

List the applicable listed activities in terms of the NEM:AQA **(Not applicable)**

Activity No(s):	Provide the relevant **Listed Activity(ies)**	Describe the portion of the proposed development to which the applicable listed activity relates.

SECTION E: PLANNING CONTEXT AND NEED AND DESIRABILITY

1.	Provide a description of the preferred alternative.

The preferred alternative will entail the expansion of the existing "Goue Akker" cemetery by approximately 82 569 m^2 on the remainder of Farm 185 to accommodate additional burial spaces for the next decade. The proposed expansion of the existing cemetery will entail the provision of approximately 10 545 new burial spaces separated into 26 blocks, segregated by internal gravel roads. The existing access road will be maintained, however, the road surface will undergo re-working of the in-situ material to the required compaction.

In-situ stormwater management is proposed within the internal road network, and outer stormwater berms are proposed. Stormwater will be collected and dispersed by means of a proposed stormwater berm towards the East of the site, channelling run-off to an existing low-lying disturbed area which the Engineers propose to be formalized into a stormwater detention area.

Accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater.

Furthermore, a caretaker and ablution facility (for equipment storage), as well as a cavcon palisade fence is proposed.

2.	Explain how the proposed development is in line with the existing land use rights of the property as you have indicated in the NOI and application form? Include the proof of the existing land use rights granted in Appendix E21.

The proposed development was not in line with the existing land use rights of the property, however an application was submitted to Beaufort West Municipality Planning Department on the 5th of June 2020, for the following:

(i) In terms of Section 15(2)(a) of the Beaufort West Municipality By-Law on Municipal Land Use Planning, 2019, for the rezoning of a portion of the Remainder of the Farm 185, Beaufort West from "Agricultural Zone I" to a "Subdivisional area" to make provision for:
- 1 Open Space Zone II erf (±25,407ha);
- 1 Utility Zone erf (±20,9823 ha); and
- 1 Remainder Agricultural Zone I erf.

(ii) Consent use in terms of Section 15(2)(o) to permit a cemetery on the Open Space Zone II erf.
(iii) Subdivision of the Remainder of Farm 185 in terms of Section 15(2)(d) in order to give effect to the above approved subdivisional zoning.

This was approved on the 16th of October 2020 (see Appendix E21).

3.	Explain how potential conflict with respect to existing approvals for the proposed site (as indicated in the NOI/and or application form) and the proposed development have been resolved.

An application was submitted to Beaufort West Municipality Planning Department on the 5th of June 2020, for the following:

(i) In terms of Section 15(2)(a) of the Beaufort West Municipality By-Law on Municipal Land Use Planning, 2019, for the rezoning of a portion of the Remainder of the Farm 185, Beaufort West from "Agricultural Zone I" to a "Subdivisional area" to make provision for:
- 1 Open Space Zone II erf (±25,407ha);
- 1 Utility Zone erf (±20,9823 ha); and
- 1 Remainder Agricultural Zone I erf.

(ii) Consent use in terms of Section 15(2)(o) to permit a cemetery on the Open Space Zone II erf.
(iii) Subdivision of the Remainder of Farm 185 in terms of Section 15(2)(d) in order to give effect to the above approved subdivisional zoning.

This was approved on the 16th of October 2020 (see Appendix E21).

4.	Explain how the proposed development will be in line with the following?
4.1	The Provincial Spatial Development Framework.

The Provincial Spatial Development Framework (PSDF) released in 2014 for the Western Cape notes the policy framework that the will be adopted by the province in order to take forward the province's spatial development agenda and fulfil the mandate ascribed to the PSDF by the Spatial Planning and Land Use Act 16 of 2013 (SPLUMA). The policy framework covers Provincial spatial planning's three interrelated themes, namely:

1. Sustainable use of the Western Cape's spatial assets,
2. Opening-up opportunities in the Provincial space-economy, and
3. Developing integrated and sustainable settlements.

Each of these spatial themes contributes to the achievement of the Western Cape's strategic objectives.

The third theme relates to the development of integrated and sustainable developments, in order to achieve this, the PSDF outlines objectives that are to be met. The two Objectives which align with the proposed expansion are;

1. The protection and enhancement of the sense of place and settlement patterns.
2. Ensure effective and equitable social services and facilities.

Objective 1 outlines the need for the protection and enhancement of heritage and cultural resources which have indirect but strong links to its economic development mandate, especially with respect to skills retention in the knowledge economy. The expansion of the Goue Akker cemetery protects the heritage and maintains the culture of Beaufort West by ensuring that a burial facility will be available within the area for those who call Beaufort West home. The opportunity to retain the remains of those who have passed within the town of which they and their descendants reside in allows for a unique link which protects the heritage and culture by ensuring that a legacy of sort remains within the area, thus maintaining the sense of place.

Objective 2 notes that in order to ensure that current and future developments take place in an integrated and sustainable manner, equitable and accessible distribution of social services and facilities across the Provincial landscape is required. The transformation of the Province's spatial environments is highly dependent on the improvement of adequate and appropriate facility provision. The current capacity of the Goue Akker Cemetery indicates that the Cemetery will have no more space in approximately 16 months. This development is aligned with this objective as the provision of this service and facility will allow for the equitable use of the facility for the next decade for the population of Beaufort West.

4.2	The Integrated Development Plan of the local municipality.

According to the Beaufort West Integrated Development Plan 2019/2020 Review, cemeteries are a function of the Beaufort West Municipality, and therefore falls within the Key Performance Area for basic service delivery and infrastructure development. The IDP states that there are enough burial grounds in all the towns under the jurisdiction of Beaufort West for the near future. However, new cemeteries will have to be developed. Challenges remain vandalism of perimeter fencing and the tombstones and animals entering the cemeteries and damaging the graves and perimeter fence flowers.

A Technical Report and Motivation for the Expansion of the Existing "Goue Akker"Cemetery in Beaufort West compiled by Aurecon (dated 23 October 2019) estimated that the "Goue Akker" cemetery would reach capacity at approximately 16 months (at the time of the study), and will therefore require this expansion.

Therefore, the proposed development is aligned with the local IDP.

4.3.	The Spatial Development Framework of the local municipality.

According to the Beaufort West Spatial Development Framework, the proposed expansion occurs outside of the delineated Urban Edge. However, the site is an expansion, not a new development, and therefore the existing cemetery has been developed, and is functioning as a service to the community.

4.4.	The Environmental Management Framework applicable to the area.

There is no Environmental Management Framework that has been adapted for this region.

5.	Explain how comments from the relevant authorities and/or specialist(s) with respect to biodiversity have influenced the proposed development.

The comments from CapeNature and BGCMA, as well any I&AP's who have forwarded comments through, have been taken into account and the BAR has been updated to reflect their recommendations.

6.	Explain how the Western Cape Biodiversity Spatial Plan (including the guidelines in the handbook) has influenced the proposed development.

Following ground truthing by both the botanical and the freshwater specialist, it has been concluded that no CBA's are detected within or in close proximity to the study site.

There are however ESA1 (functional condition) and ESA2 (degraded areas in need of restoration), as per Western Cape Biodiversity Spatial Plan, identified within and adjacent to the study site. These areas were given the classification due to their proximity to watercourses and possible contribution to the health of these systems, as Kuils River is found to flow along the Eastern border of the proposed site, and the wastewater treatment works has been classified as an artificial wetland to the west of the proposed site.

It has been determined that the proposed development will allow for the extensive ESA's to the west and east, to remain intact and mostly unaffected.

7.	Explain how the proposed development is in line with the intention/purpose of the relevant zones as defined in the ICMA.

The proposed development does not lie within coastal public property, the coastal protection zone, or coastal access land as defined in terms of the NEM: ICMA, 2008.

8.	Explain whether the screening report has changed from the one submitted together with the application form. The screening report must be attached as Appendix I.

The screening tool remains the same.

9.	Explain how the proposed development will optimise vacant land available within an urban area.

The Municipality has identified an imminent shortage in future available burial space and that the existing cemeteries are near reaching their full capacity. It is estimated that the grave site at the "Goue Akker" cemetery currently has 691 burial space. The average monthly funerals are 41, leaving the "Goue Akker" cemetery with a capacity of approximately 16 months thus giving purpose to the urgent expansion of the cemetery. The Municipality has identified vacant land next to the existing "Goue Akker" cemetery for expansion purposes.

The proposed development will be located on this vacant land, although it is not within the urban edge of Beaufort West, existing development has been established in and around Farm 185, including a wastewater treatment works, and the existing Goue Akker cemetery. Leaving the proposed site vacant will cost the municipality in maintenance costs, whereas the commencement of this development will allow for the extension of the existing cemetery and as well as serve to meet the need of the community in terms of provision of additional cemetery plots.

10.	Explain how the proposed development will optimise the use of existing resources and infrastructure.

The proposed development will entail the expansion of an existing cemetery. The cemetery infrastructure, including the access road and the water and sewer reticulation, will still be utilized, and upgraded, in order to accommodate the extended development and the additional infrastructure. This will save additional costs related to the establishment of a new site, that would require new infrastructure and resources.

Furthermore, the Engineers have proposed the use of excess soil and suitable rubble to construct the stormwater berm adjacent to the river, so waste will be minimised during construction, as well as the need to purchase extra material for the establishment of the berms.

11.	Explain whether the necessary services are available and whether the local authority has confirmed sufficient, spare, unallocated service capacity. (Confirmation of all services must be included in Appendix E16).

The Beaufort West Local Municipality has confirmed in writing (see Appendix E16), that the bulk services will be able to accommodate the additional water and sanitation services required for by this project.

12.	In addition to the above, explain the need and desirability of the proposed activity or development in terms of this Department's guideline on Need and Desirability (March 2013) or the DEA's Integrated Environmental Management Guideline on Need and Desirability. This may be attached to this BAR as Appendix K.

In addition to the above, the Department's guideline on Need and Desirability (March 2013) provides a strong base for the proposed development. The guideline references the New Growth Path (NGP) (2010) when referring to the strategic context for the consideration of need and desirability. It is important to understand how the proposed development falls within the strategic context in order to fully recognise the need and desirability.

The NGP formulated various principles to guide "the transition to an environmentally sustainable low-carbon economy, moving from policy, to process, to action", the principles listed below highlight how need and desirability of the proposed development are aligned with the NGP in terms of the Department's guideline on Need and Desirability (March 2013):

- Just, ethical and sustainable:

The development does recognise the aspirations of South Africa as a developing country and remains mindful of cultural and historical requirements. By expanding the existing cemetery, provision is made for years to come, to accommodate the needs of the community in terms of laying their deceased to rest.

- Ecosystems protection:

Through this development, it is recognized that human wellbeing is dependent on the health of the planet. Therefore, multiple specialists' reports have been undertaken in terms of botanical, freshwater, geotechnical, geohydrology, and palaeontology, in order to efficiently support the environmental status of the site, and fully inform the project.

- Full cost accounting:

The proposed development internalises both environmental and social costs in planning decisions, recognising that the need to secure environmental assets may be weighed against the social benefits accrued from their use.

- Managed transition:

The proposed development will build on existing processes and capacities to enable society to change in a structured and phased manner, by expanding on an existing cemetery that has been accepted and utilized by the community, this project will work to improve capacity of this site.

- Opportunity-focused.

This project will aim to combine between sustainability, growth, competitiveness and employment creation, for South Africa to attain equality and prosperity, therefore labour and materials should be sourced from the local community, in order to create opportunity for local businesses and residents.

- Effective participation of social partners:

This project will enable the awareness of mutual responsibilities. Through the public participation process required in terms of the EIA process, this will allow for the engagement on differences, allowing for one to seek consensus and expect compromise through social dialogue.

- Accountability and transparency:

Undertaking the basic assessment process allows for accountability and transparency of the proposed development in an integrated manner, as the documents will be submitted for public participation, to any interested and affected party, and will be subject to comments, rejections and appeals, if necessary.

In the National Framework for Sustainable Development ("NFSD") (2008), it states that "The achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action or decision." As such, it is not expected that this proposed development will single handily achieve sustainable development, but it will contribute towards achieving sustainable development.

"The process to achieve sustainable development is an ongoing process that requires a particular set of values and attitudes in which economic, social and environmental assets that society has at its disposal, are managed in a manner that sustains human well-being without compromising the ability of future generations to meet their own need." The need and desirability of the proposed development is further emphasized as the proposed development forms part of the aforementioned on-going process. The proposed development conceptualizes the particular set of values and attitudes in which economic, social and environmental assets are required to be managed in order to sustain human well-being without compromising the ability of future generations to meet their own needs and effectively achieve sustainable development. This is done by making provision for the much-needed additional burial sites, at an existing cemetery site, recognized and accepted by the community.

In the South African current state, developmental needs (community needs) must firstly be determined through the planning processes (IDP, SDF and EMF). The need may be at the local, regional or national level. The proposed development is aligned with the planning processes and endeavours to contribute towards efforts aimed at reducing the housing backlog which is facing South Africa on a local, regional and national level. The proposed development will form part of an ongoing process to achieve sustainable development.

The Department's guideline on Need and Desirability (March 2013) states it is necessary to turn to the principles contained in NEMA in order to define "need" that relates to the interests and needs of the broader public.

In this regard the NEMA principles specifically inter alia require that environmental management must:

- Place people and their needs at the forefront of its concern and equitably serve their interests;
- Be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option;
- Ensure that decisions take into account the interests, needs and values of all interested and affected parties; and
- Ensure that the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

The Need and Desirability of the proposed development in terms of the Department's guideline on Need and Desirability (March 2013) is further emphasised through its alignment with the NEMA principles. The alignment of the proposed development with the aforementioned principles are

evident as the proposed development aims to place people and their needs at the forefront by providing expanding the existing " Goue Akker" cemetery in Beaufort West, in order to accommodate additional burial sites, that have been found to be insufficient in it's present state, to support the communities needs in the years to come, that has potentially been expedited by the occurrence of the global pandemic, COVID-19, a virus that is foreseen to be the cause of about 40 000 deaths in South Africa. By November 2020 (Gonzalez, 2020).

Relative specialist reports have been completed to aid decision making and fully understand all elements of the environment on site. As the specialist reports provide an insight into the environmental elements, provisions have been made for stringent public participation phases in order to take into account the interests, needs and values of all interested and affected parties. NEMA makes it evident that proposed developments must ensure that the environment and its resources must serve the public interest while protecting the environment.

The proposed development will serve the public's social, cultural/traditional, economic and ecological needs equitably. Through the identification of the adjacent aquatic no-go zone, development can be achieved while still maintaining a sensitive aquatic habitat identified adjacent to site. The proposed development will strive to secure ecological integrity, while the construction phase of the project will create multiple job opportunities, although short-term, it will benefit the local community, particularly as it is encouraged that labour be sourced locally.

SECTION F: PUBLIC PARTICIPATION

The Public Participation Process ("PPP") must fulfil the requirements as outlined in the NEMA EIA Regulations and must be attached as Appendix F. Please note that If the NEM: WA and/or the NEM: AQA is applicable to the proposed development, an advertisement must be placed in at least two newspapers.

1. Exclusively for linear activities: Indicate what PPP was agreed to by the competent authority. Include proof of this agreement in Appendix E22.

Not applicable, as this project is not inclusive of a linear activity, and it is located on one property.

2. Confirm that the PPP as indicated in the application form has been complied with. All the PPP must be included in Appendix F.

As per the Public Participation Plan attached in Appendix F.1. The following public participation has been conducted:

- Notice boards (as per Appendix F.2) in Afrikaans and English will be fixed at the following locations:
  - ✓ At the entrance to the existing Goue Akker Cemetery
  - ✓ As per image below:

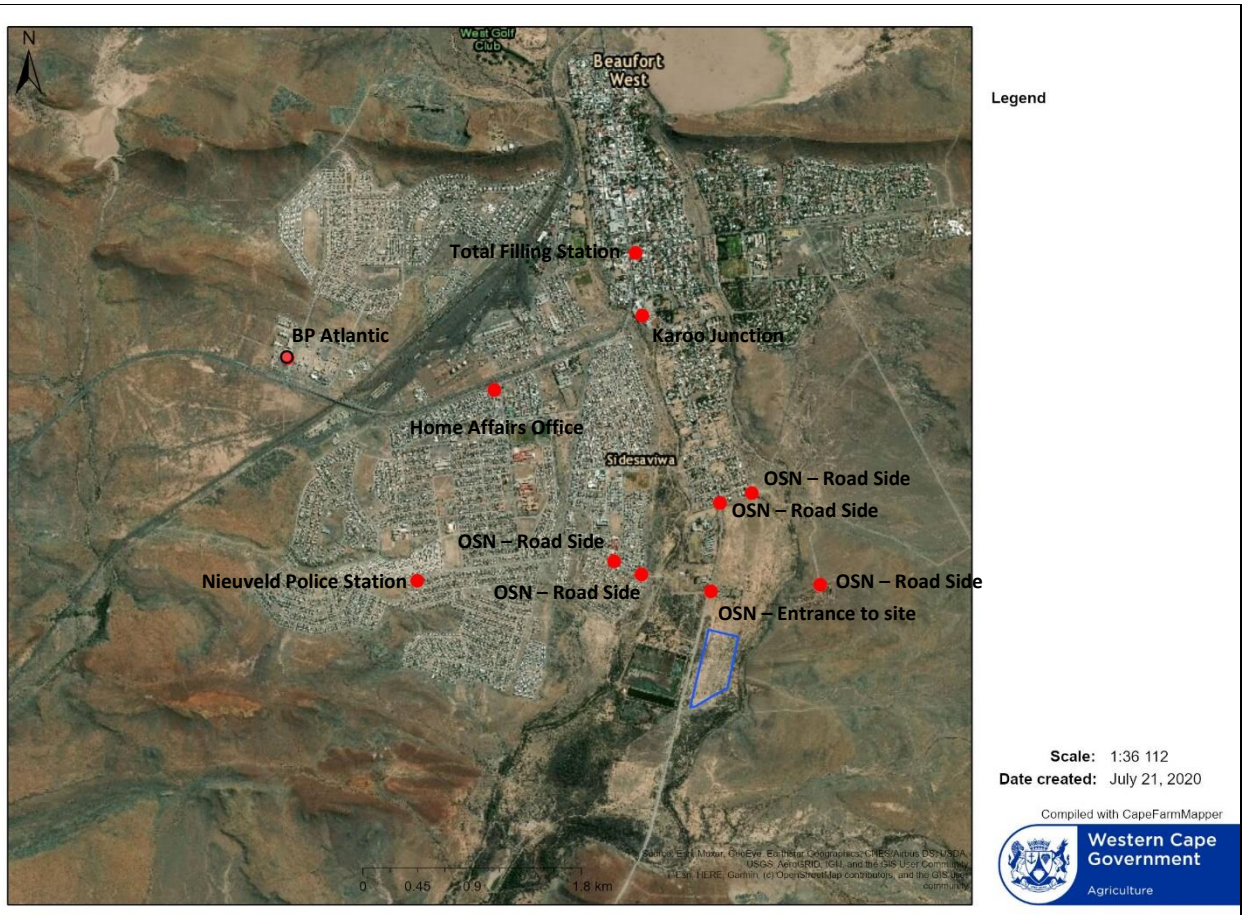

Figure 5: Proposed OSN placement

- An extensive I&AP database has been compiled, which identifies affected adjacent landowners, authorities, organs of state and other affected parties (See Appendix F.1 and F.3).
  - ✓ Notification will be via email notification, direct telephonic calls, Whatsapp Broadcasts, site notices and advertisement.

- An advertisement will be placed in the Die Courier, a newspaper which has both print and online readership, on Thursday, 20th August 2020.

- The proposal will also be advertised through the Beaufort West Municipality notification systems.

- I&AP's who do not have access to email:

  - ✓ Will be notified of the process via an sms or Whatsapp medium.
  - ✓ Information containing all relevant facts in respect of the application or proposed application will also be circulated in this way.

- I&AP's who identify disadvantages/disabilities preventing participation will be assisted accordingly.

- As per Government Notice No. 650 of 5 June 2020, Directions Regarding Measures to Address, Prevent and Combat the Spread of Covid -19 Relating to National Environmental Management Permits and Licences, direction 4.4. states that, "The prescribed timeframes of any services and actions referred to in the Annexures initiated after the date of

publication of these Directions are extended or deemed to be extended by a period of 30 days, on condition that where a service or action can be concluded within a shorter timeframe, it may be concluded within such shorter timeframe and on condition that the relevant authority may determine that a specific action must be performed by a specific date." Therefore:

- A 7-day period will be allowed from the date of the advert, to the commencement of the public participation period, for Interested and Affected Parties to obtain the relevant documentation.
- **The legislated public participation period for the Draft BAR will be from the 26th of August 2020 – 27th October 2020.**

In accordance with Regulation 19 of GN No. R. 982 of 4 December 2014 and the PP-plan agreed to by this Department, the Department has advised that the BAR must be submitted to this Department for decision within 120-days from the date of receipt of the application by the Department, 27th November 2020.

However, significant changes have been made, therefore the public participation plan has been revised and as per Regulation 19(1)(b) of GNR 326, of the Environmental Impact Assessment Regulations, 2014 (as amended 2017), the Department has been informed that the deadline for submission of the Final Basic Assessment Report, will need to be extended by a further 50-days (inclusive of 30-day public participation). The following significant changes were made:

- The inclusion of a Palaeontological Study and Integrated HIA.
- Inclusion of operational alternatives including vertical burial.

3. Confirm which of the State Departments and Organs of State indicated in the Notice of Intent/application form were consulted with.

Table 5: List of State Departments and Organs of State to be consulted during the Draft BAR public participation stage.

State Department / Organ of State	*Contact Person*	*Contact Details*
DEADP: Development Region 3	Mr S Kleinhans	Steve.Kleinhans@westerncape.gov.za
DEA&DP: Pollution Management	Arabel McClelland,	Arabel.McClelland@westerncape.gov.za
Breede-Gouritz CMA	Mr C Abrahams	cabrahams@bgcma.co.za
CapeNature	Mr C Fordham	cfordham@capenature.co.za
Heritage Western Cape	Ms W Dhansay	Waseefa.dhansay@westerncape.gov.za
Beaufort West Municipality	Mr Kosie Haarhoff (Municipal manager)	kosieh@beaufortwestmun.co.za
Beaufort West Municipality	Mr Christopher Wright	manager.techservice@beaufortwestmun.co.za
Central Karoo Route District Municipality	Mr. A. Koopman	andre@skdm.co.za / manager@skdm.co.za
Department of Agriculture	Mr C van der Walt	corvdw@eslenburg.com
Department of Forestry and Fisheries	Melanie Koen	MelanieKo@daff.gov.za
Department of Health	Mr J M Abrahams,	Manie.Abrahams@westerncape.gov.za

WCG: Transport and Public Works	Mr J Prodehl	Juan.Prodehl@westerncape.gov.za
Eskom: Land Development	Mr O Peters	PetersOw@eskom.co.za

4. If any of the State Departments and Organs of State were not consulted, indicate which and why.

- DEA&DP Coastal Management – as the development will not take place in close proximity of any coastal property.

5. if any of the State Departments and Organs of State did not respond, indicate which.

The following Organs of State and State Departments did not respond:

- DEA&DP: Pollution Management
- Beaufort West Municipality
- Department of Agriculture
- Department of Forestry and Fisheries
- WCG: Department of Health
- WCG: Transport and Public Works
- Eskom: Land Development

6. Provide a summary of the issues raised by I&APs and an indication of the manner in which the issues were incorporated into the development proposal.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
State/Provincial Departments					
1	CASE NUMBER: 20072207SB0724E The matter above has reference. Heritage Western Cape is in receipt of your application for the above matter received on 27 July 2020 This matter was discussed at the Heritage Officers meeting held on 17 August 2020. You are hereby notified that, since there is reason to believe that the proposed expansion of Goue Akker Cemetery, Remainder of Farm 185, Beaufort West will impact on heritage resources, HWC requires that a Heritage Impact Assessment (HIA) that satisfies the provisions of section 38(3) of the NHRA be submitted. This HIA must have specific reference to the following: - A field based paleontological impact assessment. The required HIA must have an integrated set of recommendations. Please note, should you require the HIA to be submitted as a Phased HIA, a written request must be submitted to HWC prior to submission. HWC reserves the right to determine whether a phased HIA is acceptable on a case by case Basis.	18 August 2020	Stephanie Barnardt	Heritage Western Cape	A paleontological study and Integrated HIA was conducted by Dr John Almond and Dr Lita Webley, in November 2020. The final report has been included in the BAR as Appendix G4.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	The comments of relevant registered conservation bodies; all Interested and Affected parties; and the relevant Municipality must be requested and included in the HIA where provided. Proof of these requests must be supplied. HWC reserves the right to request additional information as required. Applicants are strongly advised to review and adhere to the time limits contained the Standard Operational Procedure (SOP) between DEADP and HWC. The SOP can be found using the following link http://www.hwc.org.za/node/293. Should you have any further queries, please contact the official above and quote the case number.				The integrated HIA will be incorporated into this document and subjected to a 30-day public participation period, where the I&AP's will be allowed an opportunity to comment. It should be noted that while all existing and recommended I&AP's will be afforded the opportunity to comment, they cannot be compelled to provide a comment. Noted. Noted.
2	Dear Sir **COMMENT ON THE DRAFT BASIC ASSESSMENT REPORT IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998) ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2014 (AS AMENDED): THE PROPOSED EXPANSION OF THE EXISTING GOUE AKKER CEMETERY ON THE REMAINDER OF FARM NO. 185, BEAUFORT WEST**	23rd October 2020	Steve Kleinhans	Department of Environmental Affairs and Development Planning	

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	1. The abovementioned report received by this Directorate via e-mail on 21 August 2020, refers. 2. This Directorate has reviewed the information contained within the Draft Basic Assessment Report ("DBAR") and provides the following comment:			Development Management (Region 3)	
3	2.1. The Proposal From the DBAR it is understood that the proposal entails the expansion of the existing Goue Akker cemetery on the Remainder of Farm No. 185 in Beaufort West (hereafter referred to as "the property"). The existing cemetery is approximately eight hectares in size and is expected to reach full capacity in early 2021. To address this the Beaufort West Municipality proposes to expand the cemetery by approximately 8.2ha which will provide between 7 410 and 10 454 additional new burial spaces, which will be divided into 26 blocks. The proposal also includes the development of 4.5m wide internal roads, 100m long 90mm diameter water pipeline, 100m long 160mm diameter sewer, stormwater management infrastructure, and the construction of a caretaker and ablution facility. The proposal will be implemented approximate to Layout Plan 505510 GE 201 (Rev D) attached as Appendix B.1 of the DBAR.				

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	According to the information in the reports stormwater will be collected and dispersed by means of a proposed stormwater berm towards the East of the site channelling run-off to an existing low-lying disturbed area which will serve as a detention area. It is proposed to formalise the stormwater detention area / pond. However, it is unclear what the formalisation of the detention area and stormwater outlet structure entails e.g. formalisation by means of the shaping and compacting of earth material or construction of structures or hard surfaces (i.e. concrete or gabion/reno-mattress structures).				
4	2.2. Basic Assessment Report Requirements The BAR must contain all the information outlined in Appendix 1 of GN No. R. 982 of 4 December 2014 (as amended) and must also include the information requested in this letter. Omission of any of the said information may result in the application for Environmental Authorisation being refused. In this regard it must be ensured that the BAR contains the curriculum vitae of the appointed independent Environmental Assessment Practitioner ("EAP").				Noted. The EMPr, that forms a part of the Basic Assessment Report annexures (Appendix H), contains a copy of the EAP's CV (as per Appendix E of the EMPr). As this is not a required appendix as per the Basic Assessment Report template for Western Cape, it was not included as a stand-alone annexure. It can be included, in future.
5	2.3. Alternatives Please be advised that in terms of the Environmental Impact Assessment Regulations,				

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	2014 (as amended on 7 April 2017) ("EIA Regulations") and the National Environmental Management Act, Act No. 107 of 1998, as amended ("NEMA"), the investigation of alternatives in mandatory. In light of the above it is noted that two layout alternatives have been assessed in the DBAR namely: ❖ Layout Alternative 1 (preferred Alternative) This alternative will allow for the provision of approximately 10 545 burial sites on approximately 8.2ha and will be implemented approximate to Layout Plan 505510 GE 201 (Rev D) attached as Appendix B1.1 of the DBAR. ❖ Layout Alternative 2 This alternative will allow for the provision of approximately 7 410 burial sites on approximately 6.1ha and will be implemented approximate to Layout Plan 505510 GE 201 (Rev B) attached as Appendix B1.2 of the DBAR. Your EAP is requested to consider, assess and report on an alternative of "vertical burial" or "upright burial". This option may provide for greater densification, thereby increasing the lifespan or the facility or reducing the required area. A combination of horizontal burial and vertical burial should also be considered. It must be noted that any of the alternatives assessed as part of the application can be authorised by this Department. As such the EAP must provide				Noted. The BAR has been updated to include vertical burials as an operational alternative activity to horizontal burials, as well as a combination of the two, and cremation.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	a reasoned opinion on which of the alternatives should be authorised.				
6	2.4. Specialist Reports It is understood that specialist reports in respect of the Aquatic Biodiversity and Terrestrial Biodiversity Themes were undertaken prior to 9 May 2020. In such an instance proof the work was commissioned prior to said date (e.g. approved quotation for specialist assessment and/or proof of work being carried out) must be included in the BAR. Furthermore, such assessment reports must comply with the content requirements of Appendix 6 of the Environmental Impact Assessment Regulations, 2014 (Government Notice No. R. 982 of 4 December 2014 as amended on 7 April 2017) ("EIA Regulations, 2014"). Further to the above, this Directorate provides the following comment in respect of specialist reports/input:				Noted.
7	Biodiversity Survey / Botanical Impact Report The findings of the Biodiversity Survey compiled by Mark Berry Environmental Consultants have been noted. In this regard it is noted that the proposal will result in the loss of approximately 10ha of fair to good quality Southern Karoo Riviere vegetation. However; the impacts identified in Tables 1 and 2 of the report has not been properly defined. In this regard the "impact on vegetation type, habitat and				The tables are a summary of the expected impact and should be read in conjunction with the preceding text, not independently, therefore avoiding repetition of information.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	species" may be defined as loss of vegetation, increased erosion risk, etc.				There is mention of erosion, as the site is flat with a sandy substrate, it is expected to have good infiltration, it was therefore not considered a significant impact, however were it deemed significant, it would've been addressed in the report. Further recommendations may include, apart from hard-line engineering solutions, would be to cover exposed surfaces with plants or geo-netting (on slopes), but in this instance gravel surfaces may be needed where there is vehicular/pedestrian movement.
8	Freshwater Habitat Impact Assessment According to the findings of the Freshwater Habitat Impact Assessment compiled by Sharples Environmental Services cc, the impacts associated with the aquatic resources are considered to be of Low Significance, subject to the implementation of the proposed mitigation measures. In this regard it is noted that a 28-metre buffer is proposed between the Kuils River edge and the proposed expansion site. The site development plan must clearly show how this has been included.				The buffer was included in Appendix B2. Kindly refer to the orange line on the map, as per the legend, this is the specified 28m Aquatic Buffer.
9	Geohydrological and Geotechnical Assessment				The question in this statement is unclear.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	According to the Geohydrological and Geotechnical Assessment compiled by GEOSS South Africa (Pty) Ltd., the risk to groundwater associated with the cemetery site is from inter alia, contamination by decomposing bodies, chemicals used in the embalming process, metals from the ornamental hinges on coffins, etc. However, the findings of the study indicate that the underlying aquifer at the site has been classified as a fractured aquifer by the Department of Water Affairs and Forestry (now Department of Water and Sanitation) with a low to medium vulnerability to surface-based contaminants. Furthermore, it is noted that 10 trial pits were excavated by means of a Tractor-Loader-Backhoe ("TLB") with no groundwater intersected up to a depth of 3-metres. The findings of the geotechnical investigation indicate that a minimum depth of 1.4 metres (requirement of City of Cape Town By-law as published in Provincial Gazette No. 6898 on 12 August 2011) will be attainable using a TLB. However, on review of the Beaufort West Municipality By-law relating to cemeteries, exhumations and cremations (Notice No. 147/2005) the standard depths of graves are 1.5 metre for children, 1.8 metre for one adult body and 2.4 metres for two adult bodies. This Bylaw				Beaufort Municipal By-law relating to cemeteries, exhumations and cremations added to report. This includes burial depths 1.5 metre for children, 1.8 metre for one adult body and 2.4 metres for two adult bodies. This will be attainable with a TLB excavator fitted with a hydraulic hammer. Vertical burial would be difficult at this site. Vertical holes would most likely be augered to the required depth. In this case the auger will

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	(unless replaced or repealed) must form part scope of the specialist report. As such the specialist must confirm whether the depths specified in Notice No. 147/2005 will be attainable across the entire proposed site. In this regard, the alternative to include vertical-burial plots, must also be addressed in the Geohydrological and Geotechnical Assessment. Note: The City of Cape Town's By-law as published in Provincial Gazette No. 6898 on 12 August 2011 is not recognised as applicable to this application. Although certain elements or principles contained in the document may be utilised to explain the assessment of the proposed development or as reference. It is expected of the specialist to have the necessary expertise to compile a specialist report addressing the requirements of Appendix 6 of the EIA Regulations, 2014, specifically a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change. The author could reference such a by-law/policy document but would have to clearly explain how any components thereof may be applicable to this project. Please be reminded that the applicant must provide the EAP and specialist with access to all				not be able to penetrate the boulders or calcretes. This section in the report has been amended. Question unclear. Existing impacts include the exiting cemetery. Cumulative impacts are addressed in the risk tables. No levels of change would be acceptable in this case as the groundwater used surrounding the cemetery is used for Municipal supply as drinking water. Any form of groundwater contamination would impact negatively on this source. Question unclear. All information will be made available.

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	information at the disposal of the applicant regarding the application (including By-laws and guidelines), whether or not such information is favourable to the application. From the report it is noted that mitigation measures have been proposed in order to reduce groundwater contamination. It is this Directorate's considered view that the mitigation measures associated with coffin size and materials, ornamental metals, etc. are not feasible and not considered reasonable to implement. The socio-economic aspects of proposed mitigation measure must also be considered.				The main contaminant risks are not generally associated with the decomposition of the body, and pertain more to the burial process, entombing/encasing and ornaments. While these contaminant risks can strictly speaking be mitigated against, the practicalities of enforcing them are very challenging and unlikely to occur.
10	Agricultural Theme According to the DBAR an Agricultural Compliance Statement has not been completed despite the fact that the property is zoned Agriculture Zone I and the Screening Tool assigning a Medium sensitivity for the Agricultural Theme. However, relevant aerial photography suggests that a portion of the proposed site may have been cultivated approximately 14 to 15 years ago. This has also been confirmed in the specialist botanical report. As such please advise your EAP that the Agricultural Protocol applies and must be implemented.				Following a desktop study and site visit, it was confirmed, and included in the Site Sensitivity Verification Report, attached to the Application for Environmental Authorization,that the Agricultural Theme should be altered to low significance. The site is highly transformed and located south of the existing cemetery. Taking into consideration the conservative nature of the Beaufort West community (as was established when undertaking the information gathering on vertical burials), the possibility of the site being utilized for agricultural purposes of both

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					a commercial and subsistence nature, is highly unlikely. In terms of Section 15(2)(b) of the Regulations relating to the Management of Human Remains, R363 of May 2013, "all burial sites must be located at least 500 m from the nearest habitable building", it is clear that there is an imminent need to expand the cemetery, and expansion is prohibited from the west (location of the existing Blythe Street), east (Kuils River), leaving the north and south. If the expansion is allowed to proceed to the north, this will compromise the environmental requirement as stated in the Regulation relating to the Management of Human Remains. A new location will be costly and require excessive planning, also resulting in a loss of time. Therefore, the only feasible alternative is an expansion to the south, utilizing this area in a manner that provides a service to the community, and aligns with Section 15(2)(b) of the Regulations relating to the Management of Human Remains, R363 of May 2013.
11	Paleontological Theme According to the DBAR a Paleontological Impact Assessment has not been undertaken as yet and the need for such assessment will be guided by the response by Heritage Western				

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	Cape ("HWC"). According to the information contained in the application form submitted to this Department on 30 July 2020 the Notice of Intent to Develop (NID) was submitted to the HWC on 22 July 2020. As such the comment from HWC must be included as Appendix E1 of the BAR or a Revised BAR and any studies required by the HWC must be undertaken and included in the BAR. In such an instance the Standard Operating Procedure between Heritage Western Cape and this Department must be followed. It is unclear how the processes will be synchronised in the event where a heritage study will be required. Please be advised that failure to synchronise the process may prejudice the outcome of the application for environmental authorisation.				A Paleontological Study has been initiated and will contain an integrated set of recommendations. This report will form a part of our next public participation period, therefore will be made available for comment.
12	2.5. Other legislation				
13	National Heritage Resources Act, 1999 In addition to the Please note that section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) ("NHRA") sets out the requirements regarding the integration of the decision-making proses with that of the EIA Regulations 2014; however, under the proviso that the necessary information is submitted and any comments and recommendations of the relevant heritage resources authority (HWC) with regard to such development have been provided and taken into account prior to the				Interactions with HWC to incorporate all requirements have commenced and will be duly addressed in the BAR.

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	granting of the authorisation. Please ensure that both these requirements are complied with prior to submitting the BAR.				
14	National Water Act, 1998: According to the Freshwater Habitat Impact Assessment the proposed expansion of the Goue Akker cemetery may be generally authorised in terms of Section 21 (c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) ("NWA") due to the low risk associated of the proposal on the watercourses in the vicinity of the site. In this regard it is noted that an application for the registration of the water uses has been submitted to the Department of Water and Sanitation ("DWS"). As such confirmation that the proposal has been generally authorised must be included in the BAR. Notwithstanding the above, in the event where the DWS indicates that a Water Use License ("WUL") is required, please be advised that the applications for environmental authorisation and WUL must be synchronised. You are reminded that if these processes are not properly aligned, the lack of synchronisation; omission of any reports/information; or delay as a result thereof, may prejudice the success of the application for environmental authorisation.				The General Authorisation was received on the 25th of August 2020, and a copy will be made available as an attachment to the revised BAR. No Water Use License is required, as the General Authorisation was sufficiently approved and clarity has been provided, by BGCMA, that no license is required.

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15	National Health Act, 2003: Management of Human Remains With reference to this Directorate's letter (Ref: 16/3/3/6/7/1/C3/1/0095/20) dated 8 July 2020, the applicability of the of the Regulations Relating to the Management of Human Remains (GN. R363 of 22 May 2013) promulgated under the National Health, 2003 (Act No. 61 of 2003), must be determined. The relevant authority (inter alia the Central Karoo District Municipality and National Department of Health) must be consulted regarding the above and written comment must be obtained how all the provisions of the Regulations Relating to the Management of Human Remains (GN. R363 of 22 May 2013), apply to the proposed development and whether exemption from said regulations is applicable. Such comment must be included in the BAR.				The relevant authorities have been included in the public participation I&AP list, however, no comments were provided within the specified timeframe. They will be included in the public participation phase required for the revised BAR, however, they are entitled to respond at their discretion and cannot be compelled to do so.
16	Conservation of Agricultural Resources Act, 1983: According to the information contained in the report the property is currently zoned Agriculture Zone I. Moreover, the land on which the expansion is proposed has not been cultivated within the preceding 10-year period. As such the land is considered virgin soil which, according to the Conservation of Agricultural				

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	Resources Act, 1983 (Act No. 43 of 1983) ("CARA"), means land which in the opinion of the executive officer has at no time during the preceding ten years been cultivated. In light of the above you are required to obtain comment from the Western Cape Government: Department of Agriculture's Land Use Management office (% Mr. Cor van der Walt). Such comment must be included in the BAR.				The relevant authorities have been included in the public participation I&AP list, however, no comments were provided within the specified timeframe. They will be included in the public participation phase required for the revised BAR, allowing them the opportunity to comment, however, we cannot compel them to comment. The I&AP's are to provide comments at their own discretion. The EAP takes all relevant measures to ensure contact is made, and comments are encouraged, through personal phone calls and follow-up communications.
17	2.6. Environmental Management Programme The contents of the Environmental Management Programme ("EMPr") must meet the requirements outlined in Section 24N (2) and (3) of the NEMA (as amended) and Appendix 4 of GN No. R. 982 of 4 December 2014. The EMP must address the potential environmental impacts of the activity throughout the project life cycle, including an assessment of the effectiveness of monitoring and management arrangements after implementation (auditing).				Noted.

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	This Department has reviewed the EMPr as included and received as part of the DBAR. The following aspects must be addressed:				
18	Environmental Auditing There appears to be contradictory statements with regard to the auditing of the environmental authorisation and the EMPr. According to Section 15.3.2 ("Duties of the ECO") the Environmental Control Officer ("ECO") will be responsible to submit a final post-construction inspection report / audit report within six months of completion of the construction phase. However, Section 17.1 of the EMPr indicates that audits must be undertaken every six months by an auditor, which may not be the appointed ECO. In light of the above a clear distinction must be made between the reports which must be submitted by the ECO and the Independent Environmental Auditor. The ECO is required to compile and submit: • the environmental monitoring reports / compliance monitoring reports, and • post-construction rehabilitation				This will be clarified appropriately, and the positions defined, along with unique duties of each position.

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	Whereas, the environmental audit report must be compiled and submitted by an independent person with the relevant environmental auditing expertise. In this regard please note that the environmental auditor may not be the EAP or the ECO. Furthermore, the timeframes of the submission of monitoring reports, post-construction rehabilitation report and the audit report must be clearly described in the EMPr.				Timeframes will be addressed.
19	General The EMPr contains measures related to the adherence health and safety legislation and general construction matters. Please note that this will have an influence on the auditing of compliance with the EMPr since all measures included in the EMPr needs to be audited. As such it is advised that any additional information or guidance to what is specified in Appendix 4 and Section 24N of NEMA, should be clearly separated from the body of the report (i.e. appendices). Furthermore, it is also requested that the terminology in the EMPr related to the execution of tasks be checked for consistency. Terms such as "should" and "may", which do not provide clear instruction or cannot be enforced, must be avoided in the document.				Noted.

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20	2.7. Public Participation Process It must be ensured that the Public Participation Process ("PPP") meets the requirements of Regulation 41 of the Environmental Impact Assessment Regulations, 2014 (as amended) and be in line with the agreed Public Participation Plan ("PP-plan") (compiled by Sharples Environmental Services cc, Reference: 22/PPPlan/BW Cemetery/06/2020, Dated: July 2020) agreed to by this Department on 17 July 2020. Furthermore, your EAP is requested to submit a declaration which outlines all reasonable measures that have been taken to identify potential Interested and Affected Parties ("I&APs") for purposes of conducting public participation on the application. Such a declaration may be included as part of the Public Participation Report. Please note that the EAP must consult with every organ of state that administers a law relating to a matter affecting the environment relevant to that application for environmental authorization. The omission of written comment from such organs of state may prejudice the outcome of the application.				The I&AP register will be updated and included in the public participation plan, and the requested declaration form will form part of the Appendix C of the public participation plan.
22	GENERAL 3. Submission of Basic Assessment Report				

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	In accordance with Regulation 19 of GN No. R. 982 of 4 December 2014 and the PP-plan agreed to by this Department, the Department hereby stipulates that the BAR must be submitted to this Department for decision within 120-days from the date of receipt of the application by the Department. However, if significant changes have been made or significant new information has been added to the BAR, the applicant/EAP must notify the Department prior to the 120-days lapsing that an additional 80-days would be required for the submission of the BAR. The additional 80 days must include a minimum 60-day commenting period to allow registered I&APs to comment on the revised report/additional information. If the BAR is not submitted within 120-days or 200-days (whichever applicable), the application will lapse in terms of Regulation 45 of Government Notice Regulation No. 982 of 4 December 2014 and your file will be closed. Should you wish to pursue the application again, a new application process would have to be initiated. A new Application Form would have to be submitted. Note: In accordance with Environmental Impact Assessment best-practice, you are				Noted. The public participation plan has been revised and an email has been communicated to the DEA&DP Officer advising that an extension will be required, of 50-days.

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	required to notify all registered Interested and Affected Parties including the authorities identified in the Public Participation Plan of the submission of the BAR and to make the document available them. This will provide such parties an opportunity to review the document and how their issues were addressed. The BAR must be made available to such parties within five (5) calendar days of the submission of the document to the Competent Authority.				
23	4. Please note that one (1) printed copy as well as one (1) electronic copy of the document must be submitted to the Department for consideration. Your EAP is advised to make the necessary arrangements with the George Regional Office support staff with regard to the submission of the printed / hardcopies. Due to the current measures being implemented by the Department[1] to address, prevent and combat the spread of COVID-19 and until such time that the Department requires otherwise, all applications, reports and documents, which include all signatures and Annexures which are included as part of the application and subsequent reports, must be submitted via e-mail to the relevant official, with attached PDF versions of letters and reports. If the documents are too large to attach to an e-mail, the competent authority must be notified per e-mail and provided with				Noted. This will be undertaken.

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	an electronic link to such documents that is accessible by the relevant authority. Note: The Directorate: Development Management (Region 3), has created a generic e-mail address to centralise its administration within the component (i.e. notifying clients of decisions and receiving EIA applications, Notice of Intent form; request for fee reference numbers, etc.) Please make use of the new e-mail address too when submitting such documents: DEADPEIAAdmin.George@westerncape.gov.za				
24	5. Please note that the activity may not commence prior to an Environmental Authorisation being granted by the Department. It is an offence in terms of Section 49A of the NEMA for a person to commence with a listed activity unless the Department has granted an environmental authorisation for the undertaking of the activity. Failure to comply with the requirements of Section 24F and 49A of the NEMA will result in the matter being referred to the Environmental Compliance and Enforcement Directorate of this Department for prosecution.				Noted. The applicant will be advised.
25	6. Kindly quote the above-mentioned reference number in any future correspondence in respect of the application.				Noted, this will be used in future correspondence.

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26	7. This Department reserves the right to revise or withdraw initial comments or request further information from you based on any information received.				Noted.
27	Dear Ms Ameesha Sanker THE PROPOSED EXPANSION OF THE EXISTING "GOUE AKKER" CEMETERY ON THE REMAINDER OF FARM NO.185 IN BEAUFORT WEST LOCAL MUNICIPALITY, WESTERN CAPE DEA&DP Reference: 16/3/3/1/D5/11/0006/20	29 October 2020	Ms M. Simons	CapeNature	
28	CapeNature would like to thank you for the opportunity to review your application on the remainder of farm 185 in Beaufort West. The applicant proposes to expand the "Goue Akker" cemetery by approximately 82 500 m2, ablution and caretaker facility by approximately 69 m2. Please note that our comments only pertain to the biodiversity related impacts and not to the overall desirability of the application. According to the Western Cape Biodiversity Spatial Plan (WCBSP 2017)1 the Kuilsriver flows along the eastern boundary and National Freshwater Ecosystem Priority Area (NFEPA) wetlands are mapped west of the property, which is surrounded by waste water treatment				

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	works. The river is part as an FEPA river corridor and the Great Karoo watercourse protection. Ecological Support Areas (ESA 1: Terrestrial/Aquatic and ESA 2: River/Wetlands) is mapped along the border and within the proposed expansion area. The vegetation unit on the property is Least Concerned Southern Karoo Riviere as listed in the draft ecosystem threat listings for the updated National Biodiversity Assessment (2018)2. Satellite Imagery would appear to confirm the botanical assessment in that the proposed expansion site is disturbed. It should be noted that in arid habitats disturbed areas could take years to rehabilitate, even from temporary disturbances. Therefore, after construction rehabilitated illegal waste disposal areas and the watercourse, where required, with indigenous vegetation.				Noted. Rehabilitation will be undertaken in all areas disturbed by the proposed construction activities, as per the proposed scope of works, within the allocated working corridor. Labor will not encroach upon the watercourse, within the identified 28m buffer area. Only indigenous vegetation will be utilized for rehabilitation purposes.
29	CapeNature is satisfied with the impacts and recommendations from the botanical and freshwater assessments. Both assessments indicated low impacts associated with the proposed expansion if the proposed mitigation measures are strictly implemented.				Noted. All proposed mitigation from both the botanical and freshwater assessments, have been included in the BAR and EMPr.
30	Several mammals are crepuscular or nocturnal and difficult to observe directly. We recommend including faunal species in the search and rescues. Furthermore, search and				The BAR and EMPr impact and mitigation tables will be updated to include search and rescue of fauna, throughout construction phase.

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	rescues must be continuous throughout the construction phase. During the clearing of indigenous vegetation and alien invasive plants, areas susceptible to erosion must be protected. It is essential to clearly mark invasive alien plants that will be treated with herbicides to avoid damaging and distinguishing indigenous vegetation.				Erosion control measures have been included in the EMPr. The BAR and EMPr will be updated to include the recommendation for the use of eco-friendly markers for alien invasive plant species identification. It has been recommended that the distinction is between alien invasive and indigenous species be clearly communicated to the labor, during inductions/awareness talks.
31	In terms of the Alien and Invasive Species regulations, specific alien plant species are either prohibited or listed as requiring a permit; aside from restricted activities concerning, inter alia, their spread, and should be removed; without the use of heavy machinery3, especially in close proximity to the watercourse. To prevent the dispersal of alien seeds, we recommended frequently washing construction vehicles and machinery away from any watercourse.				Clearance of alien invasive species will occur by hand, and no heavy machinery will be permitted, for this purpose. No heavy machinery or personnel will be permitted within the 28m buffer. Maintenance and washing of vehicles have been advised to take place on a bunded area, where the stormwater is channeled appropriately.
32	Stormwater run-off and soil disturbance might affect the river, especially in periods with high run-off. For that reason, minimized water run-off				

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	and pollution run-off as the river is in close proximity to the site. Strictly adhere to stormwater management in order to avoid any negative impacts to the adjacent riverine system. Implement topsoil management during the removal of topsoil to prevent soil erosion and contamination. The topsoil used in the rehabilitation phase should not be contaminated. Removal of waste, generated during the expansion, must disposed at a registered disposal facility. Implement the integrated waste management approach that addresses waste avoidance, reduction, re-use, recycling, recovery, treatment, and safe disposal as a last resort4.				Erosion control and stormwater management measures have been advised in the BAR and EMPr. Mitigation measures and soil management have been recommended in the BAR and EMPr. Waste Management and disposal have been recommended in the EMPr and BAR. The integrated waste management approach will be recommended.
33	CapeNature is satisfied with the proposed mitigation measures and rehabilitation plan as prescribed in the Environmental Management Programme. The Environmental Control Officer (ECO) should be present, if possible, during the clearing of alien plant species and vegetation to ensure the implementation of the proposed mitigation and rehabilitation measures and to identify any				Noted. The ECO's presence has been advised during any major environmental disturbance, as well as to consistently monitor compliance throughout the phases of project. Specific recommendation will be made for the ECO to

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	harmful activities during the construction and operational phases.				be present throughout clearance or alien invasive species, and rehabilitation.
34	In conclusion, the proposed site is transformed therefore we do not object to the proposed expansion. Throughout the development, the impact on the indigenous vegetation has to be minimal and erosion avoided, if possible. The proposed development should be restricted to the expansion footprint no disturbance should be beyond the 28 m aquatic buffer zone. CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received. Yours sincerely				Noted. Noted.
35	Dear Sir/ Madam COMMENT ON THE DRAFT BASIC ASSESSMENT REPORT PROPOSED EXPANSION OF THE EXISTING GOUE AKKER CEMETERY ON FARM NO 185, BEAUFORT WEST. With reference to the application received by the Breede-Gouritz Catchment Management Agency on 21 August 2020 and after having had the opportunity to assess the application, herewith the following: 1. Please note that the proposed activities constitute of a section 21 c & I water uses. A	29 October 2020	Jan Van Staden	Breede-Gouritz Catchment Management Agency.	Noted. General Authorization was obtained on 25th August 2020.

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	general authorization for the maintenance of culverts and associated infrastructure has been confirmed buy this office. It is the responsibility of the applicant to adhere to the conditions as stipulated in the General Authorisation, no 509, dated 26 August 2016.				
36	2. This office does not have any objections to the proposed expansion of the existing Goue Akker cemetery on farm 185, Beaufort provided all the proposed mitigation measures are implemented and adhered to during the construction and operation phase of the project. Notwithstanding the above, the responsibility rests with the applicant to identify any sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water ACT 1998 (Act 36 of 1998) could lead to legal action being instituted against the applicant.				Noted. Noted. The applicant will be advised.
37	The BGCMA reserves the right to revise initial comments and request information based on any additional information that might be received,				Noted.
38	Dear Sir/ Madam PROPOSED EXPANSION OF THE EXISTING GOUE AKKER CEMETERY ON FARM NO 185, BEAUFORT WEST.	29 October 2020	Jan Van Staden	Breede-Gouritz Catchment Management Agency.	

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	With reference to the application received by the Breede-Gouritz Catchment Management Agency on 21 August 2020 and after having had the opportunity to assess the application, herewith the following: 1. Please note that the proposed activities constitute of a section 21 c & I water uses. A general authorization for the maintenance of culverts and associated infrastructure has been confirmed buy this office. It is the responsibility of the applicant to adhere to the conditions as stipulated in the General Authorisation, no 509, dated 26 August 2016.				Noted. General Authorization was obtained on 25th August 2020.
39	2. This office does not have any objections to the proposed expansion of the existing Goue Akker cemetery on farm 185, Beaufort provided all the proposed mitigation measures are implemented and adhered to during the construction and operation phase of the project. Notwithstanding the above, the responsibility rests with the applicant to identify any sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water ACT 1998 (Act 36 of 1998) could lead to legal action being instituted against the applicant.				Noted. Noted. The applicant will be advised.
40	The BGCMA reserves the right to revise initial comments and request information based on				Noted.

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	any additional information that might be received,				
41	Ref. nr.: 18/9/4/3 Dear Sir PROPOSED EXPANSION OF THE EXISTING GOUE AKKER CEMETERY ON THE REMAINDER OF FARM NR.185 IN BEAUFORT WEST.	11 November 2020	G. E. van Zyl (Manager Municipal Health Services)	Central Karoo District Municipality	
42	1. The Beaufort West Municipality's proposed expansion of their existing Goue Akker Cemetery refers.				
43	2. The proposed expansion as well as the existing site is within the catchment of the Kuils River. Cemeteries are ideally situated where the water table is low, and at a distance from water sources such as rivers to avoid contamination.				Noted. It has been confirmed that the water table is low. In addition, a 28m aquatic buffer has been recommended, and can be accommodated without directly affecting the proposed development.
44	3. In terms of Section 15(2) of the Regulations relating to the Management of Human Remains, R363 of May 2013, all burial sites must comply with the following environmental requirements: - a) Be located outside the 100-year floodplain; b) Be located at least 350 m from ground water sources used for drinking				Noted. The development is outside of the 100-year floodplain. No existing boreholes are located within 350m's of the proposed sites. The existing cemetery already resides within 500m radius of the nearest habitable building (located to the north), the expansion will occur at the southern

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	purposes and at least 500 m from the nearest habitable building;				boundary of the existing cemetery and proceed south until the existing road.
	c) For a preferred burial site with a soil of sand-clay mix of low porosity and a small and fine grain texture, the water table should be at least 2.5m deep in order to allow for traditional grave depth of 1.8 meters;				Noted. According to the Geotechnical Report, the soil profile exhibits clayey sandy SILT, upto approximately 3m's, with the occurrence of boulders or calcrete between 1.60 - +3.00m's. The traditional depth can be accommodated. Noted. The water table is considered to be deep, compared to the shallow burial depths therefore minimal impacts are expected, upon groundwater and proximal drainage channels.
	d) For areas with higher water tables, the local government may determine a reasonable depth with additional walling recommendations to protect underground water; and				Noted. This is one reason why vertical burials are not considered the preferred operational alternative.
	e) The covering soil shall not be less than 1 m, should two bodies be buried in the same grave, 300mm of soil shall be maintained between the coffins.				

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45	4. Exemptions to these regulations – Regulation 2 (2): a) A local government may, with the approval of the Director-General, in writing exempt any person from compliance with any provisions of these regulations where, in the opinion of the local government, non-compliance does not or will not create a health nuisance, health hazard or endanger human health; and that b) Such exemptions shall be subject to such conditions and valid for such a period as the local government may, with the approval of the Director-General or delegated person, lay down and stipulate. c) A local government must issue a certificate of exemption to a person, for exemption of any provision of these regulations.				Noted. Noted. Noted.
46	5. If any of the requirements referred to under point three (3) of this Notice cannot be met, the Section Municipal Health Services must be informed and needs to apply for approval from the Director General of the Department National Health to exempt the Beaufort West Municipality from any non-compliances in terms of Regulation 15(2).				All requirements under point 3, of Section 15(2) of the Regulations relating to the Management of Human Remains, R363 of May 2013, have been met.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
47	6. Over and above the set requirements / recommendations in the Environmental Management Programme, Geohydrological and geotechnical assessment etc., the Section Municipal Health Services of this Council has no other inputs, under the following conditions, namely that: a) Surface or ground water must not be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met. b) Any solid waste must be disposed of at a waste disposal facility licensed in terms of applicable legislation. c) The applicable requirements with respect to relevant legislation pertaining to occupational health and safety must be adhered to. d) The holder of the Environmental Authorisation must always ensure that the construction activities comply with				Appropriate mitigation measures have been recommended in the BAR and EMPr. Legislative requirement have been met in terms of the General Authorization, therefore it has been issued on 25th August 2020. Noted. This has been recommended in the BAR and EMPr. Noted. Noted. The BAR and EMPr have addressed this, and this will be included in toolbox talks and environmental inductions. Noted, this has been included in the BAR and EMPr.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
	the Noise Control Regulations in terms of the relevant legislation, namely – e) All noise and sound generated during all phases of the proposed development, as well as during the operation of the Cemetery, must comply with the relevant SANS codes and standards. f) Dust suppression methods must be used to mitigate dust during the construction phase. g) Adequate ablution facilities must be provided on site during construction. The ratio of 15 people per ablution facility must not be exceeded.				Noted, this has been included in the BAR and EMPr. Noted, this has been included in the BAR and EMPr.
48	7. Notwithstanding the Environmental Authorization, the holder must comply with any other statutory requirements that may be applicable when undertaking these activities.				Noted.

Comments Received during the (30-Days) Public Participation on the Draft Basic Assessment Report.					
Nr	**Comment Received**	**Date Received**	**I&AP**	**Company / Representing**	**Response**
49	8. Good practices will also include the maintenance of norms and standards, having a good set of by-laws, and having electronic software to assist the Municipality in cemetery management. Yours sincerely,				Noted.

Note:

A register of all the I&AP's notified, including the Organs of State, and all the registered I&APs must be included in Appendix F. The register must be maintained and made available to any person requesting access to the register in writing.

The EAP must notify I&AP's that all information submitted by I&AP's becomes public information.

Your attention is drawn to Regulation 40 (3) of the NEMA EIA Regulations which states that "*Potential or registered interested and affected parties, including the competent authority, may be provided with an opportunity to comment on reports and plans contemplated in subregulation (1) prior to submission of an application but **must** be provided with an opportunity to comment on such reports once an application has been submitted to the competent authority.*"

All the comments received from I&APs on the pre -application BAR (if applicable and the draft BAR must be recorded, responded to and included in the Comments and Responses Report and must be included in Appendix F.

All information obtained during the PPP (the minutes of any meetings held by the EAP with I&APs and other role players wherein the views of the participants are recorded) and must be included in Appendix F.

Please note that proof of the PPP conducted must be included in Appendix F. In terms of the required "proof" the following is required:

- a site map showing where the site notice was displayed, dated photographs showing the notice displayed on site and a copy of the text displayed on the notice;
- in terms of the written notices given, a copy of the written notice sent, as well as:
  - if registered mail was sent, a list of the registered mail sent (showing the registered mail number, the name of the person the mail was sent to, the address of the person and the date the registered mail was sent);
  - if normal mail was sent, a list of the mail sent (showing the name of the person the mail was sent to, the address of the person, the date the mail was sent, and the signature of the post office worker or the post office stamp indicating that the letter was sent);
  - if a facsimile was sent, a copy of the facsimile Report;
  - if an electronic mail was sent, a copy of the electronic mail sent; and
  - if a "mail drop" was done, a signed register of "mail drops" received (showing the name of the person the notice was handed to, the address of the person, the date, and the signature of the person); and
- a copy of the newspaper advertisement ("newspaper clipping") that was placed, indicating the name of the newspaper and date of publication (of such quality that the wording in the advertisement is legible).

SECTION G: DESCRIPTION OF THE RECEIVING ENVIRONMENT

All specialist studies must be attached as Appendix G.

1. Groundwater

1.1.	Was a specialist study conducted?	**YES**	~~NO~~
1.2.	Provide the name and or company who conducted the specialist study.		
Specialist Name: Charl Muller & Dale Barrow Company: GEOSS South Africa (Pty) Ltd			
1.3.	Indicate above which aquifer your proposed development will be located and explain how this has influenced your proposed development.		
The underlying aquifer at the site is classified as a fractured aquifer with an average yield potential of 5.0 L/s, as is the existing cemetery. As the trial pits were found to contain no water, it was determined that the aquifer would have minimal effect on the proposed development.			
1.4.	Indicate the depth of groundwater and explain how the depth of groundwater and type of aquifer (if present) has influenced your proposed development.		

The underlying aquifer at the site is classified as a fractured aquifer with an average yield potential of 5.0 L/s. Whereas, mapping of the regional groundwater quality, as indicated by electrical conductivity (EC) the area is in the range of 70 – 300 mS/m. This is considered to be "good to moderate" quality for groundwater, with respect to drinking water standards.

From the hydrocensus, it is clear that the number of groundwater users surrounding the proposed site is limited, however, the water is mainly used for drinking. No groundwater was intersected in any of the ten trial pits, therefore the location of this aquifer will have minimal influence on the proposed development, as the potential for contamination is low.

2. Surface water

2.1.	Was a specialist study conducted?	**YES**	~~NO~~
2.2.	Provide the name and/or company who conducted the specialist study.		
Specialist: Debbie Fordham Company: Sharples Environmental Services .cc			
2.3.	Explain how the presence of watercourse(s) and/or wetlands on the property(ies) has influenced your proposed development.		

The wastewater treatment works was identified as an artificial wetland, similar to the NFEPA results shown in Figure 7. While the Kuils River has been identified along the Eastern boundary of the proposed site, and is considered the closest watercourse, and the most likely watercourse to be impacted upon by the proposed development.

Figure 6: Kuils River channel observed during the Freshwater Impact Assessment investigations.

Two ephemeral rivers, Gamka and Kuils River, were identified within the area, characteristic of Lower Foothills rivers with a very gentle gradient mixed bed alluvial channel. The systems are of similar ecological integrity as they share biophysical characteristics and have been similarly impacted by land use and cover changes. The site will fall within the catchment of the Kuils River, a dryland river system, and it may be impacted by site clearance, stormwater runoff and soil disturbance.

Historically, landcover changes including town infrastructure and overgrazing have impacted the catchment. As a result of land degradation, the site appears sparsely vegetated and degraded, and exhibits rill erosion which transports surface flows and large amounts of sediment, into the riparian area to the east (downslope). Currently, large amounts of building rubble is continually being illegally dumped in small heaps around the entire area, with additional large amounts of solid domestic waste and organic refuse being dumped into the drainage lines.

There have been washes identified in and around the surrounding area, however no washes have been found within or directly surrounding the site and none of these systems will be impacted upon by the proposed cemetery expansion.

The riparian vegetation is largely comprised of *Acacia karroo, Prosopis* sp. (alien), *Lycium ferocissimum, Pennisetum clandestimum* (alien), and *Cynodon dactylon*.

The finding of the Freshwater Impact Assessment, established that due to the significant impacts of catchment land cover changes, alien plant infestation, and the dumping of waste, the Kuils River is assessed as a Fair 'C' moderately modified in terms of Present Ecological State and a Moderate 'C' in terms of ecological importance and sensitivity which places it in Recommended Ecological Category 'C' which advocates the maintenance of the system.

As a result, a recommendation has been made to establish a 28 m aquatic buffer zone between any proposed activities and the river edge.

The impacts are considered to be easily mitigated provided the mitigation measures and monitoring plan within the specialist report and EMPr are implemented and adhered to during the construction and operational phase of the project. Mitigation measures must focus on avoiding sensitive areas as far as possible and stabilising erosion features.The proposal is deemed acceptable from an aquatic habitat perspective.

A General Authorisation was obtained from Breede Gouritz Catchment Management Agency, fulfilling the water use requirements of the National Water Act (Act 36 of 1998) (see Appendix E23).

3. Coastal Environment

3.1.	Was a specialist study conducted?	~~YES~~	**NO**
3.2.	Provide the name and/or company who conducted the specialist study.		
Not applicable, as the proposed expansion is located approximately 180km's away from any coastal property.			
3.3.	Explain how the relevant considerations of Section 63 of the ICMA were taken into account and explain how this influenced your proposed development.		
ICMA was not applicable, as this property is not located on a coastal property and has no impact on a coastal environment.			
3.4.	Explain how estuary management plans (if applicable) has influenced the proposed development.		
Estuary management plans have had no influence on the proposed development, as this property is not located within close proximity to an estuary.			
3.5.	Explain how the modelled coastal risk zones, the coastal protection zone, littoral active zone and estuarine functional zones, have influenced the proposed development.		
None of these zones have influenced the proposed development, as the property does not lie within any of these zones.			

4. Biodiversity

4.1.	Were specialist studies conducted?	**YES**	~~NO~~
4.2.	Provide the name and/or company who conducted the specialist studies.		
Specialist: Mark Berry Company: Mark Berry Environmental Consultants			
4.3.	Explain which systematic conservation planning and other biodiversity informants such as vegetation maps, NFEPA, NSBA etc. have been used and how has this influenced your proposed development.		

During the qualitative assessment, plant species not identified in the field, were collected and/or photographed and identified at the office and Compton (Kirstenbosch) Herbarium. The 2012 South African Vegetation Map and the latest floristic taxonomic literature and reference books were used for the purpose of this botanical specialist study. The assessment follows Brownlie's (2005), CapeNature and other relevant guidelines for biodiversity assessments.

The following planning and biodiversity informants were utilized in preparation of the Biodiversity Assessment Report:

- National List of Ecosystems that are threatened and in need of protection (DEA, 2011).
- A broad-scale structural classification of vegetation for practical purposes (Edwards, D. 1983).
- Declared weeds and alien invader plants in South Africa (Henderson, M., Fourie, D.M.C., Wells, M.J. & Henderson, L. 1987).
- Plants of the Greater Cape Floristic Region 1: the Core Cape flora (Manning, J. & Goldblatt, P. 2012).
- The vegetation of South Africa, Lesotho and Swaziland (Mucina, L. & Rutherford, M.C. (eds), 2006).
- Geological Journeys: a traveller's guide to South Africa's rocks (Norman, N. & Whitfield, G. 2006).
- The Western Cape Biodiversity Spatial Plan Handbook (Pool-Stanvliet, R., Duffell-Canham, A., Pence, G. & Smart, R. 2017).
- Karoo: South African Wild Flower Guide 6 (Shearing, D. & Van Heerden, K. 1994).
- Biodiversity Assessment of the Central Karoo District Municipality (Skowno, A.L., Holness, S.D. & Desmet, P. 2009).

Furthermore, the Western Cape, Cape Farm Mapper tool has been utilized for desktop purposes, identifying NFEPA wetlands, and CBA and ESA areas.

Following these investigations, it has been established that the site falls marginally within an ESA area, and does border onto a mapped NFEPA (National Freshwater Ecosystem Priority Areas) wetland, which partly surrounds the adjacent wastewater treatment works, the cemetery footprint will not affect the wetland directly. No evidence of any wetlands was found on site.

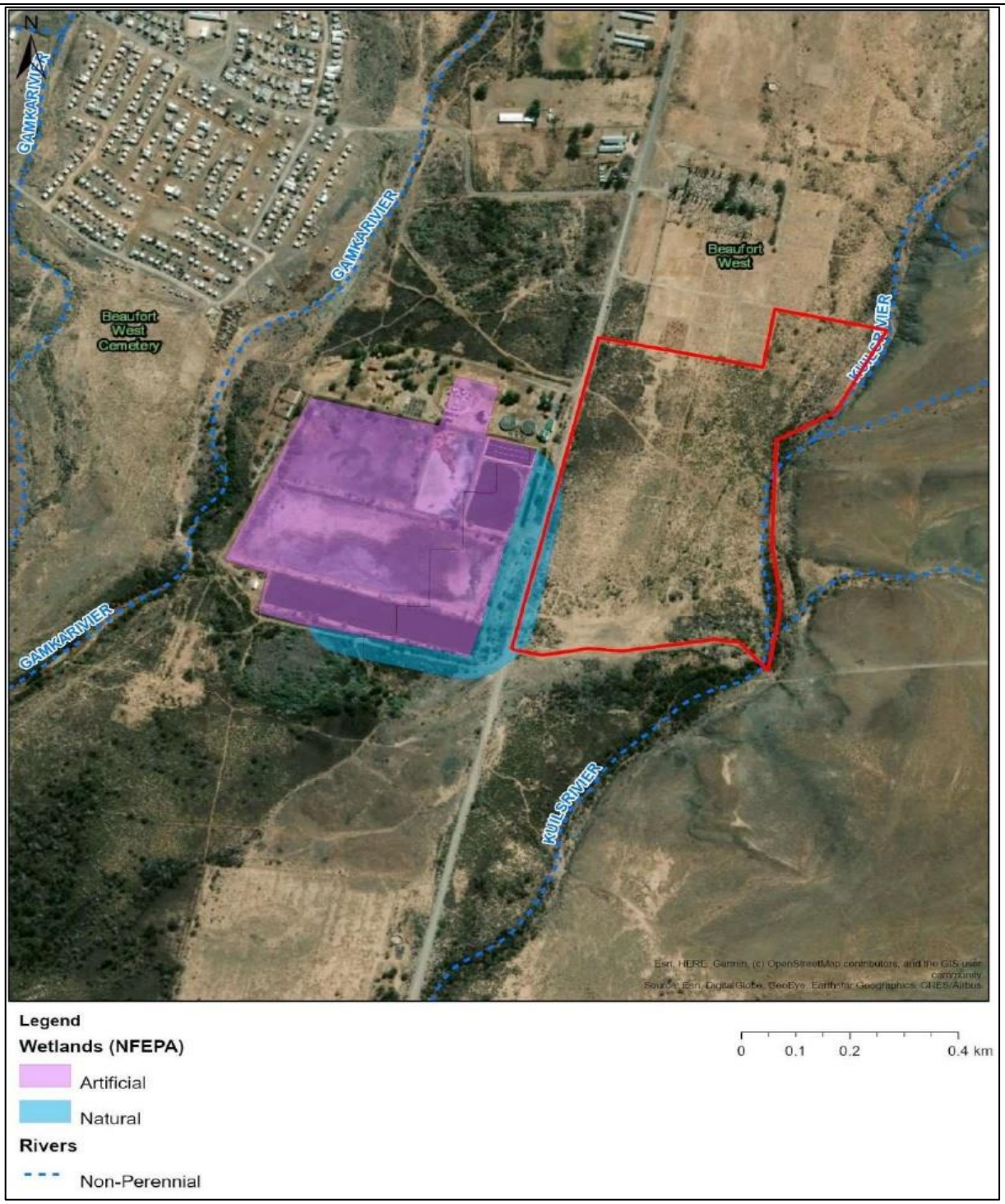


Figure 7: Satellite photo illustrating the surface hydrology of the study area. Source: Cape Farm Mapper (Extracted from the Botanical Assessment Report, April 2020)

4.4.	Explain how the objectives and management guidelines of the Biodiversity Spatial Plan have been used and how has this influenced your proposed development.

The Botanical Assessments highlights the CBA's and ESA's within close proximity to the proposed site. CBA's are defined as areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure (Pool-Stanvliet et al. 2017). While ESA's are supporting zones required to prevent the degradation of CBA's and Protected Areas.

It has been confirmed that the site only marginally affects an ESA (See figure 8).

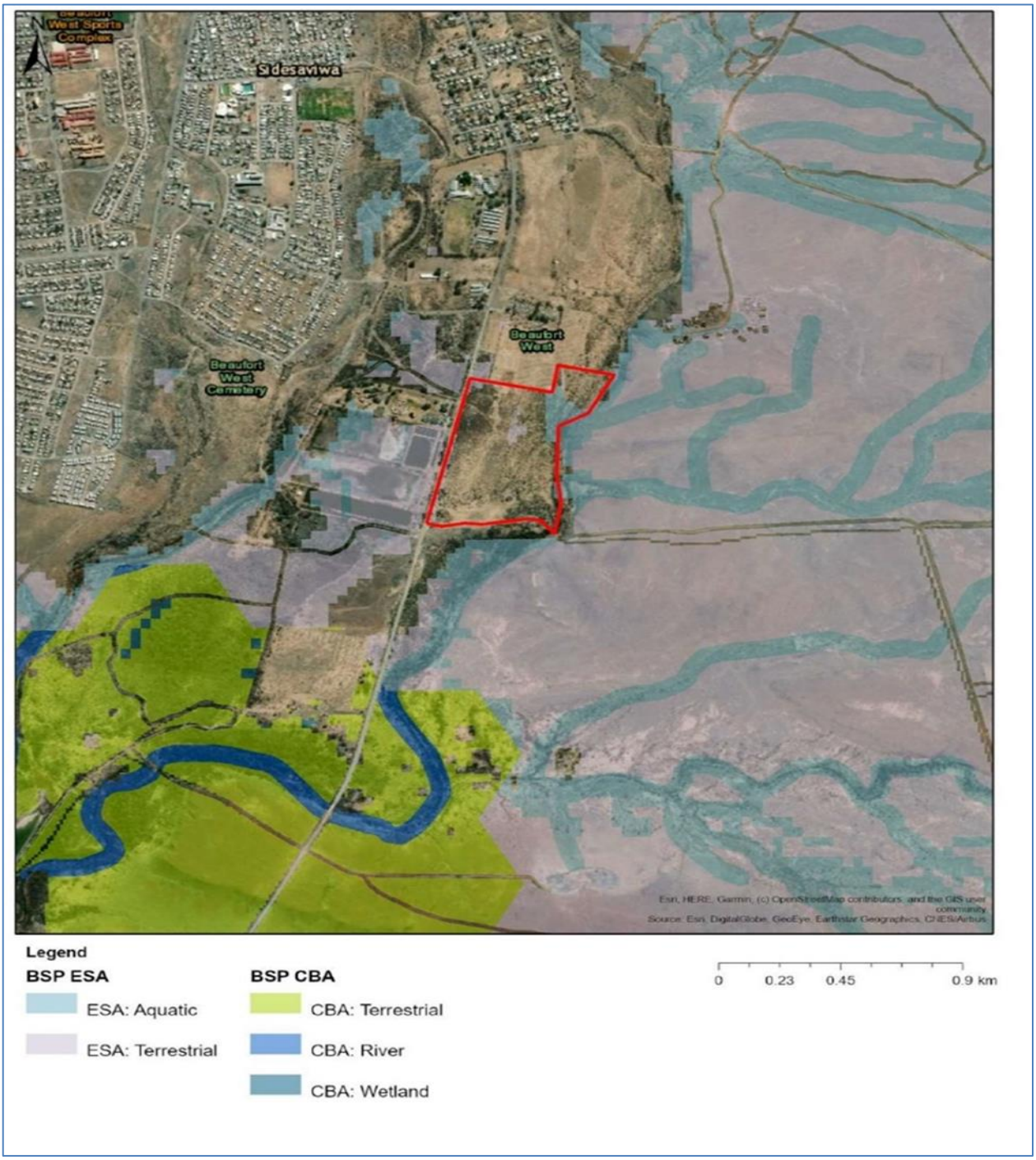


Figure 8: Biodiversity network map (Source: Cape Farm Mapper), with the site outlined in red.

4.5.	Explain what impact the proposed development will have on the site specific features and/or function of the Biodiversity Spatial Plan category and how has this influenced the proposed development.

The site resides within the Nama-Karoo Biome, identified as a vast arid shrubland area. According to the Vegetation Map of South Africa (Mucina & Rutherford 2006) the dominant vegetation types include Southern Karoo Riviere and Gamka Karoo (see figure 9).

The study site falls within Southern Karoo Riviere, while the slightly elevated (rockier) area west of the Kuils River is covered by Gamka Karoo. The general condition of the Riviere vegetation is fair to good. Structurally, it can be described as a short (±0.6 m) closed (±40% cover) shrubland following Edward's (1983) classification of structural formations. *Vachellia karroo* (Karoo thorn) and *Prosopis glandulosa* (muskietboom) (declared invasive thorn tree), are prominent (2-4 m) emergent species in the area. Small clumps of the latter species were observed along the Kuils River and in the south western corner of the site.

Indigenous shrub species recorded include:

- *Caroxylon aphyllum,*
- *Tetraena retrofracta,*
- *Sesamum capense* (common in riverbeds and disturbed areas),
- *Vachellia karroo,*
- *Pentzia incana,*
- *Gazania krebsiana,*
- *Gomphocarpus filiformis,*
- *G. fruticosus,*
- *Malephora latipetala* (dominant in places),
- *Drosanthemum hispidum,*
- *Lampranthus uniflorus,*
- *Mesembryanthemum coriarium,*
- *M. cf. granulicaule,*
- *Trichodiadema pomeridianum* (recorded in Gamka Karoo vegetation on western side of Kuilsrivier),
- *Asparagus sp,*
- *Aptosimum indivisum,*
- *Lycium oxycarpum,*
- *L. horridum,*
- *L. cf. cinereum*.

Grasses recorded include:

- *Chloris virgate,*
- *Dactyloctenium cf. aegyptium*.

Considerable disturbance was noted in the southern part (waste dumping), as well as in the north-western corner (vegetation stripped next to the existing cemetery). The site enjoys easy and unrestricted access from the town. A few dirt tracks and an Eskom powerline also cross the site. A significant presence of invasive cacti (possibly from garden refuse) and *Prosopis glandulosa* was noted, especially in and around the waste dumping area and along the Kuils River. It should be noted that all the species of invasive/exotic, found on this site, are listed invasive aliens in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) Alien and Invasive Species List (2016). It should be further noted that the harbouring of *Atriplex nummularia* (Category 2 invader) on a property is prohibited without a permit.

Invasive alien species identified on site:

- *Opuntia elata,*
- *Cylindropuntia fulgida var. mamillata* (boxing glove cactus),
- *Tephrocactus articulatus*
- *Trichocereus spachianus.*

Exotic weeds identified on site:

- *Atriplex nummularia* (old man salt bush),
- *A. lindleyi subsp. inflata, A. semibaccata,*
- *Salsola kali,*

- *Tribulus terrestris,*
- *Argemone ochroleuca,*
- *Xanthium spinosum,*
- *Solanum elaeagnifolium,*
- *Portulaca oleracea.*

The proposed expansion will result in the removal of approximately 10ha of Southern Karoo Riviere, which was found to be well represented in the larger area, it is not classified as threatened. Furthermore, there were no species of conservation concern, regional endemics or protected species, found within the study area. Therefore, the impact on vegetation type per se is of a low to moderate concern.

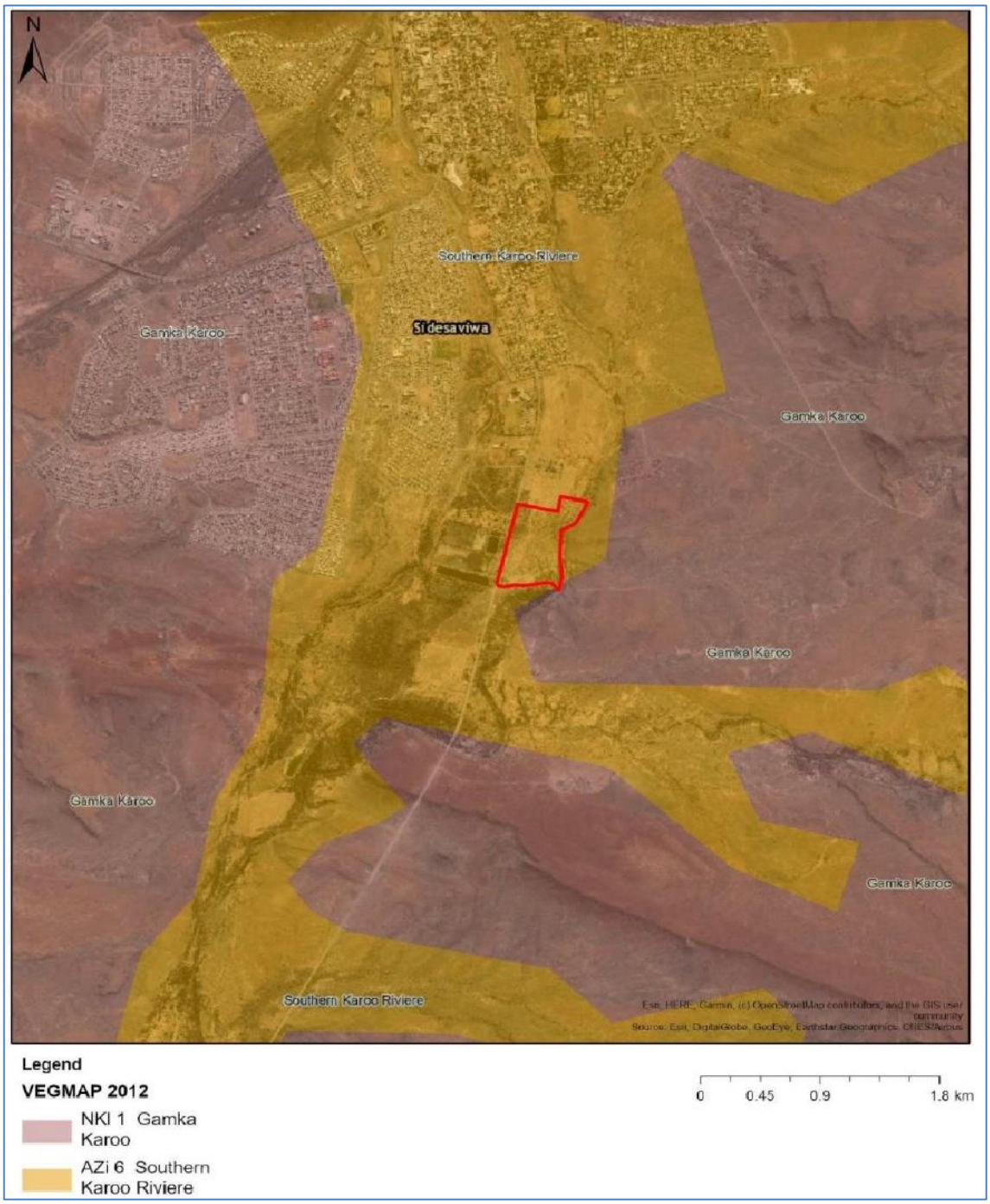


Figure 9: Biodiversity network map (Source: Cape Farm Mapper), with the site outlined in red.

4.6.	If your proposed development is located in a protected area, explain how the proposed development is in line with the protected area management plan.

The development is not located within a protected area.

4.7.	Explain how the presence of fauna on and adjacent to the proposed development has influenced your proposed development.

No fauna was identified during the site assessment/study. However, it has been noted in the screening tool that the animal species theme within this area, is indicated to be of medium sensitivity, with features such as *Reptilia-Chersobius boulengeri* (the cape tortoise) and *Mammalia-Bunolagus monticularis* (the riverine rabbit).

The current site is notably disturbed,, disturbance includes dumping of construction waste, dirt tracks, and an existing Eskom powerline. It is highly probable that any fauna would avoid these areas of disturbance and would predominantly be found closer to the watercourse and further east.

Should fauna be identified on site, appropriate mitigation measures will be provided in the EMPr, including but not limited to:

- Search and rescue of ay fauna on site, daily, prior to commencement of activities.
- The appropriate procedures will be highlighted in the environmental inductions undertaken for all personnel on site.
- No fauna will be harmed intentionally, and precautions will be implemented to reduce the occurrence of accidental interactions with the labour or construction activity.

5. Geographical Aspects

Explain whether any geographical aspects will be affected and how has this influenced the proposed activity or development.

The study area is situated in the Western Cape on the outskirts of Beaufort West with surrounding topography comprising of low relief, with an average elevation of 830 m above mean sea level (mamsl).

This topography is ideal for the proposed development. No bulk stormwater infrastructure will be required, the stormwater will be collected and dispersed by means of a proposed stormwater berm towards the East of the site, channeling run-off to an existing low-lying disturbed area which the Engineers propose to be formalized into a stormwater detention area.

Accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater.

6. Heritage Resources

6.1.	Was a specialist study conducted?	**YES**	NO
6.2.	Provide the name and/or company who conducted the specialist study.		

Palaeontological Study: Dr John Almond, November 2020
Brief archaeological survey: Madelon Tusenius
Integrated HIA: Dr Lita Webley, November 2020.

6.3.	Explain how areas that contain sensitive heritage resources have influenced the proposed development.

The following Heritage Resources were identified:

- The site is adjoining, and directly south, of the existing Goue Akker Cemetery and on the banks of the Kuils River.
- The current site is undeveloped and covered in a mix of indigenous and exotic vegetation. There are no structures on the site. No archaeological remains were identified by M. Tusenius.
- The Palaeontological Impact Assessment was conducted by Dr John Almond on the 8th November 2020. He notes the following: "No Permian or Caeonozoic fossils were observed within the cemetery expansion study area itself. No fossil remains were recorded in good exposures of the Teekloof Fromation and overlying alluvial deposits in the beds and banks of the Kuils River which are all situated on the periphery of and outside the study area".

Dr John Almond has concluded that the palaeo-sensitivity of the site is in fact Low and the Impact Significance of the development is rated as LOW (-ve) without mitigation. This assessment applies to all project alternatives. The No-Go option (i.e. no cemetery expansion) would have a neutral impact on local fossil heritage resources.

The expansion of the cemetery will have no impact on the local archaeology of the area. While there is a possibility of informal burials in the alluvial soils of the Kuils River, such as elsewhere in Beaufort West, the likelihood of this is considered Low. Similarly, the impacts on the Cultural Landscape, which include the banks of the Kuils River are considered to be low in view of the Goue Akker Cemetery to the north, and the wastewater treatment works to the west of the site.

As recommended by Dr Lita Webley, any potential discovery of important new fossil remains – such as vertebrate fossil bones and teeth, petrified wood, plant-rich lenses or layers, fossil shells, fish remains or dense fossil burrow assemblages – during the construction of operational phases of the cemetery, no further specialist palaeontological studies or mitigation area recommended for this project.

A protocol for Chance Fossil Finds has been incorporated into the Environmental Management Programme (EMPr), in order to guide construction activities on procedure and management, should fossils be encountered..

7. Historical and Cultural Aspects

Explain whether there are any culturally or historically significant elements as defined in Section 2 of the NHRA that will be affected and how has this influenced the proposed development.

During the Integrated Heritage Impact Assessment, November 2020, it was established that historically, the village of Beaufort (later Beaufort West) was established on the loan farm "Hooyvlakte in de Carro" initially granted to GR Opperman in 1760, as well as the adjoining farm of Boesjesmanberg. In 1818, a narrow strip of land between the Gamka and the Kuils River was selected for the establishment of the town. The Dutch Reformed Church parish was established in 1825 and the municipality in 1837. The town plans in Fransen (2006) clearly show the layout of the early erven. They show that the banks of the Kuils River were considered "good arable land" and this is supported by aerial photographs of 1945 (Fransen 2006: 172) and the Google Earth images which indicate that the study area was being used for agricultural purposes as recently as 2005. The history of the town is marked by frequent floods which are further described by Fransen (2006) and Marais (1977) and suggest that the banks of the both the Gamka and Kuils River have been much altered by flooding.

Cemeteries
It was noted in the Integrated Heritage Impact Assessment, November 2020, that there were human burials uncovered accidentally on Erf 909, on the corner of Thompson and Grimbeeck Streets, some 2 km north of the Goue Akker Cemetery. The report concludes that this "informal burial ground" may have been a paupers' burial ground dating to between the mid-19th century and early 20th century. It is clear that the banks of the Gamka and Kuils River may have been used informally as burial grounds in the past.

Cultural Landscape
The landscape can be described as undeveloped lands covered in a mix of indigenous salt bushes and exotic cacti, located on the banks of the Kuils River which flows through Beaufort West. Historically, the site was used for agriculture. A wastewater treatment plant is situated immediately to the west of the site.

There are therefore already significant impacts on the landscape of the area. The proposed cemetery, to the south of the existing Goue Akker Cemetery, is in keeping with the current use of the land. It is not anticipated that the expansion of the cemetery will have any impacts on the cultural landscape of the area. Therefore, the proposed site is favourable for expansion purposes, and will positively influence the development.

8. Socio/Economic Aspects

8.1.	Describe the existing social and economic characteristics of the community in the vicinity of the proposed site.

Beaufort West is identified as a town with high development potential and a high social need. According to the Beaufort West Integrated Development Plan 2019/2020 Review, it is estimated that about 70% of the District population resides in Beaufort West possibly due to the merging of administrative areas, i.e. the Beaufort West municipal area and the former District Management Area (DMA) and in-migration from other provinces. Which has had a significant impact on the demand and the level of service delivery (especially in Beaufort West).

According to the Socio-Economic Profile: Beaufort West (2017), deteriorating financial health of households and individuals under the weight of economic pressures, specifically between 2011 and 2015, has resulted in an increase in the poverty levels, according to the Poverty Trends in South Africa report released by Statistics South Africa in 2017. The rise in indigent households within Beaufort West has been quite dramatic in recent times. This sudden increase can potentially be linked to job losses within the agricultural sector and the influx of citizens that move from outlying smaller towns to Beaufort West in search of employment opportunities.

According to the Socio-Economic Profile: Beaufort West (2017), Beaufort West has the highest unemployment rate amongst all local municipalities within the Central Karoo. Although this rate has gradually been decreasing in Beaufort West between 2008 and 2011, unemployment intensified in the post-recessionary period. Unemployment in Beaufort West is also notably higher than the Western Cape average.

8.2.	Explain the socio-economic value/contribution of the proposed development.

The proposed development will provide a service to a steadily growing population, creating a safe and designated area for people of various cultures, economical levels and beliefs, to respectfully lay their loved ones to rest, in an area that is close to the community, controlled and maintained. Through the undertaking of the Technical Report and Motivation for the Expansion of the Existing "Goue Akker" Cemetery in Beaufort West compiled by Aurecon (dated 23 October 2019), it has been established that the "Goue Akker" cemetery with a capacity of approximately 16 months (at the time of the study), before reaching capacity, indicating the imminent need for the expansion of the cemetery.

This is further influenced by the occurrence of a global pandemic known as the Coronavirus or COVID-19, that has resulted in multiple deaths across the Western Cape province. While there is no way to accurately predict the potential number of lives that will be lost as a result of this pandemic, it has to be acknowledged that the expansion of the cemetery needs to be a priority in order to be efficiently support the needs of the Beaufort West community.

The construction of the proposed development will improve on the existing access road and will entail the clearance of vegetation, the construction of storm water berms, and a caretaker/ablution facility, therefore during construction, labour may be sourced from the surrounding local community, resulting in job creation, and skills training.

During operational phases, the cemetery will need to be secured to prevent vandalism, the landscape will need to be maintained for many years to come, this results in further job creation, which do not require an extensive skillset, and can therefore enable members of the lower income groups to acquire work.

8.3.	Explain what social initiatives will be implemented by applicant to address the needs of the community and to uplift the area.

The proposed development will provide a community service that is essential to every member of the community, as the loss of life can be unpredictable and difficult to plan for. The expansion of the cemetery will give the community peace of mind, to respectfully lay their deceased to rest, ensuring the culture and practices are respected.

8.4.	Explain whether the proposed development will impact on people's health and well-being (e.g. in terms of noise, odours, visual character and sense of place etc) and how has this influenced the proposed development.

The proposed development will result in fairly limited noise and dust production, as well as visual disturbance during construction, however this will not be a high level of disturbance or risk and will be temporary. The proposed site is surrounded by existing roads, a wastewater treatment plant, Kuils River and the existing extent of "Goue Akker" cemetery, therefore there is limited potential for impacts upon residents and their homes.

During the operational phase the proposed development will be fenced, the area landscaped and prepared as and when plots are required. The proposed development will impact upon the community's sense of place, due to the change of site from undeveloped to developed. It is considered to be of low impact, as it is the expansion of the existing cemetery, rather than the development of a new cemetery.

As the cemetery is being developed to serve the community's needs, by meeting the demand for additional burial space, the development will cater to the communities needs in a positive manner, and provide reassurance to the existing community, with regard to the provision of community services.

SECTION H: ALTERNATIVES, METHODOLOGY AND ASSESSMENT OF ALTERNATIVES

1. Details of the alternatives identified and considered

1.1.	Property and site alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred property and site alternatives.

There is only one preferred property, RE/185, which currently encompasses a large portion of the Beaufort West town, wastewater treatment works, and existing cemetery. The preferred site is situated to the south of the existing "Goue Akker" cemetery, located on Farm RE/185, and is conveniently bordered by the existing cemetery to the north, Blyth Street to the west and the Kuils River to the east.

The site is covered in a mix of exotic and indigenous species, and evidence is present of agricultural usage in the distant past (2005). It is currently highly transformed and disturbed, with evidence of dumping in various locations.

An application was submitted to Beaufort West Municipality Planning Department on the 5th of June 2020, for the following:

(i) In terms of Section 15(2)(a) of the Beaufort West Municipality By-Law on Municipal Land Use Planning, 2019, for the rezoning of a portion of the Remainder of the Farm 185, Beaufort West from "Agricultural Zone I" to a "Sub divisional area" to make provision for:
- 1 Open Space Zone II erf (±25,407ha);
- 1 Utility Zone erf (±20,9823 ha); and
- 1 Remainder Agricultural Zone I erf.

(ii) Consent use in terms of Section 15(2)(o) to permit a cemetery on the Open Space Zone II erf.
(iii) Subdivision of the Remainder of Farm 185 in terms of Section 15(2)(d) in order to give effect to the above approved sub divisional zoning.

This was approved on the 16th of October 2020 (see Appendix E21).

Provide a description of any other property and site alternatives investigated.

No other property alternative will be considered.

Provide a motivation for the preferred property and site alternative including the outcome of the site selectin matrix.

The preferred property will accommodate the expansion of the existing, and successfully functioning "Goue Akker" cemetery. The "Goue Akker" Cemetery is a significantly large cemetery (compared to other cemeteries in Beaufort West), located on the outskirts of the Beaufort West town, with available space adjacent to the existing site, which can accommodate multiple additional grave sites. Other cemeteries are surrounded by development and seem to be located within central areas of Beaufort West. By expanding from the southern border of the "Goue Akker" cemetery site, it will ensure that the expansion will occur further away from residential dwellings.

Following a Freshwater Impact Assessment, and Botanical Impact Assessment, it was found that the site conditions in its current state is disturbed, and through the implementation of this project, the site will be maintained, and illegal dumping as well as the encroachment of alien invasive species, will cease. The Geohydrological study has established that contamination potential common to cemeteries, will be low on this site.

Therefore, under the guidelines and recommendations of these studies the site will be ideal for this expansion.

Provide a full description of the process followed to reach the preferred alternative within the site.

No alternatives were considered. The local municipality owns the land and have initiated this development. Considering it is an expansion, it is ideal.

Provide a detailed motivation if no property and site alternatives were considered.

No alternatives were considered. The local municipality owns the land and have initiated this development. Considering it is an expansion, and the site is bound by Blyth Street to the west, and Kuils

River to the east, and any movement toward the north would bring the cemetery closer to the existing residential dwellings, the proposed site and location is ideal.

List the positive and negative impacts that the property and site alternatives will have on the environment.

Positive Impacts of the preferred site:

- Located away from residential development, on the outskirts of the Beaufort West town.
- Existing infrastructure will be utilized, as compared to further impact from additional new infrastructure establishment.
- The site is already disturbed due to anthropogenic activities and alien invasive species, the proposed development will assist in the clearance of these issues and will assist in prohibiting further disturbance.
- The site can efficiently accommodate 101 545 burial sites that are proposed.
- The groundwater conditions are ideal to accommodate this development.
- Soil conditions are ideal, indicating good infiltration.

Negative impacts of the preferred site:

- It is located adjacent to the Kuils River, and this aquatic habitat is a functioning habitat, therefore care must be taken to limit disturbance to this area.
- As there are existing, physical borders, should the site be needed to be expanded in the future, this will be limited.

1.2.	~~Activity alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.~~

~~Provide a description of the preferred activity alternative.~~

~~Provide a description of any other activity alternatives investigated.~~

~~Provide a motivation for the preferred activity alternative~~.

~~Provide a detailed motivation if no activity alternatives exist.~~

~~List the positive and negative impacts that the activity alternatives will have on the environment.~~

1.3.	Design or layout alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts

Provide a description of the preferred design or layout alternative.

The preferred layout will accommodate approximately 101 545 burial sites extending to 82 500m^2. This proposed layout will extend from the southern border of the existing cemetery, to the road located at the southern border of the proposed site (Farm RE/185), and will entail the construction of a 69m^2 ablution/caretaker facility, upgrading of the existing access road, and clearance of alien vegetation, while efficiently accommodating the proposed stormwater techniques and measures associated with the stormwater berms and detention pond, as proposed by the Engineers.

Provide a description of any other design or layout alternatives investigated.

The alternative 2 layout will accommodate only 7 410 burial spaces and will extend from the southern border of the existing "Goue Akker" cemetery, to approximately halfway of the preferred Farm RE/185 site. This alternative will be approximately 61 287m^2 and is proposed outside of the buffer zone and 100-year floodline.

Provide a motivation for the preferred design or layout alternative.

The preferred layout will accommodate approximately 94 135 burial spaces more than the proposed alternative 2: layout. All the proposed infrastructure, including the proposed stormwater measures and techniques, will be accommodated outside of the buffer zone and 100-year floodline. The extent of

this layout will allow for the illegal dumping located at the north and south of the proposed site, to be ceased, as the fencing will prohibit further access and will allow for the current waste to be removed.

Provide a detailed motivation if no design or layout alternatives exist.

There are two alternatives investigated, as described above.

List the positive and negative impacts that the design alternatives will have on the environment.

Preferred Alternative 1 Layout:
Positive:

- Encompasses all proposed infrastructure including stormwater, outside of the buffer zone and 100-year floodline.
- Will allow for majority of the site to be cleared, allowing alien invasive and waste clearance.
- Prohibits access into the property, therefore not allowing further illegal dumping in this area.
- The site will accommodate 94 135 more burial spaces than the alternative 2 layout, utilizing more of the site. This discourages further illegal dumping or possible land encroachment.
- Will be located further away from residential dwellings, as compared to the original "Goue Akker" Cemetery.

Negative:

- Clearance will be extensive, therefore dust dispersal, and noise will be created, disturbing the surrounding environment.
- Possible accidental intrusion of construction labour into the aquatic area, or from construction activity.
- Disturbance to vegetation and fauna due to this intrusion.

Alternative 2 Layout:
Positive:

- Less clearance and dust creation.
- Will remain outside of the buffer zone and 100-year floodline.
- Will be located further away from residential dwellings, as compared to the original "Goue Akker" Cemetery.

Negative:

- Allows for the illegal dumping in the South to continue, and possibly allow for land encroachment as the southern portion of the site will remain vacant and accessible.
- Persistence of alien invasive species.
- Stormwater infrastructure may be inadequate as the stormwater will need to be channelled efficiently to the proposed low-lying area identified for the detention pond.

~~1.4.~~	~~Technology alternatives (e.g., to reduce resource demand and increase resource use efficiency) to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.~~

~~Provide a description of the preferred technology alternative:~~

~~Provide a description of any other technology alternatives investigated.~~

~~Provide a motivation for the preferred technology alternative.~~

~~Provide a detailed motivation if no alternatives exist.~~

~~List the positive and negative impacts that the technology alternatives will have on the environment.~~

1.5.	Operational alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts.

Provide a description of the preferred operational alternative.

Horizontal burial is the Preferred Operational Alternative 1 (OA1). In terms of this assessment the burial being referred to is a method of disposing of a dead body, sometimes in a coffin or some other vessel, in an excavated pit/burial plot. Horizontal burial is the manner in which the coffin is laid in the ground for burial purposes, whereby the coffin/vessel is positioned lengthwise, parallel with the bottom of the rectangular excavated pit/burial plot, at a 90 degree angle to the profile, indicative of being "laid to rest". This is common practice in most cemeteries and is widely recognized in many cultures as an acceptable method of burial.

Provide a description of any other operational alternatives investigated.

Three operational alternatives were considered:

Operational Alternative 1 (OA2): Vertical burial

- Vertical burial is whereby a body, either in a coffin or other ideally equipped vessel, is lowered into the ground via a specialized pulley system, feet first, resulting in an upright coffin/vessel, parallel with the profile of the excavated pit.

Operational Alternative 2: (OA3): Combination of Vertical and Horizontal Burial

- As described in Alternative 1 and Alternative 2, these are optional methods of burial.

Operational Alternative 4 (OA4): Cremation

- Cremation is the disposal of a human body by fire, whereby the body is subjected to high temperatures in a specialized facility, resulting in the ashes of the deceased.

Provide a motivation for the preferred operational alternative.

Horizontal burial (Operational Alternative 1) is the preferred operational alternative. A combination of Horizontal and Vertical Burial (Operational Alternative 3), may also be considered favourable. This has been concluded following the below considerations:

Information gathering entailed communication with multiple funeral services within the Beaufort West town, both local and national funeral services providers were contacted for feedback. Service providers will be kept anonymous and answers were noted below.

Table 6: Funeral service providers responses to queries on vertical burials.

	Service Provider #1	Service Provider #2	Service Provider #3	Service Provider #4
Have there been any requests for vertical burials?	No	No	No (been working for 20 years)	No
Is this service currently being offered to the community?	No	No	No	No
Is the funeral company/parlour equipped to manage vertical burials (do they have the equipment, knowledge and means to undertake this service)?	No	No	No	No
If they do offer vertical burials, how has the response been from the community?	Community would not be interested as vertical burials have never been requested.	Community is not interested and of an "old fashioned" manner.	Community sees standard burial practice as a respectful practice as the body will be laid horizontally to	Community would not be interested.

			rest. If the body is vertical, they will not be able to rest. "Laid to rest" Rest in Peace"	
Do any of the cemeteries in and around Beaufort West utilize vertical burial methods?	No	No	No	No
Do they offer cremation? Or is this specifically done at a facility at any of the cemetery sites?	No, only offered in George.	No, only offered in George.	No, only offered in George.	No, only offered in George.

Personal preferences:

Any form of disposal of the remains of a loved one, is based on the preference of the individual, if stated prior to their demise or by the family of the deceased, and this is influenced by various factors, particularly traditions, religious and cultural beliefs. The most generic form of disposal is horizontal burial as it is seen as "laying" their loved one to rest/sleep. This provides a sense of peace for the family, and the individual, as the loss of a loved one can already be a stressful and traumatic event, that must be handled with care.

The connotations related to cremations (disposal by fire) and vertical burials (coffin standing upright), are difficult to accept by some. Religious beliefs are a major influencer on decision-making, as death is a difficult and unknown inevitability of life, therefore, some religious beliefs dictate that only certain forms of practices are acceptable.

After consultation with various funeral parlours within the Beaufort West community, including larger brand names that are renowned nationally, it was concluded that the Beaufort West community is deeply rooted in traditional and cultural beliefs, and therefore are not familiar with and have not enquired about vertical burials. Therefore, vertical burials may not easily be accepted or wanted in a community such as this.

Availability of technology and information:

As per the aforementioned consultation with the various existing funeral parlours, it was determined that vertical burials have not been undertaken within Beaufort West, as the community have not requested it, and may not accept this method. Nor are they equipped with the correct technology, or information on how to correctly conduct vertical burials. It was further noted that the closest crematorium is located in George, roughly 230km's south of Beaufort West.

Vertical burial methods have been adopted in various parts of the world due to their efficiency. Utilizing either wooden (or other environmentally friendly materials) caskets, or just biodegradable body bags, this method results in smaller pits, although deeper than the average horizontal graves. Vertical burials may be dug by hand or using auger drills and caskets/biodegradable body bags are lowered into the ground using specialized pulley systems (Upright Burials, 2012 - 2020). Therefore, if the technology is available, this is an easier method to establish.

This practice is more readily available in modern, developed areas, as it can be assumed that the information and technology is present. In Beaufort West the current funeral homes lack the technology and information to conduct such burials, and the community lacks the facts about this alternative. However, technology and information can be adopted and adapted, therefore, should the funeral homes choose to start introducing this as a burial option, and provide the essential facts, technology and information, it is possible to introduce this as a valid option to the Beaufort West community. This is the case for cremations as well, if the facility is available in the Beaufort West community, it may be utilized by the community.

Current By-Law Restrictions

Beaufort West municipality has a standing By-Law guiding the management of all matters relating to cemeteries. The Beaufort West Municipal By-Law (Notice no. 147/2005), relating to Cemeteries, Exhumations and Cremations, Section 11: Specifications for burial plots and graves, clearly identifies that although more than one body can be positioned in a single grave, standard measurements for graves (point 3) is specified as per table 7:

Table 7: Standard measurements for graves (extracted from the Beaufort West By-Law)

	Adults (1 body)	Adults (2 bodies)	Children
Length (mm)	2 200	2 200	1 350
Width (mm)	1 200	1 200	600
Depth (mm)	1 800	2 400	1 500

Furthermore, it is stated that in terms of Section 11 (1) (a) and (b):

(1) No person may-

(a) bury a body, unless the grave is of sufficient depth so that the top of the body, or, if contained in a coffin or container, the top of the coffin or container is not less than 1 050 mm below the surface of the ground when the grave has been filled up;

(b) bury more than one body in a grave, unless the grave has been dug to a sufficient depth so that paragraph (a) may be complied with and so that the first body or, if such body is in a coffin or container, such coffin or container may be covered with 100 mm of reinforced concrete or 300 mm of soil when the second body is buried, or,

This would therefore require that every grave has a 1.05m coverage. Depending on the height of the person, the vessel in which they are being buried in, vertical grave will still need to accommodate this coverage, providing the assumption that the depths required can be almost 3m's minimum. Therefore, it exceeds he maximum depth as per the by-law and cannot be accommodated under the current by-law. The by-law can be amended, however as per point 11(2), of the aforementioned by-law, the Director may determine the standard measures, which may indicate that only the Director may amend this.

Geotech and Soil Conditions

Following the Geotechnical and Geohydrological study undertaken by GEOSS, the water table was found to be fairly deep, as boreholes were recommended to reach depths of 32m's. In addition, the GEOSS report has been updated to conclude that vertical burial would be difficult at this site due to the presence of calcretes and boulders. Vertical holes would most likely be augered to the required depth. In this case the auger will not be able to penetrate the boulders or calcretes, thereby making it an unfavourable option for this site.

In conclusion, vertical burials are seen as more efficient, as less space is utilized per burial. This would allow for multiple family members to be accommodated in a single average sized grave (lengthwise), saving on cost, and may, if introduced with other eco-friendly materials, such as biodegradable body bags, eco-friendly casket materials, avoidance of formaldehyde usage, and lack of metal hinges and jewellery, can be a sustainable option. However, considering the underground conditions and the required depths, at this site, this is not a feasible option.

It should be noted that eco-friendly materials can also be incorporated in horizontal burials,

In terms of a crematorium, there are various benefits in terms of environmental conditions, however, this is an expansion of an existing cemetery, therefore considering factors such as budget constraints, imminent need for additional graves, lack of community interest (as advised by funeral services), specified scope of works and existing designs, this option is not viable at this stage. However, the municipality may choose to look into this in the future.

Therefore, in terms of the "Goue Akker" Cemetery, Operational Alternative 1, horizontal burials remain the preferred option. A combination of horizontal and vertical graves (Operational Alternative 3), can be considered, for future developments, as long as the following is confirmed:

- Beaufort West Municipal By-Law related to Cemeteries, Cremations and Exhumations, is amended to support the practicality of vertical graves.
- Technology and information become available in the community.
- Soil and underground conditions allow for this, ie. presence of groundwater and geology etc.

Provide a detailed motivation if no alternatives exist.

3 alternatives were considered.

List the positive and negative impacts that the operational alternatives will have on the environment.

Operational Alternative 1 (Horizontal Burials):

Positive Impacts on the Environment:

- Biodegradable materials, and eco-friendly options can be adopted.
- Currently widely accepted in the community and can accommodate at least two bodies under current municipal By-law.
- Small scale excavations over long-term basis, therefore, easier to manage and control.

Negative Impacts on the Environment:

- Not as efficient, in terms of space, limiting lifespan of cemeteries, therefore expansions, etc, will need to be done eventually.
- Still utilize caskets with metal hinges.
- Clearance and excavation of a larger area, as compared to the other alternatives (during operational phase).
- Continuous disturbance to the area, as people visit, and graves are dug, leading to opportunity for alien invasive encroachment.

Operational Alternative 2 (Vertical Burials):

Positive Impacts on the Environment:

- Biodegradable materials, and eco-friendly options can be adopted.
- Space saving, allowing for cemeteries to be utilized for longer periods of time, without need for expansion.
- Smaller clearance for grave.

Negative Impacts on the Environment:

- Continuous excavations required over time.
- Ground conditions cannot accommodate depths, due to presence of boulders and calcrete.
- Stability of excavated pits may be an issue (due to depths and smaller area).

Operational Alternative 3 (Combination of Horizontal & Vertical Burials):

Positive Impacts on the Environment:

- As stated above for Alternatives 1 and 2.

Negative Impacts on the Environment:

- As stated above for Alternatives 1 and 2

Operational Alternative 4 (Cremations):

Positive Impacts on the Environment:

- No excavations required during operational phase.
- No clearance of vegetation required during operational phase.
- Specific area, allocated for infrastructure that will most probably never require expansion, therefore clearance of vegetation would be done once (during construction).

- Landscaping options can be considered.
- Greener options exist such as alkaline hydrolysis.

Negative Impacts on the Environment:
- CO2 emissions, contributing to a larger carbon footprint.
- Energy demand.
- Increased hardened surfaces and drainage from infrastructure, leading to higher velocity runoff and can result in major erosion.
- Loss of intact vegetation, being replaced by permanent infrastructure.
- Large scale excavations.

1.6.	The option of not implementing the activity (the 'No-Go' Option).

Provide an explanation as to why the 'No-Go' Option is not preferred.

The no-go activity will result in the continuation of the status quo, thereby allowing the various levels of existing disturbance, from illegal dumping, alien invasive encroachment, and erosional events, to persist, and thus impact upon the aquatic habitat and watercourse, and in turn impact upon the downstream environment.

Furthermore, according to the Technical Report and Motivation for the Expansion of the Existing "Goue Akker" Cemetery in Beaufort West compiled by Aurecon (dated 23 October 2019), it has been determined that there is a shortage of burial sites at the existing cemetery, and within, approximately 16 months, capacity will be reached, hence the urgency to expand the cemetery.

1.7.	Provide and explanation as to whether any other alternatives to avoid negative impacts, mitigate unavoidable negative impacts and maximise positive impacts, or detailed motivation if no reasonable or feasible alternatives exist.

No other alternatives were explored, as the site is ideal for this development.

1.8.	Provide a concluding statement indicating the preferred alternatives, including the preferred location of the activity.

The alternative layouts investigated for this development will be situated outside of the buffer zone, and 100-year floodline, therefore by implementing the recommended mitigation measures, and techniques as described in the various reports, impacts will be minimized and managed efficiently. This will improve the current state of the site.

2. "No-Go" areas

Explain what "no-go" area(s) have been identified during identification of the alternatives and provide the co-ordinates of the "no-go" area(s).

A 28m buffer area has been recommended by the Freshwater Specialist, it will extend from the boundary of the riparian habitat and should be adopted and demarcated. Coordinates are provided in Appendix K.2.

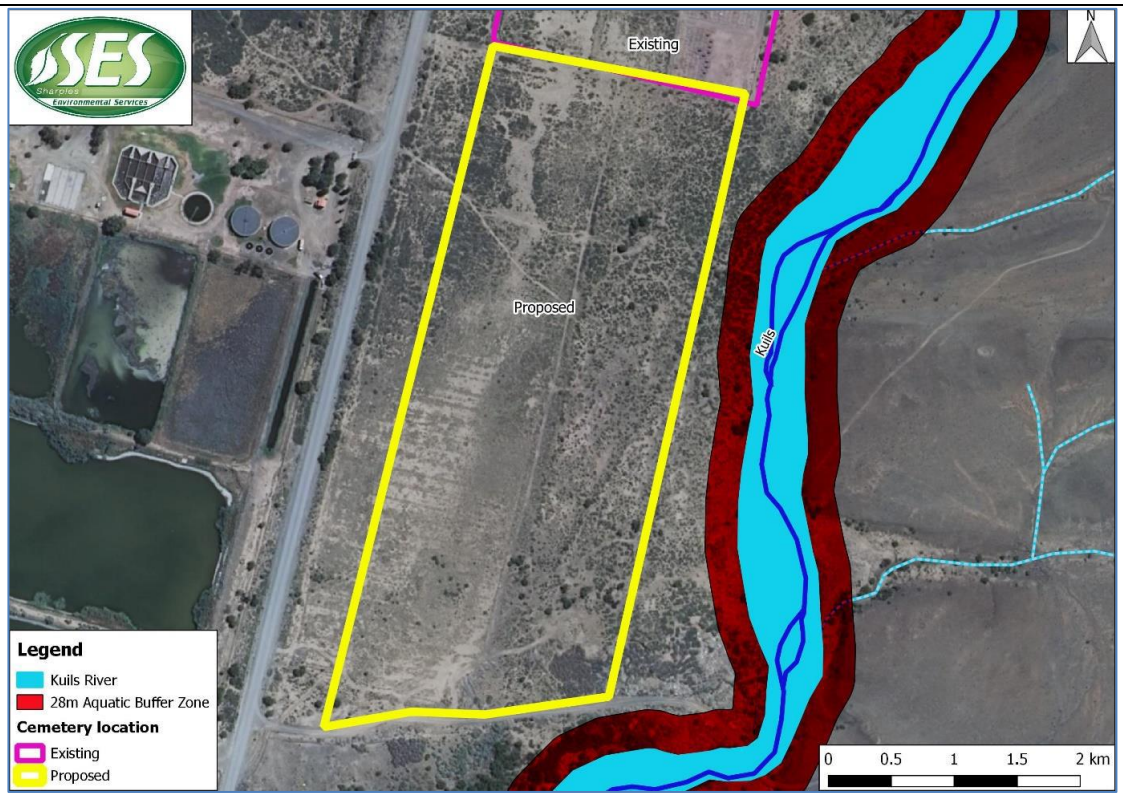


Figure 10: The proposed cemetery site in relation to the 28m recommended aquatic buffer zone

3. Methodology to determine the significance ratings of the potential environmental impacts and risks associated with the alternatives.

Describe the methodology to be used in determining and ranking the nature, significance, consequences, extent, duration of the potential environmental impacts and risks associated with the proposed activity or development and alternatives, the degree to which the impact or risk can be reversed and the degree to which the impact and risk may cause irreplaceable loss of resources.

The assessment criteria utilized in this environmental impact assessment is based on, and adapted from, the *Guideline on Impact Significance, Integrated Environmental Management Information Series 5* (Department of Environmental Affairs and Tourism (DEAT), 2002) and the *Guideline 5: Assessment of Alternatives and Impacts in Support of the Environmental Impact Assessment Regulations* (DEAT, 2006).

Determination of Extent (Scale):

Site specific	On site or within 100 m of the site boundary.
Local	The impacted area includes the whole or a measurable portion of the site, but could affect the area surrounding the development, including the neighbouring properties and wider municipal area.
Regional	The impact would affect the broader region (e.g. neighbouring towns) beyond the boundaries of the adjacent properties.
National	The impact would affect the whole country (if applicable).

Determination of Duration:

Temporary	The impact will be limited to the construction phase.
Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than 2 years.

Medium term	The impact will last up to the end of the construction phase, where after it will be entirely negated.
Long term	The impact will continue for the entire operational lifetime of the development but will be mitigated by direct human action or by natural processes thereafter.
Permanent	This is the only class of impact that will be non-transitory. Such impacts are regarded to be irreversible, irrespective of what mitigation is applied.

Determination of Probability:

Improbable	The possibility of the impact occurring is very low, due either to the circumstances, design or experience.
Probable	There is a possibility that the impact will occur to the extent that provisions must therefore be made.
Highly probable	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up to mitigate the activity before the activity commences.
Definite	The impact will take place regardless of any prevention plans.

Determination of Significance (without mitigation):

No significance	The impact is not substantial and does not require any mitigation action.
Low	The impact is of little importance but may require limited mitigation.
Medium	The impact is of sufficient importance and is therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.
Medium-High	The impact is of high importance and is therefore considered to have a negative impact. Mitigation is required to manage the negative impacts to acceptable levels.
High	The impact is of great importance. Failure to mitigate, with the objective of reducing the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.
Very High	The impact is critical. Mitigation measures cannot reduce the impact to acceptable levels. As such the impact renders the proposal unacceptable.

Determination of Significance (with mitigation):

No significance	The impact will be mitigated to the point where it is regarded to be insubstantial.
Low	The impact will be mitigated to the point where it is of limited importance.
Medium	Notwithstanding the successful implementation of the mitigation measures, the impact will remain of significance. However, taken within

	the overall context of the project, such a persistent impact does not constitute a fatal flaw.
High	Mitigation of the impact is not possible on a cost-effective basis. The impact continues to be of great importance, and, taken within the overall context of the project, is considered to be a fatal flaw in the project proposal.

Determination of Reversibility:

Completely Reversible	The impact is reversible with implementation of minor mitigation measures
Partly Reversible	The impact is partly reversible but more intense mitigation measures
Barely Reversible	The impact is unlikely to be reversed even with intense mitigation measures
Irreversible	The impact is irreversible and no mitigation measures exist

Determination of Degree to which an Impact can be Mitigated:

Can be mitigated	The impact is reversible with implementation of minor mitigation measures
Can be partly mitigated	The impact is partly reversible but more intense mitigation measures
Can be barely mitigated	The impact is unlikely to be reversed even with intense mitigation measures
Not able to mitigate	The impact is irreversible and no mitigation measures exist

Determination of Loss of Resources:

No loss of resource	The impact will not result in the loss of any resources
Marginal loss of resource	The impact will result in marginal loss of resources
Significant loss of resources	The impact will result in significant loss of resources
Complete loss of resources	The impact will result in a complete loss of all resources

Determination of Degree to which an Impact can be avoided:

High	The impact is completely avoidable
Medium	The impact is avoidable with moderate mitigation
Low	The impact is difficult to avoid and will require significant mitigation
Unavoidable	The impact cannot be avoided

Determination of Degree to which an Impact can be managed:

High	The impact is completely manageable
Medium	The impact is manageable with moderate mitigation

Low	The impact is difficult to manage and will require significant mitigation
Unmanageable	The impact cannot be managed

Determination of Cumulative Impact:

Negligible	The impact would result in negligible to no cumulative effects
Low	The impact would result in insignificant cumulative effects
Medium	The impact would result in minor cumulative effects
High	The impact would result in significant cumulative effects

4. Assessment of each impact and risk identified for each alternative

Note: The following table serves as a guide for summarising each alternative. The table should be repeated for each alternative to ensure a comparative assessment. The EAP may decide to include this section as Appendix J to this BAR.

Table 8: Proposed Impact and Mitigation Tables

	PREFERRED ALTERNATIVE 1 (LAYOUT)	ALTERNATIVE 2 (LAYOUT)	NO-GO ALTERNATIVE (LAYOUT)
PLANNING, DESIGN AND DEVELOPMENT PHASE			
Potential impact and risk:	**Aquatic Impacts: Disturbance of Riparian Vegetation** There is potential for loss or disturbance of riparian zone vegetation during construction from machinery, vehicles and workers. The movement of topsoil and incorrectly placed stockpiles could bury the aquatic habitat. Due to construction, alien invasive species may encroach further into any disturbed areas and outcompete indigenous vegetation thereby reducing aquatic biodiversity. If the No Go zone is adhered to there will be no direct impacts upon the riparian vegetation or habitat. No—go Alternative: The clearance of alien invasive species will still be required, in accordance with Section 28: Duty of Care in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). This is the responsibility of the landowner. Furthermore, the Botanical Assessment has identified a host of alien invasive and exotic species, and has advised that nearly all these species are listed invasive aliens in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) Alien and Invasive Species List (2016). In addition, harbouring of *Atriplex nummularia* (Category 2 invader) on a property is prohibited without a permit. The Freshwater Assessment has acknowledged the presence of alien vegetation encroachment.		
Nature of Impact:	Negative	Negative	Negative
Extent and duration of impact:	Local and medium-term	Local and medium-term	Site specific and short-term
Consequence of impact or risk:	• Indirect impacts: - Possible burial of aquatic habitat, flora and fauna. - Alien vegetation encroachment.	• Indirect impacts: - Possible burial of aquatic habitat, flora and fauna. - Alien vegetation encroachment.	• Labour appointed to clear alien invasive encroachment will need to enter the no-go aquatic zone. • Potential loss of aquatic vegetation or disturbance to riparian zone.
Probability of occurrence:	Probable	Probable	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Marginal	Marginal	Marginal

Degree to which the impact can be reversed:	Partly reversible	Partly reversible	Partly reversible
Indirect impacts:	• Possible burial of aquatic habitat, flora and fauna. • Alien vegetation encroachment.	• Possible burial of aquatic habitat, flora and fauna. • Alien vegetation encroachment.	• Disturbance to fauna in the area. • Higher probability of fauna and labour interaction.
Cumulative impact prior to mitigation:	• Loss of viable vegetation, and fauna, allowing for the success of alien vegetation. • Reduction in riparian ecosystem function. • Erosion and sedimentation.	• Loss of viable vegetation, and fauna, allowing for the success of alien vegetation. • Reduction in riparian ecosystem function. • Erosion and sedimentation.	None
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low - Medium	Low - Medium
Degree to which the impact can be avoided:	High	High	High
Degree to which the impact can be managed:	Medium	Medium	High
Degree to which the impact can be mitigated:	Medium	Medium	High
Proposed mitigation:	General • Establish the no-go aquatic buffer zone, demarcate using appropriate high visibility markers, such as danger tape, particularly between the construction site and the aquatic zone. • A 28 m aquatic buffer zone should be indicated between any proposed activities and the river edge.		General • Labour should be appointed to remove alien vegetation. • All removal should be done by hand, and herbicides utilized, should be approved by an

	• Erect signage indicating the buffer zone, and restricting access to any unauthorized personnel. Monitoring • An independent ECO should be appointed to monitor demarcation, clearance and all relevant activities during construction phase. • Audit reports should be completed by the ECO, and note down any disturbance related to this impact, and advise appropriate mitigation. • A monitoring programme should be implemented to ensure maintenance of this buffer zone, and minimal disturbance from construction activities. Environmental Inductions • In addition to the general issues covered in the inductions, the following should be thoroughly discussed and emphasized with all construction personnel. - Identify and emphasize the importance of the aquatic buffer zone. - Identify and emphasize the working corridor demarcation, and maintenance throughout construction. - Identify exotic/alien species that require removal within the working corridor. - Identify indigenous vegetation that needs to be maintained/transplanted. Alien Invasion Clearance • Alien invasive species that are likely to encroach are cacti and Prosopis species. • Removal of these species should be undertaken in a way which prevents any damage to the remaining indigenous species and inhibits the re-infestation of the cleaned areas. • Any use of herbicides in removing alien plant species is required to be investigated by the ECO before use, for the necessity, type proposed to be used, effectiveness and impacts of the product on aquatic biota. • Alien/ invasive species shall not be stockpiled, they should be removed from site and dumped at an approved site. A disposal slip should be obtained for record keeping purposes.	environmental professional. • Alien invasive species removal and monitoring should be undertaken on a fairly regular basis Educate Labour • The appointed labour should be educated regarding the following: - Identify alien invasive species that require removal. - Identify indigenous vegetation. - Identify indigenous vegetation at local nurseries, in case the need arises to replace bare areas. - Emphasize removal methods are limited to manual labour, and hand tools (minimal). - Identify appropriate disposal location for alien invasive plant species removed from site. - Inform labour on procedure that should be followed when fauna is encountered on site.

	• Construction personnel, equipment and materials must be limited to the minimal practical working area. • Construction workers and vehicles must be prevented from entering the watercourse. Stormwater Control • As per the Engineering report, stormwater management techniques recommended should be implemented: - Temporary cut-off channels and berms; - Routing of run-off towards the existing watercourse and drainage routes; - Erosion protection by means of Silt fences, Geofabric, Sand bags and/or any combination thereof; - Compliance with a site-specific Environmental Management Plan; and - Provision for dealing with water, in accordance with SABS 1200, will be stipulated in the Project Specification and Contract Documents. Of specific importance will be the following clauses: i. Clause 5.5 in SABS 1200 A; ii. Clause 5.3 in SABS 1200 AA; iii. Clause 5.1.3 in SABS 1200 D; and iv. Clause 5.1.2 in SABS 1200 DB. Stockpiled/Storage of Material • All equipment and material storage areas must (if practical, reasonable and feasible) be located at a minimum distance of 50m from the watercourse. The appointed ECO must be consulted in this regard. • Avoid stockpiling any excavated soils near the fence line closest to the aquatic buffer. • Bund stockpiles and ensure they do not exceed 2m's in height. Soil Contamination	

	• Soil contaminated by spilled oil/ fuel/ lubricant must be excavated and disposed of in the hazardous waste bin.		
Residual impacts:	• Any fauna that may reside in and around the riparian zone, will face some restrictions, accessing the cemetery area. However, no fauna were identified during the studies undertaken on this site. • Alien invasions and encroachment onto the riparian zone	• Any fauna that may reside in and around the riparian zone, will face some restrictions, accessing the cemetery area. However, no fauna were identified during the studies undertaken on this site. • Alien invasions and encroachment onto the riparian zone	• Illegal dumping in various portions of the site, continues.
Cumulative impacts post mitigation:	Low	Low	None
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Potential impact and risk:	**Aquatic Impact: Sedimentation and Erosion** Vegetation clearing and exposure of bare soils upslope of freshwater habitat during construction will decrease the soil binding capacity and cohesion of the soils and thus increase the risk of erosion and sedimentation downslope. The slope, land degradation and highly erosive soils increase the risk of erosion. This activity may cause the burying of aquatic habitat. Ineffective site stormwater management, particularly in periods of high runoff, can lead to soil erosion from confined flows. Formation of rills and gullies from increased concentrated runoff. This increase in volume and velocity of runoff increases the particle carrying capacity of the water flowing over the surface. Soil compaction resulting in reduced infiltration and increased surface runoff together with the artificial creation of preferential flow paths due to construction activities, will result in increased quantities of flow entering the systems. It is acknowledged that the extent of the preferred site is far larger than the Alternative 2 Layout, indicating that activities such as clearance of vegetation resulting in bare soils, are more extensive, and therefore impacts such as erosion and sedimentation events are therefore of higher significance, although it should be noted that the site is expected to have good infiltration No—go Alternative: The clearance of alien invasive species will still be required, in accordance with Section 28: Duty of Care in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). This is the responsibility of the landowner. Furthermore, the Botanical Assessment has identified a host of alien invasive and exotic species, and has advised that nearly		

	all these species are listed invasive aliens in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) Alien and Invasive Species List (2016). In addition, harbouring of *Atriplex nummularia* (Category 2 invader) on a property is prohibited without a permit. The Freshwater Assessment has acknowledged the presence of alien vegetation encroachment. Therefore, it can be assumed, that undertaking the removal of these alien species, may not create the typical construction disturbance, however, it will result in areas of bare and exposed soil, due to clearance.		
Nature of Impact:	Negative	Negative	Negative
Extent and duration of impact:	Regional and medium-term	Regional and medium-term	Local and short-term
Consequence of impact or risk:	• Erosion and sedimentation. • Potential loss of aquatic vegetation and organisms.		• Erosion and sedimentation
Probability of occurrence:	Probable	Probable	Probable
Degree to which the impact may cause irreplaceable loss of resources:	Can be significant	Can be significant	Marginal
Degree to which the impact can be reversed:	Partly	Partly	Partly
Indirect impacts:	• Formation of rills and gullies.		• Formation of rills
Cumulative impact prior to mitigation:	• Decrease in soil binding capacity and cohesion. • Soil compaction.		None
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	Low
Degree to which the impact can be avoided:	Medium	Medium	Medium
Degree to which the impact can be managed:	Medium	Medium	Medium
Degree to which the impact can be mitigated:	High	High	High

Proposed mitigation:	General • Ensure construction activities are well planned ahead of time. • Establish a no go-buffer zone, demarcate using high visibility markers, such as danger tape, particularly between the construction site and the aquatic zone. • Ensure photos are taken of the aquatic zone, prior to commencement of activities, to ensure that should alterations occur during construction, the area can be rehabilitated, appropriately. • A 28 m aquatic buffer zone should be indicated between any proposed activities and the river edge. • Construction personnel, equipment and materials must be limited to the minimal practical working area. • Ensure areas disturbed by construction activities are rehabilitated appropriately, ensure there is no evidence of excessively compacted soil, and the reinstated grass grows successfully. • Ensure all construction disturbance, including rills and gullies, are addressed with appropriate mitigation measures. Monitoring • An independent ECO should be appointed to monitor construction activities. • A monitoring programme should be implemented to ensure maintenance of this buffer zone, and minimal disturbance from construction activities. Stormwater Control • Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles. • Utilize silt fencing along the base of the demarcated buffer zone, so as to limit any runoff from entering this zone. Stockpiled/Storage of Material	General • Ensure clearance of alien invasive species is done using manual labour and is limited to hand tools. • Transplant indigenous species from surrounding areas, or source plants from nurseries, so as to ensure areas do not remain bare.

	• All equipment and material storage areas must (if practical, reasonable and feasible) be located at a minimum distance of 50m from the watercourse. The appointed ECO must be consulted in this regard. • Avoid stockpiling any excavated soils close to the demarcated aquatic buffer. • Stockpile loose material appropriately and avoid spillage.		
Residual impacts:	• Possible erosion events, due to denser ground cover being removed.		• Site remains exposed to disturbance from anthropogenic activities, including dumping.
Cumulative impacts post mitigation:	Low	Low	Low
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Potential impact and risk:	**Aquatic impact: Flow Modification** Land clearing and earth works adjacent to the riparian system will reduce infiltration rates and increase the surface runoff volume and velocity. Such changes in surface roughness and runoff rates may lead to some rill and gully erosion. Altered water inputs from upslope disturbances as well as modified water distribution and retention patterns will ultimately affect the hydrological integrity of water resources. However, there is already a dense rill and gully network on the hillslope. A stormwater management plan must attempt to halt this existing erosion on site, and following which it should prevent any further erosion. It is acknowledged that the extent of the preferred site is far larger than the Alternative 2 Layout, indicating that activities such as clearance of vegetation resulting in bare soils, are more extensive, and therefore impacts such as erosion and sedimentation events are therefore of higher significance. It should also be noted that the proposed detention pond identified at the bottom of the site, is much further from the developed area in Alternative 2, which would not align with the proposed stormwater design, that aims to improve the stormwater management on a site that already exhibits rill and gully erosion.		
Nature of Impact:	Negative	Negative	Negative
Extent and duration of impact:	Regional and short-term	Regional and Medium-term	Local and short-term
Consequence of impact or risk:	• Reduction in infiltration rates. • Increase in surface runoff volume and velocity. • Potential rill/gully erosion.		• Land clearance of alien vegetation, can lead to erosion.

	• Altered water inputs from upslope disturbances. • Modification of water distribution and retention patterns will ultimately affect the hydrological integrity of water resources.		
Probability of occurrence:	Probable	Probable	Unlikely
Degree to which the impact may cause irreplaceable loss of resources:	Marginal	Marginal	Marginal
Degree to which the impact can be reversed:	Partly	Partly	Partly
Indirect impacts:	• Disturbance to the aquatic habitat.		None
Cumulative impact prior to mitigation:	• Possible exacerbation of the existing gully network on site. • Compromising the aquatic habitat and effects on the hydrological integrity of water resources.		None
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low	Low
Degree to which the impact can be avoided:	Medium	Medium	High
Degree to which the impact can be managed:	Medium	Medium	High
Degree to which the impact can be mitigated:	Partly	Partly	Partly
Proposed mitigation:	General • Establish working corridor, and 28m no-go aquatic buffer. • Construction personnel, equipment and materials must be limited to the minimal practical working area. • Manage and mitigate any potential risks that may result in the deterioration to the water resource takes place.		General • Ensure clearance of alien invasive species is done using manual labour and is limited to hand tools. • Transplant indigenous species from surrounding

	• Standard management measures should be implemented to ensure that any on-going activities do not result in a decline in water resource quality. Stormwater Control • As per the Engineering report, stormwater management techniques recommended should be implemented: - Temporary cut-off channels and berms; - Routing of run-off towards the existing watercourse and drainage routes; - Erosion protection by means of Silt fences, Geofabric, Sand bags and/or any combination thereof; - Compliance with a site-specific Environmental Management Plan; and - Provision for dealing with water, in accordance with SABS 1200, will be stipulated in the Project Specification and Contract Documents. Of specific importance will be the following clauses: i. Clause 5.5 in SABS 1200 A; ii. Clause 5.3 in SABS 1200 AA; iii. Clause 5.1.3 in SABS 1200 D; and iv. Clause 5.1.2 in SABS 1200 DB. Stockpiled/Storage of Material • All equipment and material storage areas must (if practical, reasonable and feasible) be located at a minimum distance of 50m from the watercourse. The appointed ECO must be consulted in this regard. • Avoid stockpiling any excavated soils close to the demarcated aquatic buffer. • Stockpile loose material appropriately and avoid spillage.	areas, or source plants from nurseries, so as to ensure areas do not remain bare.
Residual impacts:	None	None	None
Cumulative impacts post mitigation:	Low	Low	Low
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low

Potential impact and risk:	**SOCIAL IMPACT: SENSE OF PLACE (NOISE & DUST)** The proposed site is located on the outskirts of the urban area, with no existing residents around the proposed site. As this is an expansion of an existing cemetery, minimal impact on the sense of place is foreseen. The surrounding development includes the existing cemetery, Blyth Street, and water treatment plant, therefore although the construction noise will be present, it will have minimal impact on the surrounding area, as there are no immediate residents to disturb. Dust created from construction activities related to the movement of vehicles on the gravel road, clearance of vegetation, exposed soils and establishment of the caretaker/ablution facility, has the potential to impact upon the surrounding area. Dispersal can impact upon Blyth Street and may contribute to disturbance to surrounding fauna, as well as settle into the adjacent aquatic habitat. Furthermore, this may create issues for the existing northern portion of the cemetery, as dust creation can disturb visitors, as well as settle onto tombstones. It is acknowledged that due to the extent of the proposed Preferred Alternative 1 site, clearance of vegetation will occur over a larger area than the Alternative 2 Layout. Based on the dry, windy conditions as is common in this area, dust creation is considered to be of higher significance for the Preferred Alternative 1.		
Nature of Impact:	Negative.	Negative.	Negative
Extent and duration of impact:	Local and temporary.	Local and temporary.	Local and temporary.
Consequence of impact or risk:	• General construction nuisances i.e. dust, noise, odour, etc. will impact on the sense of place, although mainly temporary in nature.		• Minor alterations, as no development will take place. • Possible dust creation.
Probability of occurrence:	Probable	Probable	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource.	No loss of resource.	No loss of resource.
Degree to which the impact can be reversed:	Partly reversible.	Partly reversible.	Reversible.
Indirect impacts:	None	None	None.
Cumulative impact prior to mitigation:	Negligible	Negligible.	Negligible.

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	Low
Degree to which the impact can be avoided:	Low-Medium.	Low - Medium.	High
Degree to which the impact can be managed:	Medium.	Medium.	High
Degree to which the impact can be mitigated:	Can be Partly mitigated.	Can be Partly mitigated.	Can be Partly mitigated.
Proposed mitigation:	Dust Mitigation • Land clearing and earthmoving activities should not be undertaken during strong winds, where possible. • Cleared areas should be provided with suitable cover as soon as possible, and not left exposed for extended periods of time. • Stockpiles of topsoil, spoil material and other material that may generate dust must be protected from wind erosion (e.g. covered with netting, tarpaulin or other appropriate measures. Note that topsoil should not be covered with tarpaulin as this may kill the seedbank). • The location of stockpiles must take into account, the prevailing wind direction, and should be situated so as to have the least possible dust impact to surrounding road-users and other land-users. • Speed limits must be enforced in all areas, including public roads and private property to limit the levels of dust pollution. • The speed limit should be set at 20-40km/h. • Dust must be suppressed on access roads and the construction site during dry periods by the regular application of non-potable water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that will not result in the generation of excessive run off. • Dust suppression measures such as the wetting down of sand heaps as well as exposed areas around the site must be implemented especially on windy days.		Dust Mitigation • Land clearing should not be undertaken during strong winds, where possible. • Cleared areas should be provided with suitable cover as soon as possible, and not left exposed for extended periods of time. • Work on site must be well-planned and should proceed efficiently so as to minimise the handling of dust generating material.

	• The use of straw worked into the sandy areas may also help and the ECO must advise when this is necessary. • If dust appears to be a continuous problem the option of using shade cloth to cover open areas may be necessary or the erecting of shade netting above the fenced off are may need to be explored. • Work on site must be well-planned and should proceed efficiently so as to minimise the handling of dust generating material. • Material loads should be properly covered during transportation. • Dust levels specified in the National Dust Control Regulations (GN 827 of November 2013) may not be exceeded. i.e. dust fall in residential areas may not exceed 600mg/m2/day, measured using reference method ASTM D1739; • A Complaints Register must be available at the site office for inspection by the ECO of dust complaints that may have been received. • The appointed Environmental Control Officer (ECO) must undertake a site inspection once per week, for the duration of the construction phase, and to produce a short monthly ECO monitoring audit report, auditing on the compliance of the property developer with the conditions of the Environmental Authorisation and the approved EMP. Noise Mitigation: • A complaints register will be opened. • Excavations and earth-moving activities must be restricted to normal construction working hours (7:30 – 17:30) as far as possible. • Work on site must be well-planned and should proceed efficiently so as to limit the duration of the disturbance. • Vehicles and equipment must be kept in good working condition. If deemed necessary, machinery and equipment should be fitted with mufflers/ exhaust silencers. No unnecessary disturbances should be allowed to emanate from the construction site. • Workers should be educated on how to control noise-generating activities that have the potential to become disturbances, particularly over an extended period of time.	

	• Noise levels must comply with the relevant health & safety regulations and SANS codes and should be monitored by the Health & Safety Officer as necessary and appropriate. • Affected parties must be informed of the excessive noise factors. • The noise management and monitoring measures prescribed in the EMPr must be adhered to.		
Residual impacts:	None.	None.	None.
Cumulative impacts post mitigation:	Low.	Low.	Low.
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Potential impact and risk:	**SOCIAL IMPACT: TRAFFIC & ACCESS** Blyth Street, adjacent to the existing and proposed cemetery, forms the only access into either of these sites. The access road is intended to be maintained, although the existing gravel surfaced road will require the re-working of the in-situ material to the required compaction, along with in-situ stormwater channels on the low side of the road draining to the proposed stormwater berm on the Eastern side of the site. Construction vehicles can slow traffic, as they exit and enter the site. There is a potential for incidents to occur, during movement, particularly if there are visitors entering and exiting the existing northern portion of the cemetery, during construction, although this is low. While there may not be many vehicles considering the scope of this project. Heavy machinery will be required. Due to extent of the Preferred Alternative 1 layout, the disruptions and delays related to traffic and access may occur for a potentially longer period of time, as compared to the Alternative 2 Layout.		
Nature of Impact:	Negative.	Negative.	Not applicable. As no construction will take place, there will be no impact on traffic or potential road damage.
Extent and duration of impact:	Local and short term.	Local and short term.	
Consequence of impact or risk:	• The adjacent Blyth Street will experience minor traffic disruptions during construction, due to the movement of construction vehicles accessing the site.		

	• Construction vehicle movement, with loads, may cause damage to the existing gravel road in the cemetery.		
Probability of occurrence:	High	High	
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource.	No loss of resource.	
Degree to which the impact can be reversed:	Barely	Barely	
Indirect impacts:	• Accidents may occur due to impatient or negligent drivers. • Congestion and delays.	• Accidents. • Congestion and delay	
Cumulative impact prior to mitigation:	• Potential damage to the roads that can damage visitor's vehicles, resulting in potential complaints and financial claims. • Possible complaints from residents traversing this road on a daily basis.		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low - Medium	
Degree to which the impact can be avoided:	Low	Low	
Degree to which the impact can be managed:	Medium	Medium	
Degree to which the impact can be mitigated:	Can be mitigated	Can be mitigated	
Proposed mitigation:	General: • All construction vehicles need to adhere to traffic laws. The speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. As far as possible care should be taken to ensure that the local traffic flow pattern is not significantly disrupted.		

	• All vehicle operators need to be educated in terms of "best-practice" operations to minimise unnecessary traffic congestion or dangers. Construction vehicles should therefore, not unnecessarily obstruct the access point or traffic lanes used to access the site. Construction vehicles also need to consider the load carrying capacity of road surfaces and adhere to all other prescriptive regulations regarding the use of public roads by construction vehicles. • Adequate signage, that is both informative and cautionary to passing traffic (motorists and pedestrians), warning them of the construction activities must be suitably located in the area where the construction is occurring and must be easily visible by all road users. Signage needs to be clearly visible and needs to include, among others, the following: - Identifying working area as a construction site; - Cautioning against relevant construction activities; - Prohibiting access to construction site; - Clearly specifying possible detour routes and/or delay periods; - Possible indications of time frames attached to the construction activities, and; - Details of responsible contractors and engineers are working on the site. • If needed, appropriate traffic management measures and/ or points men (traffic marshals) should be utilized to assist vehicles entering/ exiting the site, particularly where vehicles must cross the path of oncoming traffic. • Speed of construction vehicles and other heavy vehicles must be strictly controlled to avoid dangerous conditions for other road users. • The Contractor must ensure that any large or abnormal loads (including hazardous materials), that must be transported to/ from the site are routed appropriately, and that appropriate safety precautions are taken. • Truck drivers, transporting construction material or vehicles must be briefed on the appropriate route, and speed limits etc. The driver should be experienced at transporting large loads. • Ensure any damage done by vehicle movement is identified and reinstated as soon as possible.	
Residual impacts:	None.	None.	

Cumulative impacts post mitigation:	Negligible.	Negligible.	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low.	Low.	
Potential impact and risk: **+**	**IMPACT ON VEGETATION TYPE, HABITAT AND SPECIES** Approximately 10 ha of fair to good Southern Karoo Riviere will be directly affected, with about half of the footprint area previously cultivated. Construction of associated infrastructure such as a gravel access road, boundary fence, a caretaker and ablution facility, and stormwater drainage can lead to disturbance of the adjacent veld, which must be left intact. It is uncertain how much (if any) of the disturbed areas will be rehabilitated. Some of the species which originally occurred on site will return, including the aliens. Saltbushes will probably act as pioneer shrubs in this regard. As an indirect impact, soil disturbance caused by earthworks will provide ideal conditions for the establishment of invasive alien species. The presence of aliens, such as *Prosopis glandulosa, Atriplex nummularia* and a variety of invasive cacti, may exacerbate this impact. With any removal of vegetation, comes the risk of erosion, and loss of indigenous species. It is keen to note that the site is fairly flat with a sandy substrate, indicating good infiltration, and therefore, erosion is not seen to be highly significant impact. Two species were identified under the Department of Environmental Affairs Screening Tool (dated June 2020), *Chersobius boulengeri* (common name: Karoo Dwarf Tortoise, Boulenger's Padloper, Karoo Padloper, Red Padloper) and *Bunolagus monticularis* (common name: Riverine Rabbit). However, neither of these species were observed on site. In addition, it should be noted that due to the extent of the Preferred Alternative 1 site the clearance and disturbance of vegetation will be greater than that of Alternative 2. No—go Alternative: The clearance of alien invasive species will still be required, in accordance with Section 28: Duty of Care in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). This is the responsibility of the landowner. Furthermore, the Botanical Assessment has identified a host of alien invasive and exotic species, and has advised that nearly all these species are listed invasive aliens in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) Alien and Invasive Species List (2016). In addition, harbouring of *Atriplex nummularia* (Category 2 invader) on a property is prohibited without a permit. The Freshwater Assessment has acknowledged the presence of alien vegetation encroachment.		
Nature of Impact:	Negative.	Negative.	Negative
Extent and duration of impact:	Site Specific and Permanent	Site Specific and Permanent	Site Specific and short-term
Consequence of impact or risk:	• Disturbance or loss of intact vegetation. • Minor potential for erosion.	• Disturbance or loss of intact vegetation.	• Possible disturbance of identified indigenous species.

		• Minor potential for erosion.	
Probability of occurrence:	High	High	Low - Medium
Degree to which the impact may cause irreplaceable loss of resources:	Significant loss of resources.	Significant loss of resources.	Marginal
Degree to which the impact can be reversed:	Irreversible	Irreversible	Partly
Indirect impacts:	• Alien species infestation.	• Alien species infestation.	None
Cumulative impact prior to mitigation:	Medium (-)	Medium (-)	Low
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Low - Medium (-)	Low
Degree to which the impact can be avoided:	Unavoidable	Unavoidable	Can be avoided
Degree to which the impact can be managed:	Medium	Medium	Medium
Degree to which the impact can be mitigated:	Can be barely mitigated.	Can be barely mitigated.	Can be mitigated
Proposed mitigation:	General: • Demarcate/fence off the construction area. • Contain disturbance to the demarcated construction area. No disturbance or spoiling may occur outside this area. • Erect signage prohibiting access beyond fence line. • Contain construction disturbance to the demarcated construction area. • No heavy machinery or personnel will be permitted within the 28m buffer. • The labour should be educated on: - Various indigenous vegetation on site, and how to identify them. - How to properly rescue, maintain and re-establish indigenous vegetation.		General: • Ensure labour appointed to remove alien invasive species, has an understanding of: - The alien invasive species that need to be removed.

	- Various alien invasive species and how to identify them. - How to properly remove alien invasive species within the site. - The importance of the maintenance of the temporary fencing. - 28m aquatic buffer, and the importance of not trespassing in this area. • After construction, the site must be rehabilitated in accordance with the recommendations in the EMPr. • Maintenance of vehicles should only occur on bunded surfaces, where the stormwater is channelled appropriately. Monitoring: • The Environmental Control Officer (ECO) should be present, during the clearing of alien plant species and vegetation. Vegetation Clearance: • Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint. • Implement alien control measures around the site as a long-term management requirement. • Utilize eco-friendly markers for alien invasive plant species identification. • Vegetation outside of the demarcated construction footprint may not be cleared. • Clearance of alien invasive species may only occur by hand, no heavy machinery will be permitted, for this purpose. Soil Management: • Separate topsoil and subsoils. • Ensure that soils that are reused, are not contaminated and do not contain any litter. Erosion Control: • Utilize cover via plants/geo-netting (on slopes), for exposed surfaces. • Gravel surfaces must be considered where there is vehicular/pedestrian movement.	- The indigenous vegetation that should be maintained. - Acceptable method of removal. • Provide photos of alien invasive species and indigenous vegetation. • Herbicides should be chosen by an environmental professional. • Illegal dumping should be removed, and signage erected to prohibit further dumping. • Local authority to establish a suitable dumping site for the community. • Consideration should be given to fencing the site.

	• A last alternative should be hard line engineering solutions. Waste Disposal: • Prohibit further waste dumping in the area. • Ensure waste is separated for disposal, and stored in clearly marked containers, in a designated area. • Where possible, apply the integrated waste management approach that addresses waste avoidance, reduction, re-use, recycling, recovery, treatment, and safe disposal as a last resort. • Establish waste receptacles for the disposal of waste during construction. • Identify separate waste receptacles for different waste, identify/label each receptacle. • Ensure these waste receptacles are emptied before overflow. • If the receptacles are not being emptied by the local municipal services, a disposal slip must be obtained and filed in the Environmental File. • Vehicles may not be driven along the eastern boundary of the site, outside of the demarcated working area. Faunal Management: • It is encouraged that search and rescue of fauna be undertaken, throughout construction phase. • Daily vigilance should be implemented. • Labour should be briefed on how to manage a situation where they are forced to interact with fauna. ECO to provide guidance. • Contractor should have contact details for animal removal services, to assist in a difficult situation. • Labour should be advised to avoid any interactions with fauna, if possible.		
Residual impacts:	• Alien invasive re-establishment if maintenance is not on-going.	• Alien invasive re-establishment if maintenance is not on-going. • Illegal dumping can continue as the proposed extent does not encompass the significantly	None

		disturbed portion along the southern boundary.	
Cumulative impacts post mitigation:	Low - Medium	Low - Medium	None
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low	Low
Potential impact and risk:	**SOCIAL IMPACT: VISUAL** The site will undergo transformation from undeveloped to developed, although clearance of the existing vegetation will form the greater portion of this transformation. The Preferred Alternative 1 site will result in construction activities over a larger extent and will be visible from the adjacent Blyth Street.		
Nature of Impact:	Negative	Negative	Not applicable, no construction disturbance will take place in this scenario, therefore limited visual impacts are expected.
Extent and duration of impact:	Local and temporary.	Local and temporary.	
Consequence of impact or risk:	• Change of visual aesthetics, due to construction disturbance.	• Change of visual aesthetics, due to construction disturbance.	
Probability of occurrence:	Definite	Definite	
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resource.	No loss of resource.	
Degree to which the impact can be reversed:	Irreversible	Irreversible	
Indirect impacts:	None	None	
Cumulative impact prior to mitigation:	None	None	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	

Degree to which the impact can be avoided:	Unavoidable	Unavoidable	
Degree to which the impact can be managed:	Low - Medium	Low - Medium	
Degree to which the impact can be mitigated:	Can be partly mitigated	Can be partly mitigated	
Proposed mitigation:	General: • The site camp, toilets, storage facilities, stockpiles, waste bins, and any other temporary structures on site, should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • Utilize shade cloth, or other suitable material, along the fence perimeter of the site camp and construction site. • Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time. • Special attention should be given to the screening of highly reflective material. • Use of lighting (if required) should take into account surrounding residents and land users and should present little or no	General: • The site camp, toilets, storage facilities, stockpiles, waste bins, and any other temporary structures on site, should be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • Utilize shade cloth, or other suitable material, along the fence perimeter of the site camp and construction site. • Work on site must be well-planned and well-managed so that work proceeds quickly and efficiently, thus minimizing the disturbance time. • Special attention should be given to the screening of highly reflective material. • Use of lighting (if required) should take into account surrounding residents and land users and should present little or no nuisance. Downward facing, spill-off type lighting is recommended.	

	nuisance. Downward facing, spill-off type lighting is recommended. • Construction vehicles must enter and leave the site during working hours.	• Construction vehicles must enter and leave the site during working hours.	
Residual impacts:	None.	None.	
Cumulative impacts post mitigation:	Low-Medium.	Low-Medium.	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low-Medium.	Low	
Potential impact and risk:	**SOCIO-ECONOMIC IMPACTS – CREATION OF MULTIPLE JOB OPPORTUNITIES & CAPITAL EXPENDITURE** Creation of temporary job opportunities for skilled and unskilled labour, with potential for skills transfer, for members of the local community. Goods, materials and services, should be sourced from local businesses. Due to the greater extent needing to be covered for construction of the Preferred Alternative 1 Layout, it is predicted that either more labour will be required and/or over a longer period of time, as compared to the Alternative 2 Layout.		
Nature of Impact:	Positive	Positive	Positive
Extent and duration of impact:	Local and medium - term.	Local and medium - term.	Regional and short-term
Consequence of impact or risk:	• Labourers (skilled and unskilled), will be able to earn a living. • Labourers (skilled and especially unskilled) can improve/build their skills. • Improved quality of life for these labourers, by establishing an income.		• Fewer labourer/s will have an opportunity to obtain employment, however they can be sourced from the local community. • Labourer/s (even unskilled), will be able to earn a living, as well as improve/build their skills.
Probability of occurrence:	Definite	Definite	Definite

Degree to which the impact may cause irreplaceable loss of resources:	No loss of a resources	No loss of a resources	No loss of resources
Degree to which the impact can be reversed:	Irreversible	Irreversible	Irreversible
Indirect impacts:	• Income generated by labourer will benefit their families/households, by improving the quality of their lives. • There may be opportunities to transfer skills from more experienced workers to less experienced workers. • Local community/shops will benefit, as labour purchases goods through income generated, from local suppliers.		• Income generated by labourer will benefit their families/households, by improving the quality of their lives (temporarily). • Opportunity to establish new skills that can be utilized to obtain other employment.
Cumulative impact prior to mitigation:	Medium (+)	Low - Medium(+)	Low(+)
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium - High	Medium	Low
Degree to which the impact can be avoided:	Unavoidable	Unavoidable	Unavoidable
Degree to which the impact can be managed:	Not applicable	Not applicable	Not applicable
Degree to which the impact can be mitigated:	• No mitigation proposed, as it is a positive impact.		
Proposed mitigation:	• Positive, therefore no mitigation necessary. • It should be noted that this impact will benefit the local community and address the issue of unemployment within the Western Cape, and country of South Africa, although temporary.		
Residual impacts:	• Labour that previously lacked construction skills and experience, who were hired for this project, will now be able to utilize this for future developments.		• Opportunity to establish new skills that can be

			utilized to obtain other employment.
Cumulative impacts post mitigation:	Not applicable	Not applicable	Not applicable
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+)	Medium (+)	Low(+)
OPERATIONAL PHASE:			
Potential impact and risk:	**AQUATIC IMPACTS: DISTURBANCE OF AQUATIC VEGETATION** There is less direct risk to aquatic habitat during the operational phase as it will have been transformed already during construction and the cemetery is to be fenced. The project may promote the establishment of disturbance-tolerant biota, including colonization by invasive alien species, weeds and pioneer plants if there is any ongoing disturbance near the riparian zone. Although this impact is initiated during the construction phase it is likely to persist into the operational phase. Additionally, the stormwater infrastructure of the housing and associated road network will increase and concentrate flows into the systems. This may indirectly lead to erosion in the remaining wetland habitat that compromises the remaining vegetated habitat. If the No Go zone is adhered to, and it should be as a fence is planned around the cemetery, and stormwater is managed, there will be no disturbance upon the river habitat.		
Nature of Impact:	Negative	Negative	Negative
Extent and duration of impact:	Local and permanent	Local and permanent	Local and long-term
Consequence of impact or risk:	• Persistence of alien invasive species. • Stormwater infrastructure of the housing and associated road network will increase and concentrate flows into the systems.		• Persistence of alien species.
Probability of occurrence:	Improbable	Improbable	Likely
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources	No loss of resources	Marginal loss of resources

Degree to which the impact can be reversed:	Partly	Partly	Partly
Indirect impacts:	• Erosion and incision/scouring in the system. • Disturbance to ecosystem.	• Erosion and incision/scouring in the system. • Disturbance to ecosystem.	• Exposed areas are prone to further disturbance, dumping, and anthropogenic activities.
Cumulative impact prior to mitigation:	• Impact upon downstream system. • Potential alteration to ecology.		• Impact on ecology and remaining indigenous flora on site.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Degree to which the impact can be avoided:	Partly	Partly	Partly
Degree to which the impact can be managed:	Medium	Medium	Low
Degree to which the impact can be mitigated:	Medium	Medium	Partly
Proposed mitigation:	General • Although construction has concluded, the buffer area should still be considered valid, and any activities occurring hereafter, should consider this area as such. • The caretaker should be informed of this, and any illegal dumping that may occur, etc, should be reported to the municipality immediately. • Maintenance must ensure that no solid waste is left on site that can be washed down or blown into the aquatic habitat. Stormwater Management • Stormwater will be collected and dispersed by means of a proposed stormwater berm towards the East of the site, channelling run-off to an existing low-lying		General • Clearance of alien invasive species by the landowner, should be undertaken as often as necessary, to maintain the area, especially considering its exposed nature. • Erect signage to prohibit illegal dumping.

	disturbed area which the Engineers propose to be formalized into a stormwater detention area. • The volume and velocity of stormwater runoff must be reduced through the discharge of the surface flow at multiple locations, preventing erosion, therefore accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater. • Monitor stormwater infrastructure to ensure the infrastructure and measures are functioning. Consider further improvement, if failure is identified, or if it is found to be inadequate. • Ensure stormwater berms are maintained along the outer edge of the proposed site. Alien Invasive Species • The establishment and infestation of alien invasive plant species must be prevented, managed and eradicated in the areas impacted upon by the project.		• Identify suitable facility for waste disposal, of various natures.
Residual impacts:	• Re-establishment of alien invasive species along outer portion of fence line. • Illegal dumping.		• Local authority fails to maintain the area, resulting in the re-establishment of alien invasive species.
Cumulative impacts post mitigation:	Low	Low	Low
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Potential impact and risk:	**AQUATIC IMPACTS: FLOW MODIFICATION** Ensure that surface flows are slowed and enter the river valley in a diffuse pattern. This is likely to be difficult to accomplish due to the existing concentrated flow paths on the hillslope. Structural measures will be needed to halt this rill erosion and prevent further erosion. Good stormwater management and vegetation of the downslope side of the site (and potentially brushpacking of *Prosopsis* on the slope between the river and fence, will assist with this.		

	Ultimately, the operational surface will alter the natural processes of rainwater infiltration and surface runoff, promoting increased volumes and velocities of storm water runoff, which can be detrimental to the rivers receiving concentrated flows off of the area. However, if the new cemetery designs the fence and or stormwater berm and catchpit, or line of vegetation, there is opportunity to improve the current erosive situation. If the stormwater management plan ensures measures to slow and disperse flows over the landscape, the impact will be far lower. As per the Engineering report, the management of the increased run-off volumes and velocities is important as it can be detrimental to the receiving drainage system and communities downstream of the site, and could cause severe erosion, property damage and even loss of life.		
Nature of Impact:	Negative	Negative	Negative
Extent and duration of impact:	Local and permanent	Local and permanent	Local and short-term
Consequence of impact or risk:	• Potential rill erosion. • Alteration of the natural processes of rainwater infiltration and surface runoff. • Increased volumes and velocities of storm water runoff. • Runoff resulting in erosional events into the river, due to the concentrated flows off of the area.		• Clearance of invasive alien species may still leave areas bare, allowing for stormwater to flow, unhindered.
Probability of occurrence:	Probable	Probable	Low
Degree to which the impact may cause irreplaceable loss of resources:	Potential loss of resources	Potential loss of resources	Marginal loss of resources
Degree to which the impact can be reversed:	Partly	Partly	Partly
Indirect impacts:			
Cumulative impact prior to mitigation:	• Escalation of existing concentrated flow paths on the hillslope • Impact upon downstream system. • Potential alteration of ecology.		• Escalation of existing concentrated flow paths on the hillslope • Impact upon downstream system.
Significance rating of impact prior to mitigation	Medium	Low - Medium	Low

(e.g. Low, Medium, Medium-High, High, or Very-High)			
Degree to which the impact can be avoided:	Medium - High	Medium - High	Medium
Degree to which the impact can be managed:	High	High	High
Degree to which the impact can be mitigated:	High	High	High
Proposed mitigation:	Stormwater Control Measures • Surface flow should be slowed down before entering the river valley in a diffuse pattern. • Structural measures will be needed to halt rill erosion and prevent further erosion. • Vegetate the downslope side of the site, and potentially brushpacking of *Prosopsis* on the slope between the river and fence, will assist with this. • Utilize indigenous vegetation, particularly types of shrub, along the Eastern fence line of the site, to create a barrier that will allow runoff velocities to be reduced. This couples as an aesthetically appealing barrier for landscaping purposes. • The implementation of a fence and or stormwater berm and catchpit, or line of vegetation, there is opportunity to improve the current erosive situation. • Monitor stormwater infrastructure to ensure the infrastructure and measures are functioning. Consider further improvement, if failure occurs, or if it is found to be inadequate. As per the Engineering report, post construction stormwater mitigation should entail the restriction of peak flows to pre-development levels, resulting in the status quo of the catchment being maintained. This can be achieved through the following measures: • According to the CoCT's "Management of Urban Stormwater Impacts Policy" all stormwater management systems shall be planned and designed in accordance with best practice criteria and guidelines laid down by Council, to support Water		Stormwater Control Measures • Surface flow should be slowed down before entering the river valley in a diffuse pattern. • Vegetation of the downslope side of the site, and potentially brushpacking of *Prosopsis* on the slope. • Utilize indigenous vegetation where invasives have been removed. Consider transplanting bulbs from the surrounding area.

	Sensitive Urban Design principles and the following specific sustainable urban drainage system objectives: • Improve quality of stormwater runoff; • Control quantity and rate of stormwater runoff; and • Encourage natural groundwater recharge through infiltration. • Infiltration • By dispersing the run-off to numerous outfalls spread across the proposed site into the proposed cut-off berm, the recharge of the underground water table is promoted thus reducing the risk of localised erosion. • An open cut-off berm will be used. Channels with longitudinal slopes flatter than 4% will be earth channels. • The topography of the site is relatively flat and no slopes steeper that 4% are expected. • Attenuation • Attenuation is already available on site in the form of the disturbed area adjacent to the proposed site.		
Residual impacts:	None	None	None
Cumulative impacts post mitigation:	Low	Low	Low
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	Low
Potential impact and risk:	**IMPACT ON THE BIODIVERSITY NETWORK, CBA'S, ETC.** Construction activity will have a marginal effect on the mapped ESA. The extensive ESA's to the west and east will remain intact and unaffected. Therefore, the impact on the biodiversity network, including the CBA's and ESA's, is of a lesser concern. Due to the extent of the Preferred Alternative 1 Layout as compared to Alternative 2, the Preferred Layout will extend closer to, but not encroach upon the ESA areas. No-Go Alternative: The clearance of alien invasive species will include the area within the buffer zone, identified on site.		
Nature of Impact:	Negative	Negative	Negative

Extent and duration of impact:	Site specific and permanent	Site specific and permanent	Site specific and permanent
Consequence of impact or risk:	• Marginal impact on ESA.		
Probability of occurrence:	High	High	High
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resources	Marginal loss of resources	Marginal loss of resources
Degree to which the impact can be reversed:	Irreversible	Irreversible	Irreversible
Indirect impacts:			• Potential illegal land invasions.
Cumulative impact prior to mitigation:	• Alien invasive encroachment. • Disturbed area, due to dumping, remains exposed.		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low - Medium	Low
Degree to which the impact can be avoided:	Medium	Medium	Medium
Degree to which the impact can be managed:	High	High	High
Degree to which the impact can be mitigated:	High	High	High
Proposed mitigation:	Rehabilitation • Rehabilitation should include the disturbed area and section of the Kuilsrivier on the southern side of the site where waste dumping occurred. • Control aliens on and around the site as a long-term management requirement. • Prohibit further waste dumping in the area		Rehabilitation • Rehabilitation should encompass the disturbed area and section of the Kuilsrivier on the southern side of the site where waste dumping occurred.

	• Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint. Faunal Management • Ensure no fauna is harmed. • Signage should prohibit harm to any fauna found on site, and relevant contact numbers should be made available to safely remove any fauna that may pose an issue.		• Control aliens as a long-term management requirement. • Prohibit further waste dumping in the area • Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint. • Consideration should be given to establishing a fence to avoid potential illegal land invasions.
Residual impacts:	None	None	None
Cumulative impacts post mitigation:	None	None	None
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low (-)	Low (-)	Low (-)
Potential impact and risk:	**AQUATIC IMPACTS: EROSION & SEDIMENTATION** Where soil erosion problems and bank stability concerns initiated during the construction phase are not timeously and adequately addressed, these can persist into the operational phase of the development project and continue to have a negative impact on adjacent/downstream water resources in the study area. The creation of preferential flow paths, if not mitigated against, will result in erosion in the catchment and the river systems. As graves are dug, there may be sedimentation downslope, due to soil disturbance. As the Preferred Alternative 1 will entail the establishment of more graves as compared to the Alternative 2, the significance of this impact is deemed higher.		
Nature of Impact:	Negative	Negative	No impact. As there would be no development, there would be
Extent and duration of impact:	Local and permanent	Local and permanent	

Consequence of impact or risk:	• Continuation of soil erosion and slope stability that may have occurred during the construction stage. • Creation of preferential flow paths. • Sedimentation overtime, as graves are excavated.		minimal erosional events due to clearance, as well as bank stability issues, beyond what is currently presently. As no graves will be dug, there this impact will not progress.
Probability of occurrence:	Highly Likely	Highly Likely	
Degree to which the impact may cause irreplaceable loss of resources:	Possible Loss of Resources	Possible Loss of Resources	
Degree to which the impact can be reversed:	Partly	Partly	
Indirect impacts:	• Impact on adjacent/downstream water resources.		
Cumulative impact prior to mitigation:	• Erosion and sedimentation in the catchment and the river systems.		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	
Degree to which the impact can be avoided:	Medium	Medium - High	
Degree to which the impact can be managed:	Manageable	Manageable	
Degree to which the impact can be mitigated:	Medium	Medium	
Proposed mitigation:	General • Mitigation recommended during the construction phase, particularly pertaining to stormwater management, should be adhered to in order to achieve successful function of the site, without compromising the adjacent environment. Stormwater Control		

	• Stormwater will be collected and dispersed by means of a proposed stormwater berm towards the East of the site, channelling run-off to an existing low-lying disturbed area which the Engineers propose to be formalized into a stormwater detention area. • The volume and velocity of stormwater runoff must be reduced through the discharge of the surface flow at multiple locations, preventing erosion, therefore accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater. • Monitor stormwater infrastructure to ensure the infrastructure and measures are functioning. Consider further improvement, if failure is identified, or if it is found to be inadequate. • Ensure stormwater berms are maintained along the outer edge of the proposed site.		
Residual impacts:	None	None	
Cumulative impacts post mitigation:	Low	Low	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Potential impact and risk:	**CONTAMINATION OF GROUNDWATER: DECOMPOSITION OF HUMAN REMAINS** Cemetery sites require groundwater monitoring during operational phase, due to the various potential sources of contamination that are introduced with each new burial. These contaminants have the potential to infect people through contact with contaminated soil/groundwater via ingestion or physical contact. Contaminants take the form of various organic, inorganic substances and metals, occurring from the decomposition of the bodies producing leachate, as decomposition occurs in different stages, resulting in various compositions of water, protein, fat, carbohydrates and other minerals, with inorganic chemical weathering of remaining bone, teeth and cartilage occurring last (Dippenaar, et al., 2018). In addition, potential chemical substances used in the embalming process and following treatments of illnesses, metals from the ornamental hinges on coffins, jewellery and other nutrients and pathogens sources (Dippenaar, et al., 2018).		

Nature of Impact:	Negative	Negative	Not applicable. No expansion will result in no additional burials within the proposed site. While the site is located South of the existing "Goue Akker" cemetery, considering the topography, drainage will flow toward the watercourse located to the East of the site.
Extent and duration of impact:	Local and short term.	Local and short term.	
Consequence of impact or risk:	• Contaminated groundwater and proximal drainage channel.		
Probability of occurrence:	Low	Low	
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resources	Marginal loss of resources	
Degree to which the impact can be reversed:	Reversible	Reversible	
Indirect impacts:			
Cumulative impact prior to mitigation:	Low	Low	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Degree to which the impact can be avoided:	Low	Low	
Degree to which the impact can be managed:	Low	Low	
Degree to which the impact can be mitigated:	Low	Low	
Proposed mitigation:	• Monitoring boreholes are required (minimum of 3) in order to detect any potential contamination as quickly as possible. • Borehole monitoring plan should be followed as per Appendix G.3.		
Residual impacts:	• Identification of any potential contaminants. • Results for record keeping purposes, should there be any reported cases of contamination downstream.		
Cumulative impacts post mitigation:	Low	Low	

Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Potential impact and risk:	**CONTAMINATION OF GROUNDWATER: METAL CORROSION** Common contaminants found at cemeteries include metals from the ornamental hinges on coffins, jewellery and other nutrients (Dippenaar, et al., 2018). As per experiments noted in Dippenaar, et al., 2018, it has been established that metals tend to mobilise fairly soon, and will remain mobile at later times. It has been determined that leachate from sands are more enriched, however clays are more corrosive to metals, but leaching is retarded. The corrosion of metal is further influenced by environmental control including low pH, unsaturated conditions, fine-textured soils, and warmer temperatures. As the Preferred Alternative 1 Layout will accommodate more grave sites, the potential contaminants that can result in ground water contamination from metal corrosion, are predicted to be higher, as compared with Layout 2 as it will accommodate approximately 3 135 less graves sites.		
Nature of Impact:	Negative	Negative	Not applicable. No expansion will result in no additional burials within the proposed site. While the site is located South of the existing "Goue Akker" cemetery, considering the topography, drainage will flow toward the watercourse located to the East of the site.
Extent and duration of impact:	Local and short term.	Local and short term.	
Consequence of impact or risk:	• Contaminated groundwater and proximal drainage channel.		
Probability of occurrence:	Low	Low	
Degree to which the impact may cause irreplaceable loss of resources:	Marginal loss of resources	Marginal loss of resources	
Degree to which the impact can be reversed:	Reversible	Reversible	
Indirect impacts:			
Cumulative impact prior to mitigation:	Low	Low	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	

Degree to which the impact can be avoided:	Low - Medium	Low- Medium	
Degree to which the impact can be managed:	Medium	Medium	
Degree to which the impact can be mitigated:	Medium	Medium	
Proposed mitigation:	General • Standar31dise coffin size with ordinary dimensions. • Coffin materials should primarily consist of wood or biodegradable materials. • Refrain from using excessive ornamental metals, plastics, paints varnishes, etc. • All jewellery, dentures, pacemakers, watches, batteries, excessive cosmetics, and other such materials should be removed prior to burial. • Monitoring boreholes are required (minimum of 3) in order to detect any potential contamination as quickly as possible. • Borehole monitoring plan should be followed as per Appendix G.3.		
Residual impacts:	• Identification of any potential contaminants. • Results for record keeping purposes, should there be any reported cases of contamination downstream.		
Cumulative impacts post mitigation:	Low	Low	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Potential impact and risk:	**CONTAMINATION OF GROUNDWATER: COMPOUNDS USED DURING EMBALMING** Formaldehyde is one such chemical that is typical used in the embalming process, in preparation of the body for burial. This chemical poses a health risk due to its' carcinogenic properties, and therefore should be addressed, as it has been established that approximately1.5 litres of formaldehyde is required for a 70 kg body (Anat, 1993; Karmakar, 2010).		
Nature of Impact:	Negative	Negative	Not applicable. No expansion will result in no additional burials within the proposed site. While the site is located South of the existing
Extent and duration of impact:	Local and short term.	Local and short term.	
Consequence of impact or risk:	• Contaminated groundwater and proximal drainage channel.		

Probability of occurrence:	Low	Low	"Goue Akker" cemetery, considering the topography, drainage will flow toward the watercourse located to the East of the site.
Degree to which the impact may cause irreplaceable loss of resources:	Minimal loss of resources	Minimal loss of resources	
Degree to which the impact can be reversed:	Reversible	Reversible	
Indirect impacts:			
Cumulative impact prior to mitigation:	Low	Low	
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Degree to which the impact can be avoided:	Low	Low	
Degree to which the impact can be managed:	Low	Low	
Degree to which the impact can be mitigated:	Can be mitigated	Can be mitigated	
Proposed mitigation:	General • When formaldehyde comes into contact with water it tends to breakdown into methanol, amino acids and several other chemicals and therefore does not persist in the environment. (World Health Organisation, 2002). • Monitoring boreholes are required (minimum of 3) in order to detect any potential contamination as quickly as possible. • Borehole monitoring plan should be followed as per Appendix G.3.		
Residual impacts:	• Identification of any potential contaminants. • Results for record keeping purposes, should there be any reported cases of contamination downstream.		
Cumulative impacts post mitigation:	Low	Low	
Significance rating of impact post mitigation	Low	Low	

(e.g. Low, Medium, Medium-High, High, or Very-High)			
Potential impact and risk:	**SOCIO-ECONOMIC IMPACTS: POSSIBLE GREEN SPACE APPLICATION** Although it is not currently included in the plans for this cemetery. It should be noted that in recent times the use of cemeteries as green spaces has become common practice. Through this proposal, the extent of the site will increase, the area will be fenced providing some level of security, ablution/caretaker facility will be established, indicating the availability of services, which could contribute to the site being used as a successful green space. It provides an opportunity for the community to alter their perspective of typical cemeteries, and identify it as a place for community, instilling a sense of responsibility toward it. Through the successful adaption of this concept, it can reinforce a sense of safety and security for visitors. As the Alternative 2 Layout does not extend across the remaining portion of the site, to the South of the existing cemetery, it may be feasible to incorporate this portion into the cemetery as green space, in order to apply this concept.		
Nature of Impact:	Positive.	Positive.	Not applicable. Without the proposed development the site will not be cleared, ablution facilities will not be provided, improvement of the access road will not occur, and the area may not be fenced, making it a poor green space option.
Extent and duration of impact:	Local and permanent.	Local and permanent.	
Consequence of impact or risk:	• Creation of a safe and efficient space for green space applications. • May observe community reluctance to accept this concept.		
Probability of occurrence:	Probable	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	No loss of a resources	No loss of a resources	
Degree to which the impact can be reversed:	Reversible	Reversible	
Indirect impacts:	• Can challenge/change community perspective of cemeteries. • Encourage a sense of responsibility and belonging amongst community.		
Cumulative impact prior to mitigation:	No mitigation is required		
Significance rating of impact prior to mitigation	Medium (+)	Medium - High (+)	

(e.g. Low, Medium, Medium-High, High, or Very-High)			
Degree to which the impact can be avoided:	• Not applicable • It remains a mostly positive impact, that can benefit the local community, and potentially the local economy.		
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:	This is seen as a mostly positive impact, however there may be reluctance at first, due to community perspective of cemeteries. Overcoming these issues will entail public involvement and education. By including the public, it can be indicated that the space is still shown the respect it deserves as a place of rest for many loved ones, however, it can be utilized as a place for community. Encouraging this site as a green space can be achieved by: • Erecting benches in various areas around the site. • Erect appropriate bins close to these areas. • Erect signage detailing prohibited activities within the green space. • Utilize indigenous vegetation to create barriers were necessary, within the site. • Offer the community a chance to utilize the space for social activities. • Hold the community responsible for clearing the site, of litter and other paraphernalia if used for community events/social activities. • Possible establishment of indigenous trees for shade to create a scenic and park-like environment.		
Residual impacts:			
Cumulative impacts post mitigation:			
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)			

Potential impact and risk:	**SOCIO-ECONOMIC IMPACTS: JOB CREATION & LOCAL REVENUE** The operation of the cemetery will provide temporary/long-term employment for the undertaking of maintenance (cleaning of ablution facilities, and landscaping) and security, it will however not create many permanent job opportunities. Furthermore, if a portion of the site is used as a green space, this would encourage the community to use the space for social events and other social activities, which can contribute to local revenue of local businesses. No-go alternative: The clearing of alien invasive species should be undertaken. This will create temporary employment, it will provide an opportunity for transfer and growth of skills, when unskilled labourers are used.		
Nature of Impact:	Positive	Positive	Positive
Extent and duration of impact:	Local and Long term	Local and Long term	Local and temporary
Consequence of impact or risk:	• Long-term/temporary employment available to few members of the local community. • Employees earn salaries that will contribute to their quality of life. • Multiple opportunities will be created within the site and will ripple out to the surrounding community.		• Temporary employment, in order to establish the alien invasive clearance. • Limited number of employees.
Probability of occurrence:	Definite	Definite	Probable
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources	No loss of resources	No loss of resources
Degree to which the impact can be reversed:	Irreversible	Irreversible	Reversible
Indirect impacts:	• Local employees will purchase from local stores/businesses, stimulating the local economy to grow and thrive.	• Local employees will purchase from local stores/businesses, stimulating the local economy to grow and thrive.	• Skills transference, into alien invasive management in the local community. • Employees can support local stores/business, however much fewer and temporarily, as this

			maintenance may not be consistent.
Cumulative impact prior to mitigation:	• Employees will earn a living to improve the lives, health and safety of their family members and households. • Employees are able to afford to educate their children. • Employees are able to provide food and shelter for themselves and their families. • Employment created with the development will have a positive influence on members in the community previously unemployed.	• Employees will earn a living to improve the lives, health and safety of their family members and households. • Employees are able to afford to educate their children. • Employees are able to provide food and shelter for themselves and their families. • Employment created with the development will have a positive influence on members in the community previously unemployed.	Not applicable
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (+)	Low (+)	
Degree to which the impact can be avoided:	Not applicable, it remains a positive impact, that will benefit the surrounding community and the local economy.	Not applicable, it remains a positive impact, that will benefit the surrounding community and the local economy.	
Degree to which the impact can be managed:			
Degree to which the impact can be mitigated:			
Proposed mitigation:			
Residual impacts:			
Cumulative impacts post mitigation:			
Significance rating of impact post mitigation			

(e.g. Low, Medium, Medium-High, High, or Very-High)			
Potential impact and risk:	**SOCIAL IMPACT: VANDALISM AND SECURITY** Change of site from undeveloped to developed, attracts loiterers and people with nefarious intentions. It is common for functioning cemeteries to be subject to occurrences of vandalism of infrastructure, especially groundwater monitoring borehole equipment, as per the 2012 – 2017 IDP for Beaufort West Municipality, cemetery fence lines and tombstones. Visitors at risk of robberies, and other criminal acts, due to lack of security and the vast sizes of the sites. This has resulted in community members feeling a sense of fear and unease while visiting cemeteries, leading to poor upkeep of grave sites, and costly replacement of damaged infrastructure. Furthermore, according to the 2012 – 2017 Beaufort West IDP, it has been reported that animals have been found wandering onto site, and damaging flowers and tombstones. While the site does provide residence for the caretaker, he/she cannot solely, and efficiently provide upkeep and security, without some assistance.		
Nature of Impact:	Negative.	Negative.	Not applicable, as the development will not take place, the site will remain as per the status quo.
Extent and duration of impact:	Local and long-term	Local and long-term	
Consequence of impact or risk:	• Possible criminal activity. • Visitors hesitate to visit cemetery. • Caretaker can be at risk.		
Probability of occurrence:	Highly probable	Highly probable	
Degree to which the impact may cause irreplaceable loss of resources:	Possible Loss of Resources.	Possible Loss of Resources.	
Degree to which the impact can be reversed:	Irreversible	Irreversible	
Indirect impacts:	• Community feels unease at visiting a place that should be seen as a communal area. • Costs associated with vandalized tombstones and other disturbances.		
Cumulative impact prior to mitigation:	• Site deterioration, as lack of visitors can result in poor upkeep of the gravesites, and lack of interest from the community.		

Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium (-)	Medium (-)	
Degree to which the impact can be avoided:	Probable	Probable	
Degree to which the impact can be managed:	Probable	Probable	
Degree to which the impact can be mitigated:	Can be partly mitigated.	Can be partly mitigated.	
Proposed mitigation:	General • Erect signage detailing prohibited activities. • Ensure security is available at the entrance of the cemetery. • Ensure that there is only one access point. • Ensure the fence is maintained, any detection of vandalism should be reported immediately. • The caretaker should have the contact information for emergency services, and enforcement, as well as the means to report any suspicious activities. • Consider fitting boreholes established for water monitoring, with borehole monitoring caps, to secure them while on site. Faunal Management • If palisade fencing is to be utilized along the boundary, consideration needs to be given to lining the bottom half with either netting or wire, to limit faunal access into the site. • The caretaker should be provided with details of animal removal services and should not attempt to corner or harm any animal. • No chemical deterrent should be utilized, ie, rat poison, etc, as this my result in soil/water contamination.		
Residual impacts:	None		

Cumulative impacts post mitigation:	Low	Low	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low	Low	
Potential impact and risk:	**SOCIO-ECONOMIC IMPACTS: PROVISION OF ADDITIONAL GRAVE SITES** The Beaufort West Local Municipality has identified an imminent shortage in future available burial spaces, and that the existing cemeteries are near reaching their full capacity. Through this expansion, the "Goue Akker" cemetery capacity will increase by approximately 10 545 grave sites (Preferred Alternative). The application of Alternative 2, will result in significantly less graves sites, although the capacity will increase from its current state.		
Nature of Impact:	Positive	Positive	Not applicable, as there would be no expansion, shortage in number capacity will persist.
Extent and duration of impact:	Local and permanent.	Local and permanent.	
Consequence of impact or risk:	• Utilization of space within the urban edge. • Meeting the demand for additional grave sites, ensuring the local municipality is able to sustain the foreseen demand, to support its residents' needs. • Utilizing space in an appropriate manner, by extending the cemetery into this disturbed, vacant portion of RE/185 Farm.		
Probability of occurrence:	Definite	Definite	
Degree to which the impact may cause irreplaceable loss of resources:	No significant loss of a resource.	No significant loss of a resource.	
Degree to which the impact can be reversed:	Irreversible	Irreversible	
Indirect impacts:	• Attracting prospective residents, and reassuring current residents, that the municipality is able to provide the various community services required.		
Cumulative impact prior to mitigation:	• Medium	• Medium	
Significance rating of impact prior to mitigation	High, no mitigation required.	Medium, no mitigation required.	

(e.g. Low, Medium, Medium-High, High, or Very-High)			
Degree to which the impact can be avoided:	Unavoidable	Unavoidable	
Degree to which the impact can be managed:	Unmanageable.	Unmanageable.	
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.		
Proposed mitigation:	• Positive. • No mitigation required. • The proposed development represents an enhancement measure on its own.		
Residual impacts:	• Meeting the need for community services within the municipality. • Promoting the Beaufort West area. • Promoting economical growth and interest for the municipality, as basic community services are available.		
Cumulative impacts post mitigation:	High.	High.	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	High (+)	Medium (+)	
Potential impact and risk:	**VISUAL IMPACT** There will be a change from an undeveloped, to a developed site. Alteration of the site will support a positive visual impact, as the site will be cleared of alien invasive species, will boast a new ablution facility, an extended access road, a new fence, and will be maintained, in addition dumping located at various positions on site, will be removed, as per the Preferred Alternative 1 Layout. The Alternative 2 Layout will only allow for the transformation of a portion of the site, the illegal dumping to the South for the proposed site may continue, as this area will be freely accessible.		
Nature of Impact:	Positive	Positive	Negative
Extent and duration of impact:	Local and permanent.	Local and permanent.	Local and long-term.
Consequence of impact or risk:	Change in sense of place	Change in sense of place.	• Illegal dumping will continue on site.

			• Alien invasive species will continue to thrive on this site. If clearance is not undertaken soon, or if it is not maintained.
Probability of occurrence:	Definite	Definite	Definite
Degree to which the impact may cause irreplaceable loss of resources:	No irreplaceable loss of resources.	No irreplaceable loss of resources.	No irreplaceable loss of resources.
Degree to which the impact can be reversed:	Irreversible	Irreversible	Irreversible
Indirect impacts:	Change in sense of place.	Change in sense of place.	None
Cumulative impact prior to mitigation:	• Low. • The current character of the site will change, but as it links with the existing residential character of the surrounding area (existing cemetery).	• Low. • The current character of the site will change, but as it links with the existing character of the surrounding area (existing cemetery).	• Medium.
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium - High, no mitigation required.	Low - Medium, no mitigation required.	• Medium (-)
Degree to which the impact can be avoided:	Unavoidable	Unavoidable	Partly
Degree to which the impact can be managed:	Unmanageable.	Unmanageable.	Partly
Degree to which the impact can be mitigated:	N/A – This is a positive impact proposed to be enhanced.		
Proposed mitigation:	• Positive. • No mitigation required.		• The landowner should implement clearance of alien invasive species,

			giving the labourers opportunity to clear any waste material that may have washed/dispersed across the site. • The landowner should consider fencing the site, which will discourage the possibility of illegal land invaders.
Residual impacts:	Positive: • Meeting the need for community services within the municipality. • Promoting the Beaufort West area, for residential development and settlement of families. • Promoting economical growth and interest in the municipality, as basic community services are available.		• Continuation of dumping.
Cumulative impacts post mitigation:	Medium	Medium	None
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium - High (+)	Low- Medium (+)	Low
Potential impact and risk:	**TRAFFIC IMPACT:** Traffic along Blyth Street will be reduced, once construction concludes. The existing access road will be extended to allow access to the proposed site. No additional parking area has been allocated on site. If multiple funerals are held on a single day, traffic congestion will lead to accessibility issues.		
Nature of Impact:	Negative	Negative	No impact, traffic will not be altered as no expansion will take place.
Extent and duration of impact:	Local and long-term	Local and long-term	
Consequence of impact or risk:	• Overtime, additional graves, funerals, and visitors will need to be accommodated. • Lack of allocated parking space for additional visitors.		

Probability of occurrence:	Probable	Probable	
Degree to which the impact may cause irreplaceable loss of resources:	No loss of resources.	No loss of resources.	
Degree to which the impact can be reversed:	Partly Reversible.	Partly Reversible.	
Indirect impacts:	• Increased carbon emissions. • Accessibility issues.	• Increased Carbon Emissions. • Accessibility issues.	
Cumulative impact prior to mitigation:	• Increase in the number of vehicles may lead to traffic congestion and disgruntled visitors.		
Significance rating of impact prior to mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Medium	Low - Medium	
Degree to which the impact can be avoided:	Medium	Medium	
Degree to which the impact can be managed:	Medium	Medium	
Degree to which the impact can be mitigated:	Can be Partly mitigated.	Can be Partly mitigated.	
Proposed mitigation:	General • Implement signage: • To identify the cemetery entrance off of Blyth Street. • To allocate preferred parking areas. • Ensure that sufficient signage and road markings are incorporated into the internal road network.		
Residual impacts:	• Increase carbon emissions (not predicted to be extensive).	• Increase carbon emissions (not predicted to be extensive).	

Cumulative impacts post mitigation:	Low	Low	
Significance rating of impact post mitigation (e.g. Low, Medium, Medium-High, High, or Very-High)	Low - Medium	Low.	

SECTION I: FINDINGS, IMPACT MANAGEMENT AND MITIGATION MEASURES

1.	Provide a summary of the findings and impact management measures identified by all Specialist and an indication of how these findings and recommendations have influenced the proposed development.

Botanical Impact Assessment Report
Specialist: Mark Berry

Summary of Findings:

The site was found to contain fair to good quality Southern Karoo Riviere. Due to Southern Karoo Riviere being well represented in the larger area and not threatened, the impact on vegetation type per se is of a low to moderate concern. No known Species of Conservation Concern, regional endemics or protected species will be affected. All the recorded species are widespread and common. The impact on the biodiversity network, including the CBA's and ESA's, is of a lesser concern since the project only marginally affects mapped ESA's. The extensive ESA's to the west and east will remain intact and unaffected.

Summary of Impacts:

- Impact on vegetation type, habitat and species.

Summary of Management Measures:

General:

- Implement alien control on and around the site as a long-term management requirement.
- Prohibit further waste dumping in the area.

Pre-Construction:

- In order to minimise disturbance of the adjacent vegetation and Kuils River, the construction area should be demarcated/fenced off prior to the start of construction activities. No disturbance or spoiling may occur outside this area.

Construction:

- Focus on the protection of veld adjacent to the works areas, and maybe the rehabilitation of the disturbed areas outside the site.

Rehabilitation:

- Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint.
- Rehabilitate the disturbed area and section of the Kuils River on the southern side where waste dumping occurred. The affected section of the Kuils River should be reinstated or included as part of the biodiversity network.

Freshwater Impact Assessment
Specialist: Debbie Fordham of SES

Summary of Findings:

It was found that the Kuils River will be impacted upon. As the cemetery expansion encroaches into the regulated area of the Kuils River, a water use authorisation and registration under Section 21 (c) and (i) of the National Water Act (Act 36 of 1998), will be required. It will be necessary to complete a Risk Matrix as specified in the Government Notice R509 of 2016 for section 21 (c) and (i) water uses (impeding or diverting flow or changing the bed, banks or characteristics of a watercourse) as defined

under the NWA (1998). Should the Risk Matrix determine the project to have Low risk upon freshwater habitat then authorisation via General Authorisation (GA) with the BGCMA is possible.

The direct and indirect impacts associated with the project were identified and grouped into three encapsulating impact categories. The impacts identified are:

- Disturbance of riparian vegetation
- Sedimentation and erosion
- Flow modification

The impacts associated with the project are assessed as being of Low-Medium significance. However, this may potentially be decreased to Low impact significance with the implementation of effective mitigation measures. The impacts are considered to be easily mitigated provided the mitigation measures and monitoring plan within this report are implemented and adhered to during the construction and operational phase of the project. Mitigation measures must focus on avoiding sensitive areas as far as possible and stabilising erosion features. The proposal is deemed acceptable from an aquatic habitat perspective. The applicant should apply for a General Authorisation from the Breede Gouritz Catchment Management to fulfil the water use requirements of the National Water Act (Act 36 of 1998).

Summary of Impacts:

Table 9: Summary of Impacts as per the Freshwater Impact Assessment

CONSTRUCTION PHASE IMPACTS				
IMPACT	**PREFERRED ALTERNATIVE 1: LAYOUT**		**ALTERNATIVE 2: LAYOUT**	
	IMPACT SIGNIFICANCE BEFORE MITIGATION	**IMPACT SIGNIFICANCE AFTER MITIGATION**	**IMPACT SIGNIFICANCE AFTER MITIGATION**	**IMPACT SIGNIFICANCE AFTER MITIGATION**
DISTURBANCE/LOSS OF AQUATIC VEGETATION AND HABITAT	**Low - Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Low (-)**
SEDIMENTATION AND EROSION	**Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Low (-)**
FLOW MODIFICATION	**Low - Medium (-)**	**Low (-)**	**Low (-)**	**Low (-)**
OPERATIONAL PHASE IMPACTS				
IMPACT	**PREFERRED ALTERNATIVE 1: LAYOUT**		**ALTERNATIVE 2: LAYOUT**	
DISTURBANCE/LOSS OF AQUATIC VEGETATION AND HABITAT	**Low (-)**	**Low (-)**	**Low (-)**	**Low (-)**
SEDIMENTATION AND EROSION	**Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Medium (-)**
FLOW MODIFICATION	**Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Low (-)**

Summary of Management Measures

General

- Manage and mitigate any potential risks that may result in the deterioration to the water resource takes place.
- Standard management measures should be implemented to ensure that any on-going activities do not result in a decline in water resource quality.
- Consideration should also be given to the rehabilitation of watercourses where feasible.
- A suitably qualified independent Environmental Control Officer with an appropriately timed audit report, and a suitably qualified aquatic specialist must audit the site if disturbance upon the watercourse is extreme.
- Monitoring for non-compliance must be done on a daily basis by the contractors.
- Photographic records of all incidents and non-compliances must be retained.

Design/Planning Phase:

- A 28 m aquatic buffer zone between any proposed activities and the river edge.

Construction Phase:

- Identify and ensure maintenance of the working corridor and 28m construction buffer.
- All watercourses are to be considered no go areas.
- Demarcate construction servitude / development zone within the vicinity of the freshwater habitat with highly visible material (e.g. danger tape/safety netting) prior to construction commencing.
- Designated areas for stockpiling of raw materials, this area should not be placed in vegetated areas that will not be cleared, as well as on or near slopes or water resources.
- Identified stockpiling areas must be approved by the ECO before stockpiling occurs.
- Implement erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.
- Ensure environmental inductions take place prior to construction commencing and any subcontractors utilised must be inducted before starting work onsite.

Post-Construction/ Rehabilitation Phase

- Should accidental disturbance of the watercourse and no-go buffer occur, guidelines for rehabilitation of aquatic habitats are provided
- Consult WET-RehabEvaluate, WET-RehabMethods (Cowden and Kotze, 2009), and the river rehabilitation manual developed by Day et al. 2016, for further information.
- Alien invasive plant species should be removed and indigenous vegetations established (which is the landowner's responsibility regardless of mitigation associated with this project).
- The contractor must continuously monitor the area for alien species during the contract and establishment period which if present should be removed.
- Removal of vegetation must only be when essential for the continuation of the project. Do not allow any disturbance to the adjoining natural vegetation cover or soils.
- The solid domestic waste must be removed and disposed of, offsite.
- Erosion features that have developed due to construction within the aquatic habitat due to the project are required to be stabilised.
- A monitoring programme should be implemented.

Operational Phase

- The establishment and infestation of alien invasive plant species must be prevented, managed and eradicated in the areas impacted upon by the project.
- The encroachment of any further infrastructure or vehicles into the aquatic buffer area must be prevented.

- No solid waste should be left on site.
- Reduce the volume and velocity of stormwater runoff.

Palaeontological Study and Integrated HIA
Dr John Almond and Dr Lita Webley

Summary of Findings:

As reported in the Integrated HIA, the Heritage Resources Identified included:

- The site is adjoining, and directly south, of the existing Goue Akker Cemetery and on the banks of the Kuils River.
- The current site is undeveloped and covered in a mix of indigenous and exotic vegetation. There are no structures on the site. No archaeological remains were identified by M. Tusenius.
- The Palaeontological Impact Assessment was conducted by Dr John Almond on the 8th November 2020. He notes the following: "*No Permian or Caeonozoic fossils were observed within the cemetery expansion study area itself. No fossil remains were recorded in good exposures of the Teekloof Fromation and overlying alluvial deposits in the beds and banks of the Kuils River which are all situated on the periphery of and outside the study area*".

According to Almond: "*It is concluded that the palaeo-sensitivity of the site is in fact Low and the Impact Significance of the development is rated as LOW (-ve) without mitigation. This assessment applies to all project alternatives. The No-Go option (i.e. no cemetery expansion) would have a neutral impact on local fossil heritage resources*".

The expansion of the cemetery will have no impact on the local archaeology of the area. While there is a possibility of informal burials in the alluvial soils of the Kuils River, such as elsewhere in Beaufort West, the likelihood of this is considered Low. Similarly, the impacts on the Cultural Landscape, which include the banks of the Kuils River are considered to be low in view of the Goue Akker Cemetery to the north, and the wastewater treatment works to the west of the site.

Summary of Impacts

None.

Summary of Management Measures

Pending the potential discovery of important new fossil remains – such as vertebrate fossil bones and teeth, petrified wood, plant-rich lenses or layers, fossil shells, fish remains or dense fossil burrow assemblages – during the construction of operational phases of the cemetery, no further specialist palaeontological studies or mitigation area recommended for this project.

- A protocol for Chance Fossil Finds should be incorporated into the Environmental Management Programme (EMPr).

2.	List the impact management measures that were identified by all Specialist that will be included in the EMPr

Botanical Impact Assessment

- Demarcation
- Demarcate/fence off the construction area.
- Contain disturbance to the demarcated construction area.
- No disturbance or spoiling may occur outside this area.

- Rehabilitation
- Rehabilitation should include the disturbed area and section of the Kuils River on the southern side of the site where waste dumping occurred.
- Control aliens as a long-term management requirement.

- Prohibit further waste dumping in the area
- Consider search and rescue of bulbs and cuttings of succulents for use in the rehabilitation of disturbed areas outside the cemetery footprint.
- Control aliens on and around the site as a long-term management requirement; prohibit further waste dumping in the area.

Freshwater Impact Assessment

- Any potential risks must be managed and mitigated to ensure that no deterioration to the water resource takes place.
- Standard management measures should be implemented to ensure that any on-going activities do not result in a decline in water resource quality.
- Consideration should also be given to the rehabilitation of watercourses where feasible.
- Mitigation measures related to the impacts associated with the construction activities are intended to augment standard/generic mitigation measures included in the project-specific Environmental Management Programme (EMPr).

Monitoring

- The mitigation recommendations must be audited by a suitably qualified independent Environmental Control Officer with an appropriately timed audit report.
- Where there is extensive damage to any aquatic system, where rehabilitation is required, a suitably qualified aquatic specialist must audit the site.
- Monitoring for non-compliance must be done on a daily basis by the contractors.
- Photographic records of all incidents and non-compliances must be retained.

Design/Planning Phase:

- A 28 m aquatic buffer zone between any proposed activities and the river edge.

Construction Phase:

- Buffer Zone and Working Corridor
  - Outside the working corridor, all watercourses are to be considered no go areas and a 28 m construction buffer must be adhered to.
  - The edges of the construction servitude / development zone within the vicinity of the freshwater habitat must be clearly staked-out and demarcated using highly visible material (e.g. danger tape/safety netting) prior to construction commencing.

- Stockpiling
  - Designated areas for stockpiling of raw materials must be identified before material is brought onto site.
  - Stockpiles should not be placed in vegetated areas that will not be cleared.
  - No stockpiling is to occur on or near slopes or water resources.
  - All stockpiling areas must be approved by the ECO before stockpiling occurs.

- Erosion Control Measures
  - Erosion control measures including silt fences, low soil berms and/or shutter boards must be put in place around the stockpiles to limit sediment runoff from stockpiles.

- Staff Environmental Induction
  - Environmental Inductions must take place prior to construction commencing and any subcontractors utilised must be inducted before starting work onsite.
  - The ECO must monitor the compliance of the Contractors and instruct the Contractors where necessary.

Post-Construction/ Rehabilitation Phase

Should accidental disturbance of the watercourse and no-go buffer occur, guidelines for rehabilitation of aquatic habitats are provided. The aim of the rehabilitation is to ensure the necessary procedures are appropriately implemented in the natural environment that may be negatively affected by the development. The plan will promote the re-establishment of the ecological functioning of any area disturbed by construction activities. Also consult WET-RehabEvaluate, WET-RehabMethods (Cowden and Kotze, 2009), and the river rehabilitation manual developed by Day et al. 2016, for further information.

- Alien Invasive Species Removal
  - The area must be maintained through alien invasive plant species removal (which is the landowner's responsibility regardless of mitigation associated with this project) and the establishment of indigenous vegetation cover to filter run-off before it enters the freshwater habitat.
  - It is the contractor's responsibility to continuously monitor the area for alien species during the contract and establishment period which if present should be removed.
  - Alien invasive species within the construction corridor must be removed.
  - Alien invasive species that are likely to encroach are cacti and Prosopis species.
  - Removal of these species shall be undertaken in a way which prevents any damage to the remaining indigenous species and inhibits the re-infestation of the cleaned areas.
  - Any use of herbicides in removing alien plant species is required to be investigated by the ECO before use, for the necessity, type proposed to be used, effectiveness and impacts of the product on aquatic biota.
  - Alien/ invasive species shall not be stockpiled, they should be removed from site and dumped at an approved site.

- Vegetation Removal
  - Removal of vegetation must only be when essential for the continuation of the project. Do not allow any disturbance to the adjoining natural vegetation cover or soils.

- Waste Disposal
  - The solid domestic waste must be removed and disposed of offsite.
  - All post-construction building material and waste must be cleared in accordance with the EMPr.

- Erosion Control
  - Erosion features that have developed due to construction within the aquatic habitat due to the project are required to be stabilised. This may also include the need to deactivate any erosion headcuts/rills/gullies that may have developed.

- Monitoring
  - A monitoring programme shall be in place, not only to ensure compliance with the EMPr throughout the construction phase, but also to monitor any post-construction environmental issues and impacts during the vegetation establishment phase.

Operational Phase

- Alien Invasive Species
  - The establishment and infestation of alien invasive plant species must be prevented, managed and eradicated in the areas impacted upon by the project.

- Aquatic Buffer

- The encroachment of any further infrastructure or vehicles into the aquatic buffer area must be prevented.

- Waste Disposal
  - Maintenance must ensure that no solid waste is left on site that can be washed down or blown into the aquatic habitat.
- Stormwater Management
  - The volume and velocity of stormwater runoff must be reduced through discharging the surface flow at multiple locations, preventing erosion.

Geotechnical and Geohydrological Assessment

- Monitoring
  - Monitoring boreholes are required (minimum of 3) in order to detect any potential contamination as quickly as possible.
  - Borehole monitoring plan should be followed as per Section 9.1. of the Geotechnical and Geohydrological Impact Assessment, Appendix G.3.
- Standardise coffin size with ordinary dimensions.
- Coffin materials should primarily consist of wood or biodegradable materials.
- Refrain from using excessive ornamental metals, plastics, paints varnishes, etc.
- All jewellery, dentures, pacemakers, watches, batteries, excessive cosmetics, and other such materials should be removed prior to burial.
- It was established that formaldehyde comes into contact with water it tends to breakdown into methanol, amino acids and several other chemicals and therefore does not persist in the environment (World Health Organisation, 2002).

It has been noted that this site is dominated by clayey sandy SILT to depth. The upper 20 cm is very dense. Just below this, the consistency is loose to medium dense to a depth of about 1.0 mbgl, after which the soil profile becomes very dense to depth. The northern third of the site comprises of SILT to depth while CALCRETE and/or BOULDER lenses that are present within the southern two thirds of the site. These lenses are observed between 1.6 to +3.0 mbgl. No groundwater was intersected in any of the trial pits, indicating a relatively deep, water table. Therefore, vertical burials would not be efficient for this site, due to the presence of calcrete and boulders, at depths exceeding 1.6m's.

Palaeontological Study and Integrated HIA

- Pending the potential discovery of important new fossil remains – such as vertebrate fossil bones and teeth, petrified wood, plant-rich lenses or layers, fossil shells, fish remains or dense fossil burrow assemblages – during the construction of operational phases of the cemetery, no further specialist palaeontological studies or mitigation area recommended for this project.
  - A protocol for Chance Fossil Finds should be incorporated into the Environmental Management Programme (EMPr).

3.	List the specialist investigations and the impact management measures that will **not** be implemented and provide an explanation as to why these measures will not be implemented.

All specialist investigations and impact management measures will be implemented.

4.	Explain how the proposed development will impact the surrounding communities.

The proposed development has the ability to impact upon the surrounding community in both positive and negative ways, these include:

Positive Impacts:

- The proposed development will allow for the accommodation of approximately additional 3 135 additional burial spaces and with a growth rate of 3% per annum will provide sufficient space for the next thirteen (13) years after the existing site has reached its capacity.
- The proposed development will address the existing need for burial sites within the Goue Akker Cemetery, it is estimated that the grave site at the "Goue Akker" cemetery currently has 691

burial space. The average monthly funerals are 41, leaving the "Goue Akker" cemetery with a capacity of approximately 16 months thus giving purpose to the urgent expansion of the cemetery.
- Social rights and/or religious customs are respected, as some people believe that burials are the only way to lay their deceased to rest.
- The community will have a secure and well-maintained area to lay their deceased to rest, as well as visit, as ablution facilities will be provided, and maintained.
- The cemetery does not encroach upon the residential developments, as it remains on the outskirts, with immediate surroundings being open space, roads, and a wastewater treatment works.
- The cemetery can be utilised as green space, encouraging the community to feel a sense of ownership to this space, contribute to upkeep, and maintenance.
- If utilized as a green spaces, this will encourage a sense of community amongst the people of Beaufort West, as it can be utilized for recreational purposes to bring the community together.
- The development will attract temporary employment during construction, and fewer long-term employment during operational phase, for locals, in order to maintain the expanded area.
- The development will encourage the municipality to address their existing infrastructure to this area, as well as the maintenance of the existing development and future development.

Negative Impacts:
- Traffic may be affected during construction phase, however it will be radically reduced during operational phase, and accessibility within the cemetery will be improved.
- If there is a lack of security and maintenance, there may be an increase in occurrences of loitering, vandalism and criminal activity.

5.	Explain how the risk of climate change may influence the proposed activity or development and how has the potential impacts of climate change been considered and addressed.

Table 10: Climate change impacts, and their consideration in the proposed development.

According to the Western Cape Department of Environmental Affairs and Development Planning, climate change will affect the Western Cape in the following ways:	***How has the potential climate change impacts been integrated in proposed development.***
Higher average annual temperature Higher maximum temperatures More hot days and more heat waves Higher minimum temperatures Fewer cold days and frost days	• Daily assessment of weather conditions should be completed during construction stage, to ensure conditions are viable for labourers to be working outside (ie: temperatures are not excessive). • Potable water should be available for consumption during construction, to keep labourers hydrated.
Reduced average rainfall in the Western Cape, particularly the western parts	• Vegetation used for landscaping of the cemetery should be indigenous and, if possible, drought tolerant.
Rising sea levels	• The development is not situated close to the coastline.
Increased fire risks	• Restrictions should be established to limit fire hazards, ie, smoking, open fires, etc. This can be applied throughout the operational phase. • During construction fires should be strictly prohibited, smoking should be discouraged on site, if it is allowed, there should be a designated area, with an

	appropriate bin to contain discarded cigarettes, with an appropriately heavy cover.
Increase in the frequency and intensity of extreme weather events, including floods, droughts, and storm surges	• It is recognized that the effects of climate change as a result of alternating extreme weather events, are a very real impact upon this development, and long-term resilience planning is required. This should be considered in the stormwater recommendations and mitigation measures. • Berms are proposed towards the East of the site channeling run-off to an existing low-lying disturbed area which the Engineers propose to be formalized into a stormwater detention area • The intention is for accumulated stormwater will be dispersed by means of an overflow channel to minimize the effect of peak runoff downstream. The proposed detention pond will act as energy dissipater.

6.	Explain whether there are any conflicting recommendations between the specialists. If so, explain how these have been addressed and resolved.

There are no conflicting recommendations between the specialists.

7.	Explain how the findings and recommendations of the different specialist studies have been integrated to inform the most appropriate mitigation measures that should be implemented to manage the potential impacts of the proposed activity or development.

The findings and recommendations have been integrated into the impact tables (Section F, of this document), and the EMPr, so as to guide the various phases of the project.

8.	Explain how the mitigation hierarchy has been applied to arrive at the best practicable environmental option.

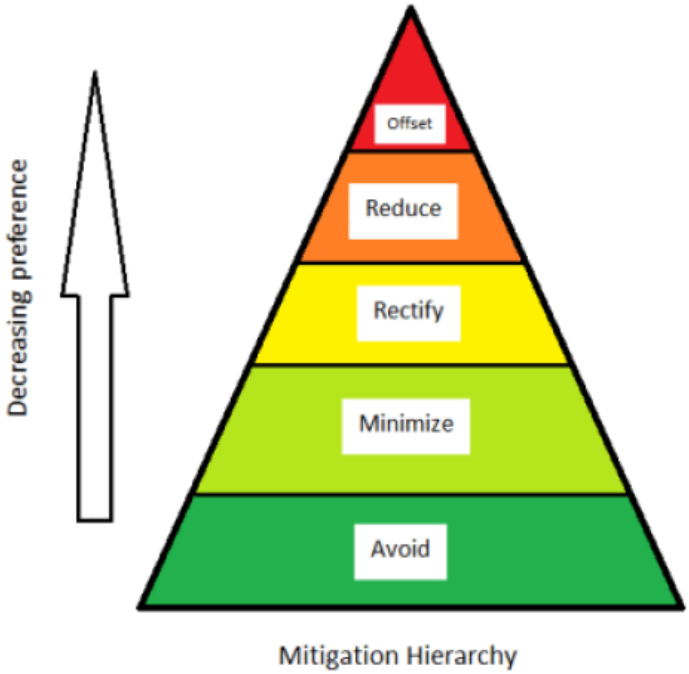


Figure 11: The Mitigation Hierarchy

This hierarchy was considered while determining the best practicable environmental option for the proposed development. Activities related to the proposed development have been considered. Where possible activities have been avoided, therefore all activities included in the proposal of this development are essential for the successful implementation and operation of this development.

Therefore, mitigation measures for the proposed development activities, have been established to firstly minimize and rectify, where possible or radically reduce the predicted impacts, through the inclusion of additional mitigation measures, as further detailed in the EMPr.

No offsets are required for the proposed development.

SECTION J: GENERAL

1. Environmental Impact Statement

1.1.	Provide a summary of the key findings of the EIA.

The key findings of the EIA indicate that the proposed development, particularly via the implementation of the Preferred Alternative 1 Layout, can have a positive socio-economic and environmental impact in terms of:

- Creating employment, predominantly in a temporary manner, for the surrounding community.
- Will meet an imminent need that has been established, within the municipality, particularly taking into account the current pandemic sweeping through the country, that has resulted in loss of life.
- The preferred alternative 1 can accommodate approximately 94 135 additional burial spaces, as compared to alternative 2.
- Providing an opportunity to clear the existing alien invasive vegetation found to dominate the site.
- Providing protection and minimize disturbance to the aquatic habitat located adjacent to the site.
- Stormwater techniques and measures proposed will support the site, and control further erosion that has occurred, unchecked, on this site.

- Allowing for the re-establishment of indigenous vegetation, and a potential for the natural ecosystem to natural improve.
- Potential groundwater contamination is found to be low.
- No archaeological or cultural impacts.

While negative impacts, particularly as per the Preferred Alternative 1 Layout, while found to be concerning, can be efficiently mitigated to reduce the impact significance on the environment, as compared to the Alternative 2 Layout. These impacts include:

- Aquatic impacts: flow modification, loss /disturbance of fauna and flora, water pollution and sedimentation and erosion, that can be reduced to low impacts through the efficient implementation of the recommended mitigation measures.
- Disturbance to vegetation and CBA's/ ESA's, although this has been found to be of low concern.
- Contamination of groundwater by various elements, all found to be of low impact.
- Alteration of sense of place, visual impacts and dust creation.
- Traffic.
- Vandalism/theft.

All the noted positive impacts are predicted to be the outcome upon an otherwise disturbed and neglected portion of land that may have been exposed to further disturbance, from dumping and alien invasive species, or land invasions, should the current situation persist. Through the implementation of appropriate stormwater techniques and measures, monitoring boreholes, 28m aquatic buffer zone, other recommendations and mitigation measures from the various specialists and EAP, the impacts can be minimized and controlled.

The specialists consulted and the EAP agree that the preferred proposed alternative development is acceptable, as long as the recommendations are implemented. Furthermore, the developers appointed Contractor should be strictly monitored for compliance with the agreed upon permits/EMPr and EA conditions, by an independent Environmental Control Officer.

1.2.	Provide a map that that superimposes the preferred activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. (Attach map to this BAR as Appendix B2)

Refer to Appendix B.2.

1.3.	Provide a summary of the positive and negative impacts and risks that the proposed activity or development and alternatives will have on the environment and community.

CONSTRUCTION PHASE IMPACTS				
	PREFERRED ALTERNATIVE 1: LAYOUT		ALTERNATIVE 2: LAYOUT	
IMPACT	IMPACT SIGNIFICANCE BEFORE MITIGATION	IMPACT SIGNIFICANCE AFTER MITIGATION	IMPACT SIGNIFICANCE BEFORE MITIGATION	IMPACT SIGNIFICANCE AFTER MITIGATION
Aquatic: Disturbance/Loss of Aquatic Vegetation and Habitat	**Low - Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Low (-)**
Aquatic: Sedimentation and Erosion	**Medium (-)**	**Low (-)**	**Low - Medium (-)**	**Low (-)**
Aquatic: Flow Modification	**Low - Medium (-)**	**Low (-)**	**Low (-)**	**Low (-)**

Impact on Vegetation Type, Habitat and Species	Medium (-)	Low - Medium (-)	Low - Medium (-)	Low (-)
Social Impact: Sense of Place (Noise, Dust & Access)	Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Traffic and Access	Low - Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Visual	Medium (-)	Low - Medium (-)	Low - Medium (-)	Low (-)
Socio-Economic Impacts – Creation of Multiple Job Opportunities & Capital Expenditure	High (+)		Medium (+)	

Table 11: Summary of Positive and Negative Impacts – Construction Phase

Table 12: Summary of Positive and Negative Impacts – Operational Phase

OPERATIONAL PHASE IMPACTS				
	PREFERRED ALTERNATIVE 1: LAYOUT		ALTERNATIVE 2: LAYOUT	
IMPACT	IMPACT SIGNIFICANCE BEFORE MITIGATION	IMPACT SIGNIFICANCE AFTER MITIGATION	IMPACT SIGNIFICANCE BEFORE MITIGATION	IMPACT SIGNIFICANCE AFTER MITIGATION
Aquatic: Disturbance/Loss of Aquatic Vegetation and Habitat	Low (-)	Low (-)	Low (-)	Low (-)
Aquatic: Sedimentation and Erosion	Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Aquatic: Flow Modification	Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Impact on the Biodiversity Network, CBA's, Etc.	Low - Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Contamination of Groundwater: Decomposition of Human Remains	Low (-)	Low (-)	Low (-)	Low (-)
Contamination of Groundwater: Metal Corrosion	Medium (-)	Low (-)	Low - Medium (-)	Low (-)
Contamination of Groundwater: Compounds Used During Embalming	Low (-)	Low (-)	Low (-)	Low (-)
Socio-Economic Impacts: Possible Green Space Application	Medium (+)		Medium - High (+)	

	Social Impact: Vandalism and Security	**Medium (-)**	**Low - Medium (-)**	**Medium (-)**	**Low - Medium (-)**
	Traffic	**Medium (-)**	**Low - Medium (-)**	**Low - Medium (-)**	**Low (-)**
	Visual	**Medium - High (+)**		**Low- Medium (+)**	
	Socio-Economic Impacts: Provision of Additional Grave Sites	**High (+)**		**Medium (+)**	
	Socio-Economic Impacts – Creation of Multiple Job Opportunities & Capital Expenditure	**Medium (+)**		**Low (+)**	

2. Recommendation of the Environmental Assessment Practitioner ("EAP")

2.1.	Provide Impact management outcomes (based on the assessment and where applicable, specialist assessments) for the proposed activity or development for inclusion in the EMPr

The Environmental Management Programme has been attached as Appendix H of the Basic Assessment Report. The EMPr was compiled by SES to adhere to the requirements of the amended EIA Regulations (2014). The following Impact Management Objectives are of particular importance for this proposal:

Objective: Prevent erosion or sedimentation, and flow modification in the aquatic habitat
Impacts to avoid:

- Stockpiling close the aquatic buffer zone.
- Runoff with excessive amounts of sediment and contaminated soil entering the aquatic area.
- Concentrated runoff toward the aquatic area.
- Excessively high and uncovered stockpiles.

Impact Management Actions:

- Implement stormwater management techniques and measures in accordance with the recommended stormwater plans as per the Engineers report.
- Cleared areas and any other area susceptible to erosion must be provided with a suitable cover as soon as possible and/or stabilised via the implementation of appropriate erosion control measures i.e. silt fences.
- Bund stockpiles and locate stockpiles away from the edge of the slope.
- Re-establish vegetation and implement slope stabilization measures and berms, as soon as possible.
- The appropriate measures must be selected by the contractor in consultation with the ECO.
- Only the minimum area required to accommodate construction may be cleared of vegetation, to limit unnecessary exposure of surfaces.
- All disturbed areas must be rehabilitated after construction to the satisfaction of the Environmental Control Officer

Objective: Prevent groundwater pollution
Impacts to avoid:

- Contamination of watercourse affecting people, animals and vegetation.

Impact Management Actions

- Monitoring boreholes are required (minimum of 3) in order to detect any potential contamination as quickly as possible.
- Borehole monitoring plan should be followed as per Appendix G.3.
- Consider the fitting boreholes established for water monitoring, with borehole monitoring caps, to secure them while on site

Objective: Avoid damage to indigenous aquatic vegetation

Impacts to avoid:

- Unauthorized personnel/equipment/vehicles entering the buffer zone, removing or damaging indigenous vegetation.
- Movement of topsoil and incorrectly placed stockpiles.
- Encroachment of alien invasive species

Impact Management Actions:

- Remove alien invasive vegetation on site.
- Establish and maintain 28m aquatic buffer zone, demarcate using appropriate high visibility markers, such as danger tape, particularly between the construction site and the aquatic zone.
- Utilize signage.
- Monitor site.
- Educate labour on the sensitivity of this area.
- Implement stormwater management techniques and measures as recommended by the Engineering Report.

2.2.	Provide a description of any aspects that were conditional to the findings of the assessment either by the EAP or specialist that must be included as conditions of the authorisation.

An Environmental Control Officer must be appointed to monitor the compliance and implementation of the Environmental Management Programme, mitigation measures and the Environmental Authorization conditions.

2.3.	Provide a reasoned opinion as to whether the proposed activity or development should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be included in the authorisation.

The proposed development should be authorized for the following reasons:

Biophysical Reasoning:

- The impact on the Southern Karoo Riviere vegetation type per se is of a low to moderate concern, with no known Species of Conservation Concern, regional endemics or protected species are foreseen to be affected. As all the recorded species are widespread and common.
- The impact on the biodiversity network, including the CBA's and ESA's, is of a lesser concern since the project only marginally affects mapped ESA's.
- The extensive ESA's to the west and east will remain intact and unaffected.
- The construction activity will remain outside of the 28m buffer area and 100-year floodline.
- The 28m buffer zone will provide efficient protection to the aquatic habitat, along with the stormwater berms and the detention pond.
- Stormwater management techniques and measures are efficiently planned and integrated into the design, in order to deal with erosion features.
- A General Authorisation in terms of the National Water Act (Act 36 of 1998), will be undertaken.
- Following geohydrological testing the impact of the proposed cemetery expansion on groundwater is considered to be low.

Socio-Economic Reasoning:

- The expansion will result in the provision of approximately 101 545 additional burial spaces, which will greatly meet the imminent need at the Beaufort West "Goue Akker" Cemetery.

- Based on the current state of affairs in terms of the existing pandemic plaguing South Africa, that has resulted in multiple deaths, the need for cemeteries with efficient capacity, has been further influenced.
- As this is an expansion the cemetery is existing and has been functioning successfully to date. This indicates that the expansion will most likely operate successfully. In addition, existing infrastructure such as the access road can be utilized, reducing the costs related to construction of a new road, as well as allowing this infrastructure to be subject to an upgrade, improving surface quality that will benefit visitors.
- The construction phase will provide temporary job opportunities, that can benefit locals of an unskilled and skilled nature, providing an opportunity for skills transfer.
- During the operational phase the community can benefit the community through the application of the cemetery as green spaces. This can influence the community's perspective of cemeteries, and allow them to accept these spaces as a community space.

2.4.	Provide a description of any assumptions, uncertainties and gaps in knowledge that relate to the assessment and mitigation measures proposed.

Botanical Impact Assessment

- Since fieldwork was carried out at the beginning of autumn, flowering plants that only flower at other times of the year (e.g. winter to spring), such as certain bulbs, may have been missed.
- The overall confidence in the completeness and accuracy of the botanical findings is however considered to be moderate to good and no follow-up survey is considered necessary to aid decision making.

Freshwater Impact Assessment:

- The location of the proposed development was extrapolated from data provided by the client. No shapefiles with a more accurate layout have been provided as of yet.
- No alternatives were provided for assessment as of yet.
- Aquatic ecosystems vary both temporally and spatially. Once-off surveys such as this are therefore likely to miss certain ecological information due to seasonality, thus limiting accuracy and confidence.
- Infield soil and vegetation sampling was only undertaken within a specific focal area around the proposed development, while the remaining watercourses were delineated at a desktop level with limited accuracy.
- No detailed assessment of aquatic fauna/biota was undertaken.
- The vegetation information provided is based on observation not formal vegetation plots. As such species documented in this report should be considered as a list of dominant and/or indicator wetland/riparian species and only provide a very general indication of the composition of the riverine vegetation communities.
- The assessment of impacts and recommendation of mitigation measures was informed by the site-specific ecological concerns arising from the field survey and based on the assessor's working knowledge and experience with similar development projects. The degree of confidence is considered good.
- The study does not include flood line determination.

GEOSS Assessment

- A limitation experienced during this investigation was during the hydrocensus.
  - Not all groundwater users could be located or visited due to a large number of the dwellings, plots and farms being gated.
  - Additionally, not all groundwater users display the relevant signage to indicate groundwater use.

- It is therefore assumed that the number of groundwater users is in fact greater than are currently represented in this report.
- Available data was sourced from relevant groundwater databases and sources.
- The Aquifer vulnerability, yield and quality data is predominantly accurate albeit mapped at a regional scale.
- A further limitation was the temporal nature of the site visit. The field work was undertaken on a single day in February 2020 and does not account for the temporal variability of the water table.
- While this is not expected to impact the risk assessment for the site, the seasonal fluctuation of water levels will only be known once groundwater monitoring is initiated on the site.

Palaeontological Study and Integrated Heritage Impact Assessment

- Although it is clear that the study area was used for agricultural purposes in the recent past, it is possible, although unlikely, that it may have functioned as an informal graveyard such as Erf 909 to the north of the study area along the alluvial soils of the Kuils River (ASHA Consulting (Pty) Ltd: 2018). However, geotechnical exploration on the site has failed to identify any sub-surface human or archaeological remains.

2.5.	The period for which the EA is required, the date the activity will be concluded and when the post construction monitoring requirements should be finalised.

- The period for which the EA is required = 5 years
- The date the activity will be concluded = 10 years
- When the post construction monitoring requirements should be finalised = 10 years

3. Water

Since the Western Cape is a water scarce area explain what measures will be implemented to avoid the use of potable water during the development and operational phase and what measures will be implemented to reduce your water demand, save water and measures to reuse or recycle water.

Development, Design and Construction.

- Using buckets of water to clean tools and machinery, rather than running water to preserve water.
- Capture rainwater for utilization on site.
- Ensure that fire safety regulations and requirements are incorporated into the development (Water pressures, fire hoses and fire hydrants).
- Green Building technologies should be used in the design and construction of the buildings and facilities such as heating, water harvesting, lighting, insulation, aspect (north facing) etc.
- On-going clearance of alien invasive vegetation, that grow faster, and use more water than indigenous vegetation.
- Establish indigenous vegetation, as much as possible.

Operation

- Reduce water pressures or water temperature.
- Eliminate leaks by conducting annual checks of pipes, taps and hoses.
- Utilize greywater where possible.
- Erect signage in the ablution facility, regarding water saving tips.

4. Waste

Explain what measures have been taken to reduce, reuse or recycle waste.

The EMPr has encouraged waste management through the various phases of the project.

Construction Phase:

- An integrated waste management approach (AVOID first, then REDUCE, then REUSE, then RECYCLE, then DISPOSAL) must be adopted.
- The engineers have proposed to repurpose most of the excess soil and suitable rubble, to construct the stormwater berm adjacent to the river.
- Adequate waste receptacles, bins and skips should be available for the collection and removal of waste.
- Individual recycling bins for the various categories (paper, glass, plastic, etc.) must be provided, labelled and have a designated area on site, close to access points (for easy removal), away from any natural areas, and should have appropriately weighted lids, to prevent the wind from toppling the bins, resulting in waste dispersal.
- These bins must be emptied on a weekly basis and dropped off at a collection point for recycling by recycling companies, if possible, obtain a slip as proof of this, and have this filed in the Environmental File.
- Infographics and educational notices to create awareness around sustainable waste management should be provided.
- Environmental awareness training will be conducted for all site workers to create awareness.
- Any solid waste intended for disposal must be disposed of at a landfill licensed in terms of section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) or the National Environmental Management: Waste Act (Act No. 59 of 2008).

Operational Phase:

- Appropriate waste receptacles should be established, for permanent use during operational phase.
- The municipality will be responsible for the removal of waste, as this is a community facility, under the ownership of the local municipality.
- Separation of waste, in separate, labelled waste receptacles, should be encouraged.
- Littering should be restricted.
- Provide signage prohibiting littering at the ablution facility

5. Energy Efficiency

8.1.	Explain what design measures have been taken to ensure that the development proposal will be energy efficient.

As construction is predominantly limited to a 69m^2 ablution/caretaker facility, with mostly clearance o the remaining site and reworking of the existing road, energy efficient design measures are fairly limited

It can be recommended that green building materials be considered for the facility.

SECTION K: DECLARATIONS

DECLARATION OF THE APPLICANT

Note: Duplicate this section where there is more than one Applicant.

I, Christopher Wright, ID number 8508025138086, in my personal capacity or duly authorised thereto hereby declare/affirm that all the information submitted or to be submitted as part of this application form is true and correct, and that:

- I am fully aware of my responsibilities in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), the Environmental Impact Assessment ("EIA") Regulations, and any relevant Specific Environmental Management Act and that failure to comply with these requirements may constitute an offence in terms of relevant environmental legislation;
- I am aware of my general duty of care in terms of Section 28 of the NEMA;
- I am aware that it is an offence in terms of Section 24F of the NEMA should I commence with a listed activity prior to obtaining an Environmental Authorisation;
- I appointed the Environmental Assessment Practitioner ("EAP") (if not exempted from this requirement) which:
  - meets all the requirements in terms of Regulation 13 of the NEMA EIA Regulations; or
  - meets all the requirements other than the requirement to be independent in terms of Regulation 13 of the NEMA EIA Regulations, but a review EAP has been appointed who does meet all the requirements of Regulation 13 of the NEMA EIA Regulations;
- I will provide the EAP and any specialist, where applicable, and the Competent Authority with access to all information at my disposal that is relevant to the application;
- I will be responsible for the costs incurred in complying with the NEMA EIA Regulations and other environmental legislation including but not limited to –
  - costs incurred for the appointment of the EAP or any legitimately person contracted by the EAP;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the NEMA EIA Regulations;
  - Legitimate costs in respect of specialist(s) reviews; and
  - the provision of security to ensure compliance with applicable management and mitigation measures;
- I am responsible for complying with conditions that may be attached to any decision(s) issued by the Competent Authority, hereby indemnify, the government of the Republic, the Competent Authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action for which I or the EAP is responsible in terms of the NEMA EIA Regulations and any Specific Environmental Management Act.

Note: If acting in a representative capacity, a certified copy of the resolution or power of attorney must be attached.

Signature of the Applicant: Date: 29 July 2020

Beaufort West Municipality
Name of company (if applicable):

DECLARATION OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER ("EAP")

I, **Ameesha Sanker,** EAPASA Registration number **N/A** as the appointed EAP hereby declare/affirm the correctness of the:

- Information provided in this BAR and any other documents/reports submitted in support of this BAR;
- The inclusion of comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports where relevant; and
- Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties, and that:
- In terms of the general requirement to be independent:
  - other than fair remuneration for work performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
  - am not independent, but another EAP that meets the general requirements set out in Regulation 13 of NEMA EIA Regulations has been appointed to review my work (Note: a declaration by the review EAP must be submitted);
- In terms of the remainder of the general requirements for an EAP, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- I have disclosed, to the Applicant, the specialist (if any), the Competent Authority and registered interested and affected parties, all material information that have or may have the potential to influence the decision of the Competent Authority or the objectivity of any report, plan or document prepared or to be prepared as part of this application;
- I have ensured that information containing all relevant facts in respect of the application was distributed or was made available to registered interested and affected parties and that participation will be facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments;
- I have ensured that the comments of all interested and affected parties were considered, recorded, responded to and submitted to the Competent Authority in respect of this application;
- I have ensured the inclusion of inputs and recommendations from the specialist reports in respect of the application, where relevant;
- I have kept a register of all interested and affected parties that participated in the public participation process; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations;

19th November 2020

Signature of the EAP: Date:

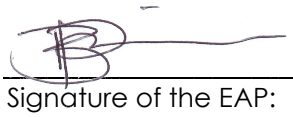
Sharples Environmental Services.cc

Name of company (if applicable):

DECLARATION OF THE REVIEW EAP

I Betsy-Jane Ditcham, EAPASA Registration number 1480 as the appointed Review EAP hereby declare/affirm that:

- I have reviewed all the work produced by the EAP;
- I have reviewed the correctness of the information provided as part of this Report;
- I meet all of the general requirements of EAPs as set out in Regulation 13 of the NEMA EIA Regulations;
- I have disclosed to the applicant, the EAP, the specialist (if any), the review specialist (if any), the Department and I&APs, all material information that has or may have the potential to influence the decision of the Department or the objectivity of any Report, plan or document prepared as part of the application; and
- I am aware that a false declaration is an offence in terms of Regulation 48 of the NEMA EIA Regulations.



17/08/2020

Signature of the EAP: Date:

Sharples Environmental Services cc

Name of company (if applicable):

SECTION L: REFERENCES

Gonzalaz L.L (2020) South Africa Could See 40 000 Covid-19 Deaths by November. Bhekisisa Centre for Health Journalism. Accessed on 17th June 2020. < Https://Bhekisisa.Org/Health-News-South-Africa/2020-05-20-South-Africa-Covid19-Coronavirus-Modelling-Deaths-Icu-Beds-Zweli-Mkhize/>

Upright Burials (2012 – 2020) Upright burials – services. Accessed on 16th october 2020. < https://uprightburials.com.au/what-we-offer>