



Request for the relevant Competent Authority to define or adopt a Maintenance Management Plan for a watercourse in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), Environmental Impact Assessment Regulations, 2014 (as amended).

File Reference Number:
Date Received by Department:
Date Received by Component:
Form Duly Signed and Dated:

(For official use only)	
	Yes No

PROJECT TITLE

PROPOSED RESIDENTIAL DEVELOPMENT ON ERF 907 & REMAINDER OF FARM 174,
BOEKENHOUTSKLOOF, BONNIEVALE

A. SCOPE AND IMPORTANT INFORMATION

- 1) This document is to be used to ensure that the request for adopting or defining a Maintenance Management Plan (MMP) in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"), Environmental Impact Assessment (EIA) Regulations, 2014 (as amended) is undertaken to the sufficient standard and requirements as defined by the competent authority, the Department of Environmental Affairs and Development Planning of the Western Cape Government (henceforth the Department). It is advised that the determination of applicability regarding the scale of the proposed maintenance/management activity(ies) be undertaken through a pre-application consultation with the Department.
- 2) The geographical scope of the MMP is limited to watercourses as defined in the EIA Regulations, 2014(as amended). The document does not relate to coastal activities or activities to be undertaken in an estuary.
- 3) The use of this document for the development of a MMP for a watercourse **will only** be considered when the proposed maintenance activities constitute any one of the following listed activities identified in terms of the NEMA EIA Regulations, 2014 (as amended):

EIA Regulations Listing Notice 1 of 2014 (as amended)

- Activity 19, Listing Notice 1: The infilling or depositing of any material of more than 10 cubic meters into, or the dredging, excavation, removal or moving of soil, sand, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse; but excluding where such infilling, depositing, dredging, excavation, removal or moving-(a) will occur behind a development setback;

(b) is for maintenance purposes undertaken in accordance with a maintenance management plan;

(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;

(N.B. Points (d) and (e) does not apply as these activities fall within the coastal zone)

- Activity 27, Listing Notice 1: 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 MMP.

EIA Regulations Listing Notice 2 of 2014 (as amended)

- Activity 15, Listing Notice 2: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding 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 MMP.
- Activity 24, Listing Notice 2: The extraction or removal of peat or peat soils, including the disturbance of vegetation or soils in anticipation of the extraction or removal of peat or peat soils, but excluding where such extraction or removal is for the rehabilitation of wetlands in accordance with a MMP.

EIA Regulations Listing Notice 3 of 2014 (as amended)

- Activity 12, Listing Notice 3: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a MMP.
 - i. Western Cape**
 - i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;
 - ii. Within critical biodiversity areas identified in bioregional plans;
 - iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning; or
 - v. On land designated for protection or conservation purposes in an Environmental Management Framework adopted in the prescribed manner, or a Spatial Development Framework adopted by the MEC or Minister.

(NB. Point iii does not apply as this activity falls within the coastal zone)

- 4) In deciding the request, the competent authority may define conditions related to auditing compliance with the MMP; monitoring requirements; reporting requirements, review; updating and amending the document and period for which the MMP is defined/adopted.
- 5) The purpose of the MMP is to maintain both man-made and ecological infrastructure in a manner that either improves the current state of, and/or reduces the negative impacts on a watercourse to ensure that ecosystems services are preserved/improved and to prevent further deterioration of the watercourse.
- 6) Notwithstanding the MMP possibly being defined or adopted by the Competent Authority, any other applicable statutory requirement must still be complied with (e.g. any obligations under the National Water Act, 1998 (Act 36 of 1998) or the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983)).
- 7) The proponent must note that a MMP for a watercourse **must** be undertaken through consultation with the Department of Water and Sanitation and/or the relevant Catchment Management Agency (responsible water authority). This is to ensure compliance in terms of a Permissible Water Use as set out in the National Water Act, 1998 (Act No. 36 of 1998). It is recommended that this process for authorisation in terms of the National Water Act be clarified prior to the drafting and submission of the MMP.
- 8) The development of this document has been done in such a way so as to meet the requirements of both this Department as the competent authority in terms of the NEMA EIA Regulations, 2014 (as amended), as well as the requirements of the delegated water authority, regarding general authorisation considerations for sections 21(c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998), to ensure alignment between the two authorities when defining or adopting the MMP.
- 9) In situations where a Water Use Licence Application (WULA) is required by the water authority regarding the proposed activities within a MMP, this will not prevent the proponent from submitting a request for a MMP to be defined or adopted by the Department.
- 10) Unless protected by law, all information contained in, and attached to this document, shall become public information on receipt by the competent authority.
- 11) A duly dated and originally signed copy of this document together with one hard copy and one electronic copy of the MMP must be posted, to the Department at the postal address given below, or delivered to the Registry Office of the Department.
- 12) A copy of the final defined/adopted MMP and cover letter **must** be submitted to the responsible water authority.
- 13) **NOTE: Adopting or defining the MMP does not absolve the proponent from complying with any applicable legislation or the general “duty of care” set out in Section 28(1) of the NEMA that states, “Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.” (Note: When interpreting this “duty of care” responsibility, cognisance must be taken of the national environmental management principles contained in Section 2 of the NEMA.**

- 14) **NOTE: This document can be used as a template to assist in the information required and is to be filled out in full. The Department reserves the right to request any additional information during the initial development and submission of the draft MMP.**
- 15) **NOTE: The Department reserves the right to not adopt the MMP and require that an application be submitted to obtain Environmental Authorisation for the respective activities. Furthermore, consideration for the review should also be aligned to the periodic reviews of the General Authorisation for sections 21 (c) and (i) of the National Water Act, 1998 (Act No. 36 of 1998) to ensure continued alignment and compliance.**

B. MAINTENANCE MANAGEMENT PRINCIPLES

- 1) The following are overarching principles to be used by landowners and managers when considering the development and implementation of a MMP:
 - a. The anticipation and prevention of negative impacts and risks, then minimisation, rehabilitation or 'repair', where a sequence of possible mitigation measures to avoid, minimize, rehabilitate and/or remedy negative impacts is explicitly considered;
 - b. Avoid and reduce unnecessary maintenance;
 - c. Maintenance and management of a watercourse must be informed by the condition of the physical and ecological processes that drive and maintain aquatic ecosystems within a catchment, relative to the desired state of the affected system;
 - d. Management actions must aim to prevent further deterioration to the condition of affected watercourses and, overall, be guided by a general commitment to improving and maintaining ecological infrastructure for the delivery of ecosystem services;
 - e. Managers and organs of state must identify, address and, where feasible, eliminate the factors that necessitate intrusive, environmentally-damaging maintenance; and
 - f. A process of continuous management improvement be applied, namely Planning; Implementing; Checking (monitoring, auditing, determine corrective action) and Acting (management review).

- 2) The following table provides a simple overview for the determination of the need for a MMP:

	Question	If the answer to any of the questions is YES, then a MMP may be applicable.
2.1	Is there a watercourse on or adjacent to the property?	YES
2.2	Has there been a history of flood damage or vandalism to the existing infrastructure or watercourse – erosion and/or sedimentation?	No
2.3	Is there infrastructure or any community at risk of being damaged by flooding?	YES
2.4	Is the design of infrastructure considered inadequate in terms of managing the risk of flooding, erosion and/or sedimentation?	No infrastructure in place
2.5	Would you consider an improved design to existing infrastructure to reduce maintenance needs?	Yes
2.6	Are there specific incidences where the watercourse is obstructed or blockages occur that alter the flow of the river during floods?	No
2.7	Is there an existing obstruction in the watercourse that has changed the flow of the river under normal conditions?	No

2.8	Is there a marked increase in the rate of erosion/sedimentation being experienced which threatens operations and assets?	No
2.9	Is there a presence of alien or bush encroachment vegetation within the watercourse and/or the presence of woody debris after flooding?	Yes

- 3) It is important to consider that the type of maintenance required will impact on the level of assessment needed in terms of the impact the activity will have on the system and how best to mitigate the impact. Types of maintenance can broadly be classified in the following categories, with recognition that maintenance activities vary across the rural and urban context:

Maintenance Category	Types of maintenance activities (examples only)
Category A: Sediment removal as a result of deposition or sediment deposition as a result of erosion	<ul style="list-style-type: none"> • Clearing sediment or placing sediment at: <ul style="list-style-type: none"> ◦ Pump hole/trench ◦ Return flow (irrigation) ◦ Off-take weir ◦ Stormwater outfall ◦ Detention/retention ponds ◦ Canalized urban rivers ◦ Bridges, culverts and drifts • Prevent formation of islands in the channel of the river • Dredging of in-stream dams
Category B: Emergency repairs – urgent action required to manage risk and damage to assets	<ul style="list-style-type: none"> • Repair to erosion of river bank or servicing infrastructure (e.g. pipelines/roads) • Removal of material built up as a result of flooding/sedimentation and increasing risk to infrastructure • Address damage or replacement of infrastructure (e.g. bridge, pipeline, pump house) • Manage the condition of flood protection berms, and existing structures such as gabions, canalized and stormwater systems • Installing temporary gravel approaches at flood-damaged river crossings
Category C: Managing alien invasive and bush encroachment plant species	<ul style="list-style-type: none"> • Clearing of alien invasive vegetation out of a watercourse to reduce maintenance requirements as they relate to erosion and sedimentation • Management of indigenous species categorized as bush encroachment, to improve hydrological flow and reduce associated flooding impacts
Category D: Rehabilitation and restoration activities for maintaining ecological infrastructure	<ul style="list-style-type: none"> • Development and maintenance of ecological buffering systems to improve and/or restore functioning (e.g. wetlands and stormwater detention ponds) • Actively rehabilitating riparian zones through planting of locally indigenous species • Bank grading and movement/removal of berms and barriers to flow

- 4) The development of appropriate method statements to mitigate the impact of the maintenance needs, should be aligned within the framework of these considerations:
 - a. Watercourses experience a natural process of sedimentation and erosion, with varying rates depending on the geomorphology and the integrity of the land-uses within the catchment;
 - b. Manipulation of the watercourse results in increased erosion and/or deposition being experienced further downstream, perpetuating greater need for manipulation and more drastic and costly maintenance interventions;
 - c. Locally indigenous riparian and wetland vegetation assists in the stabilization of river banks through effective root structures, while contributing to improve instream habitat and water quality conditions;
 - d. Invasive alien and bush encroachment vegetation significantly impacts on the functioning of a watercourse, often leading to increased flood associated damage, with further implications and a reduction in water quality and availability;
 - e. Persons undertaking maintenance activities have a responsibility to ensure a sense of duty of care is applied as prescribed within NEMA Section 28(1).
- 5) It is recognized that within urban areas, sedimentation and erosion rates are significantly amplified as a result of development in urban areas and thus systems associated with watercourses in such areas can no longer be considered as 'natural'. In such a context, the drivers of such a process are often located outside the control of the landowner or responsible authority (i.e. Municipality). Therefore, the response taken to address the needs of a maintenance management plan for a watercourse within the urban environment may be limited in mitigating the requirement for maintenance to be undertaken.

C. REQUEST FOR THE COMPETENT AUTHORITY TO DEFINE OR ADOPT A MAINTENANCE MANAGEMENT PLAN FOR A WATERCOURSE IN TERMS OF THE NEMA, EIA REGULATIONS 2014 (AS AMENDED).

The following information must be submitted as part of the request for the competent authority to define or adopt the MMP:

1. PERSONAL DETAILS

Highlight the Departmental Sub-Region(s) in which the maintenance is to be undertaken. (mark the appropriate box with an 'X'). For Departmental details see Annexure A.

REGION 1 (City of Cape Town Metropolitan and West Coast District)	REGION 2 (Cape Winelands District, Overberg District)	REGION 3 (Eden & Central Karoo Districts)
	X	

Name of person/authority who will undertake responsibility for the activity:	Langeberg Municipality		
Contact person (if other):	Municipal Manager		
Postal address:	Private Bag, Ashton		
Telephone:	(023) 615 8001	Postal code:	6715
Fax:	(023) 615 1563	Cell:	N/A
Email:	mm@langeberg.gov.za		
Name of person who has prepared the MMP:	Jessica Hansen		
Contact Person (if other):	N/A		
Postal address:	P.O. Box 45070; Claremont		
Telephone:	(021) 671 1660	Postal code:	7735
Fax:	(021) 671 9976	Cell:	083 666 8046
E-mail:	admin@ecoimpact.co.za		
Name of landowner(s) on whose behalf the plan has been developed:*	Langeberg Municipality		
Contact person(s):	Municipal Manager		
Postal address:	Private Bag, Ashton		
Telephone:	(023) 615 8001	Postal code:	6715
Fax:	(023) 615 1563	Cell:	N/A
E-mail:	admin@ecoimpact.co.za		
Municipality for proposed project:	Langeberg Municipality		
Farm name(s), erf(s) and portion number(s) etc*: Magisterial District or Town:	Boekenhoutskloof Erf 907 & Remainder of Farm 174 Bonnievale		
Name(s) of watercourse(s) in question:	Unnamed non-perennial rivers adjacent to the north and south of site		

*In instances where there is more than one landowner, please attach a list of landowners with their full names, contact details, farm name, farm number, portion number, Erf number, coordinates and signed declaration confirming approval for development and responsibility of the MMP

2. DECLARATION – to be signed with FINAL

THE PERSON THAT WILL BE UNDERTAKING THE MAINTENANCE

I in my **personal capacity** or **duly authorised** (please circle the applicable option) by (name of legal entity) thereto hereby declare that I/we:

- Request the MMP to be adopted by the Competent Authority;
- Regard the information contained herein to be true and correct for this Maintenance Management Plan;
- Am fully aware of my responsibilities in terms of the National Environmental Management Act of 1998 ("NEMA") (Act No. 107 of 1998) and that, notwithstanding the adoption of this MMP, I/we shall comply with any other statutory requirement applicable, which may include, but not limited to the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983), the National Water Act, 1998 (Act No. 36 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended) ("EIA Regulations"), in terms of NEMA;
- Am fully aware that the proposed maintenance constitutes a listed activity in terms of the NEMA EIA Regulations, 2014 (as amended) and that an environmental assessment for environmental authorisation may be required for any other listed activities not included as part of this MMP;
- Acknowledge that any activity undertaken that does not form part of the defined and adopted MMP, will be subject to the Section 24(F) of NEMA and that appropriate enforcement and compliance requirements will follow;
- Shall undertake only those tasks described in the MMP, failing which environmental authorisation will be required, where applicable;
- Shall provide the competent authorities with access to all information at my disposal that is relevant to this request;
- Shall be responsible for any costs incurred in complying with environmental legislation;
- Hereby indemnify the government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of, inter alia, any loss or damage to property or person as a consequence of undertaking this MMP; and
- Am aware that a false declaration is an offence in terms of Regulation 48(1)(a) GN No. R. 982 of 4 December 2014 (as amended).

Signature of the proponent:

Date:

Name of institution/company:

3. BACKGROUND AND INTRODUCTION

This MMP has been compiled for erf 907 and remainder of farm174, Boekenhoutskloof, Bonnievale. Two rivers are located along the northern and southern boundary of the study area, respectively. The following is proposed on site:

The project proposes:

- 438 Residential Zone 1 erven
- 4 Proposed Government and Municipal Zoned erven
- 3 Open Space erven
- Roads ($\pm 13\ 650\text{m}^2$)

The development site also proposes the following upgrade of surrounding existing municipal networks for connections.

Internal Sewage Removal

Sewage will be removed by means of a waterborne gravity sewer network connected to the existing municipal network via a proposed sewer pump station, south east of the development.

The gravity sewer network will consist of 160mm diameter uPVC sewer pipes and 1,0m diameter concrete sewer manholes. The estimated length of the network is 2 580m and approximately 45 manholes will be constructed.

Bulk Sewage Removal

A new sewer pump station with the capacity of 8 l/s will need to be constructed just south east of the development. The bulk sewage will be removed via a 110mm diameter uPVC rising main. Sewage will be pumped from the proposed new sewer pump station to an existing pump station to the west of the development. The estimated length of the rising main is 2 725m.

Internal Water Supply

The development will be serviced by means of a water network consisting of PVC water pipes of 75mm to 110mm diameter (total estimated length 2 618m) installed in road reserves. The proposed connection point is to a proposed 200mm ND UPVC supply line south of the development.

The fire-risk category assumed is "Low-risk (group 4)" for which no specific fire-fighting provision is required. Hydrants will however be located at convenient points ensuring the spacing does not exceed 240m (estimated total = 4). Isolating valves will be installed in valve chambers and placed in accordance with the design guidelines (estimated total = 12).

Bulk Water Supply for Domestic Usage

The development will be supplied with potable water from the existing Municipal water treatment works by means of a new 200mm ND UPVC pipeline (total estimated length 1 300m).

Internal Roads

The development will be accessed via an existing gravel road from Bonnievale. All new roads for the proposed development will be provided with a permanent surface finish (25mm Asphalt) and will be 4.5m wide. Edging/kerbs will be provided on the sides of the roads in accordance with the standards. A gravel sidewalk will be provided on one side of the road.

The total estimated area to be surfaced is 13 650m² with approximately 3 000m of kerbs and 3 100m of edging.

Storm water drainage and management

Storm water from the proposed development area currently follows preferential drainage paths to the south-east to a larger water course. It is proposed that the storm water be directed in the roads reserves by means of the road geometry, kerbs and storm water pipes through-out the development where it will be discharged in a controlled manner into the existing water course.

To achieve the above, concrete storm water pipes ranging from 375mm to 525mm in diameter (total estimated length = 580m) with associated catch pits and junction boxes will need to be installed.

The southern ravine will need to be crossed to access to the development. An anticipated culvert size of approximately 4 x 3,0m x 1,8m will need to be installed for the crossing of the ravine to accommodate the 1:100-year flood.

These project triggers Activity 19, Listing Notice 1: The infilling or depositing of any material of more than 10 cubic meters into, or the dredging, excavation, removal or moving of soil, sand, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.

Following construction, maintenance will be required in the river in order to maintain said infrastructure. This plan aims to contribute to furthering sustainable practices by ensuring environmental impacts are limited while ensuring service delivery. The need for the development of the MMP stems from the operational requirements to maintain infrastructure crossing the river and the road crossings sections of the river.

This river starts west and north west of the impacted areas inside the mountains that surround the development. It flows in the catchment basin where the development is situated in an eastern and southern direction through the town of Bonnievale. This non-perennial river is not a tributary of the Bree River or connected to any other river system. This river historically flooded out into the floodplain of the Bree River which is now transformed by cultivated vineyards and cultivated agricultural fields.

Maintenance (following construction) may be required in the following areas:

- Public open spaces (rivers)
- River crossing: 4 x 3,0m x 1,8m culverts
- Water and Sewage Pipelines within the river

Please note that the applicable section 21 application in terms of the NWA has been submitted to DWS. The application is still in process.

This MMP has been prepared principally in compliance with the requirements of "Annexure A – Guideline for Compiling a Maintenance Management Plan". This document, together with the conditions in the EMPr, Environmental Authorisation, Water Use Authorisation, must be adhered to.

Responsible Party:

The responsible party that will be implementing the MMP is the Langeberg Municipality.

Langeberg Municipality has committed itself to a set of values that include the maintenance of good relations and transparent communications with all stakeholders, and the dynamic engagement of the larger community.

Langeberg Municipality undertakes to implement suitable management systems for all the areas and aspects of this operation. This will ensure that development itself and management of the project will comply with legal, technical, environmental and transformation policies and standards. This MMP intends to further guide the achievement of the strategic objectives of the organization at the project site.

The satisfactory implementation of the MMP on site will require both the full support and commitment of all personnel.

Eco Impact Legal Consulting ("Pty") Ltd ("Eco Impact") is appointed as independent Environmental Assessment Practitioners to compile the MMP. Mrs Jessica Hansen of Eco Impact Legal Consulting (Pty) Ltd (referred to hereafter as "Eco Impact") has been appointed as the independent EAP for this project as required in terms of the regulations. Jessica has a BSc (Honours) in Environmental and Geographical Science in 2011 from the University of Cape Town and subsequently obtained her MSc in Zoology in 2013. Jessica has trained as an Environmental Assessment Practitioner since 2013 and has been involved in the compilation, coordination and management of Basic Assessment Reports, Environmental Impact Assessments, Environmental Management Programmes, Waste Licence Applications, Water Use Licence Applications and Baseline Biodiversity Surveys for numerous clients. Jessica's CV can be found under appendix K3.

3.1 DEFINITIONS OF TERMS AND ACRONYMS

Acronyms and technical terms used in the MMP must be defined or clarified so that the person(s) who must implement the plan understands the document clearly.

Definitions:

Auditing:	A systematic and objective assessment of an organization's activities and services conducted and documented on a periodic basis based to a (e.g. ISO 19011:2003) standard.
Biodiversity:	The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.
Contractor:	An employer, as defined in section 1 of the Occupational Health and Safety Act 85 of 1993, who performs construction work and includes principal contractors.
Developer:	One who builds on land or alters the use of an existing building for some new purpose.
Environment:	A place where living, non-living and man-made features interact, and where life and diversity is sustained over time.
Evaporation:	The change by which any substance (e.g. water) is converted from a liquid state into and carried off as vapour.
Groundwater:	Subsurface water in the zone in which permeable rocks, and often the overlaying soil, are saturated under pressure equal to or greater than atmospheric.
Independent:	Is independent and has no interest in any business related to the development site, nor will receive any payment or benefit other than fair remuneration for the task undertaken.

Landowner:	Holder of the estate in land with considerable rights of ownership or, simply put, an owner of land.
Monitoring:	A systematic and objective observation of an organisation's activities and services conducted and reported on regularly.
Natural vegetation:	All existing vegetation species, indigenous or otherwise, of trees, shrubs, groundcover, grasses and all other plants found growing on a site.
Pollution:	The result of the release into air, water or soil from any process or of any substance, which is capable of causing harm to man or other living organisms supported by the environment.
Protected Plants:	Plant species officially listed under the Threatened or Protected Species regulations as well as on the Protected Plants List (each province has such a list), and which may not be removed or transported without a permit to do so from the relevant provincial authority.
Red Data Species:	Plant and animal species officially listed in the Red Data Lists as being rare, endangered or threatened.
Rehabilitation:	Making the land useful again after a disturbance. It involves the recovery of ecosystem functions and processes in a degraded habitat. Rehabilitation does not necessarily re-establish the pre-disturbance condition, but does involve establishing geological and hydro logically stable landscapes that support the natural ecosystem mosaic.
Site:	Property or area where the proposed development will take place.

Acronyms:

DEA&DP:	Department of Environmental Affairs and Development Planning
DWS:	Department of Water and Sanitation
ECO:	Environmental Control Officer
EA:	Environmental Authorisation
EIA:	Environmental Impact Assessment
EM:	Environmental Manager
EMP:	Environmental Management Programme
EO:	Environmental Officer
ER:	Engineer's Representative
I&AP:	Interested and Affected Party
IEM:	Integrated Environmental Management
MS:	Method Statement
PM:	Project Manager
SANS:	South African National Standards

4. ENGAGEMENT PROCESS

4.1 AUTHORITY ENGAGEMENT

Please indicate (with an 'x') which of the following authorities have been consulted to provide input based on the proposed maintenance activities:

- Department of Water and Sanitation
- Catchment Management Agency
- CapeNature
- SANParks
- Western Cape Department of Agriculture, Directorate: Sustainable Resource Management
- District Municipality
- Local Municipality
- Irrigation Board / Water Users Association
- Heritage Western Cape
- Department of Agriculture, Forestry and Fisheries
- Department of Environmental Affairs & Development Planning
- Other (please list):

This MMP (draft) will be circulated with the draft EIR to all I&APs and key departments:

1. Cape Winelands District Municipality
2. Breede-Gouritz Catchment Management Agency
3. CapeNature
4. DEA&DP Waste Management
5. DEA&DP Pollution and Chemicals Management
6. Department of Health
7. Heritage Western Cape
8. Langeberg Municipality
9. DEA&DP Development Management Region 2 (deciding authority)

For each of the indicated authorities, please provide an explanation as to their required involvement. Details of interactions with each of the respective authorities should be captured by providing an attendance register and minutes of meetings attended with the authority in question. Comments received from the authorities must be submitted and referenced within the final application.

For a MMP where multiple property owners are involved or a plan is developed for members of an association, it is recommended that a Project Liaison Committee is setup, to achieve the following objectives:

- Present the project work plan and objectives for approval;
- Present the initial findings and draft of the plan for discussion and approval;
- Present the final accepted plan for agreement and clarification.

In cases where the Municipality is the proponent, it is advised that the Project Liaison Committee represent the multiple departments involved with the maintenance and management of watercourse, which could include but is not limited to departments of, Stormwater, Water and Sanitation, Environment, Parks and Wastewater. Such an approach seeks to ensure alignment and an understanding of the roles and responsibilities of the varying maintenance requirements within the Municipality.

4.2 PUBLIC PARTICIPATION

You are required to notify any and all potential interested and affected party(ies) of the proposed activity(ies) and allow them the opportunity to comment on the MMP for a watercourse. The detail required is outlined below, however this can be further discussed and determined as part of the pre-consultative meeting with the Department, which would ensure due diligence and good governance principles are applied.

It is noted, that for the development of MMPs for watercourses within the urban area, by Municipalities, public notice can be undertaken through the advertisement of the development of a MMP within local/community newspapers for the respective areas, with the relevant evidence of such an advertisement included in the final submission.

The following public participation recommendations, regarding the different scale or geographical extent of the request, are as follows. If no, then motivation must be given as to why a particular process was not undertaken.

Single property / maintenance and management activities along a watercourse occurring along a stretch of no more than 1 kilometer (≤ 1000 meters):

(i) Given written notice to the owner or person in control of that land if the person undertaking the maintenance activity is not the owner or person in control of the land.	NA	
(ii) Given written notice to adjacent landowners (up to 500m upstream and downstream from furthest upstream and downstream maintenance site and opposite side of the banks) of the development of the MMP.	Yes	<i>Evidence to be dated letters addressed to landowner and/or manager of adjacent properties.</i>
(iii) Stakeholder meeting held for adjacent landowners, in which MMP is presented. This must include an opportunity for adjacent landowners to provide comment.	No	<i>Evidence will consist of meeting requests, attendance register of said meeting, minutes / notes of the meeting, and comments provided.</i>
(iv) Given written notice to any organ of state having jurisdiction in respect of any aspect of the activity(ies) proposed within the development of the MMP.	Yes	<i>Evidence will include relevant dated letters to the relevant government agencies and departments.</i>
(v) Provided written notice and confirmation to the relevant Water Users Association (WUA) or Irrigation Board (IB) of the development of the MMP, if applicable.	NA	

Kindly note, the Department may request further or allow reduced requirements for public participation, noting the specific circumstances applied to each request to define or adopt an MMP. Please include or delete the respective sections as agreed to with the Department in the pre-consultative meeting, with supporting evidence of this agreement included.

Please circle the appropriate answer above to indicate the public participation process that has been followed to give notice of this request to potential interested and affected parties and attach any comments and/or objections received, with evidence provided and referenced.

5. DATA COLLECTION AND ASSESSMENT

5.1 **Annexure A** is a map (at an appropriate scale) of the watercourse or stretch of watercourse being applied for within the stretch where maintenance activities will take place being clearly defined – consideration has been made to mapped features relating to Critical Biodiversity Areas (CBAs) and National Freshwater Ecosystem Priority Areas (NFEPAAs).

5.2 **Annexure B** is a map with GPS coordinates for sites at which maintenance activities will take place.

Items	Latitude (S): (deg.; min.; sec)	Longitude (E): (deg.; min.; sec)
• Culverts – river road crossing • Water pipeline crossing • Sewage crossing 1 • Storm water pipeline	33°55'30.52"S	20° 4'55.90"E
• Sewage crossing 2	33°55'32.74"S	20° 5'21.07"E

5.3 Specialist assessment to be undertaken to determine (NOTE: information relating to the specifications and Terms of Reference used for the appointment of all specialist inputs must be provided):

- The non-perennial river upstream of the proposed developments is impacted by small farming activities and is in a poor to moderate ecological state due to over grazing and silt removal that took place in the river. The natural vegetation in the water course is dominated by Galenia Africana. The non-perennial river in the impacted area and study area are crossed three times by formal and informal roads. The middle section of the non-perennial river were the sewerage pipeline will crosses it for the second time downstream of the informal settlement is in a good ecological state. The potentially affected river reach is characterised by a single channel, approximately 10 to 20m wide at this point, which has a bed comprising mostly sand that covers alluvial rocks. Vachellia karoo is common and the dominant species in the river channel and valleys. The floodplain area is dominated by Galenia africana. From the relatively dense growth of shrubs within the floodplain, it is evident that the floodplain does not get inundated frequently.

See "Appendix G1_FRESHWATER AND TERRESTRIAL ECOLOGICAL IMPACT ASSESSMENT" for full assessment of PES etc.

- An appropriate assessment for risk for each of the proposed types of maintenance activities and linked management actions in terms of the risk matrix for General Authorisations (GA) of Section 21 (c) and (i) by the DWS (GN 509 of 2016) or where applicable.

See "Appendix G2_Boekenhoutskloof_Water_Use_Risk_Assessment_Matrix" for full assessment.

5.4 Mapped biodiversity features such as Critical Biodiversity Area, Ecological Support Area, National Freshwater Ecosystem Priority Area (NFEPA), and the National list of Ecosystems that are threatened and in need of protection (2011) gazetted in terms of Section 52 of the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEMBA), the Western Cape Biodiversity Spatial Plan 2017, as well as relevant provincial specific plans and classifications etc. Please consult the website www.bgis.sanbi.org.za to determine mapped features.

See Annexure A. The section of the river is a mix of Ecological Support Areas and Ecological Support Areas (Restore). The river is bordered by Critical Biodiversity Areas and Critical Biodiversity Areas (Degraded).

No NFEPA rivers or wetland area was identified in the proposed impact area. The closest NFEPA is a Non-perennial River east of the town of Bonnievale which is a tributary of the Bree River which is situated south of Bonnievale.

Specifically, the proposed new river crossing is Ecological Support Areas and Ecological Support Areas (Restore). Part of it is considered ESA Restore as the existing road (informal road through the water course) has impacted on this ESA. The second sewage crossing falls within ESA Restore.

The natural vegetation on site is classified as Breede Shale Renosterveld, Least Threatened (Terrestrial Areas) and Cape Lowland Alluvial, Critically Endangered (associated with the Non-perennial Rivers).

5.5 Include a description of existing or previous protection measures or reinforcements (eg. gabions or groynes etc.) and infrastructure. Describe any evidence of erosion and/or siltation at the various sites and outlining possible causal factors and maintenance practices.

No existing or previous protection measures or reinforcements or infrastructure is in place. Evidence of erosion was noted at the informal river crossing where the gravel road traverses the site. Vehicle and pedestrian activity in this area (informal footpaths) are possible causal factors.

5.6 No historical maps or images of the river channel were available. The non-perennial river upstream of the proposed developments is impacted by small farming activities and is in a poor to moderate ecological state due to over grazing and silt removal that took place in the river. The natural vegetation in the water course is dominated by Galenia Africana. The non-perennial river in the impacted area and study area are crossed three times by formal and informal roads. The middle section of the non-perennial river where the sewerage pipeline will cross it for the second time downstream of the informal settlement is in a good ecological state. The potentially affected river reach is characterised by a single channel, approximately 10 to 20m wide at this point, which has a bed comprising mostly sand that covers alluvial rocks.

5.7 Provide a photographic record for the condition of the riparian habitat around maintenance sites, with the presence of important and/or sensitive habitat/species noted.

Culvert and road upgrade, sewerage and water pipeline crossing the non-perennial river next to the informal area to be upgraded:



Photo 1: Proposed upgrade of road crossing and informal area.



Photo 3: Informal road to be upgraded with culvert.



Photo 2: Downstream view of culvert crossing.



Photo 4: Upstream view of culvert crossing.

Non-perennial river where sewerage pipeline will cross for the second time



Photo 5: Upstream view of proposed sewerage pipeline crossing.



Photo 7: Downstream view of proposed sewerage pipeline crossing.

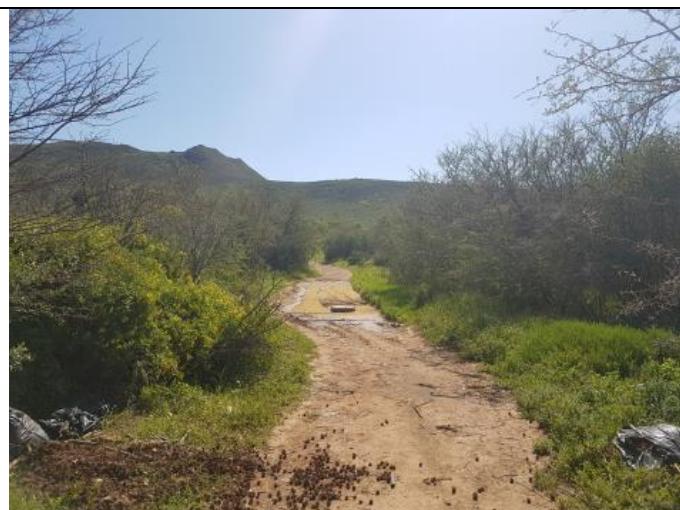


Photo 6: Proposed sewerage crossing.

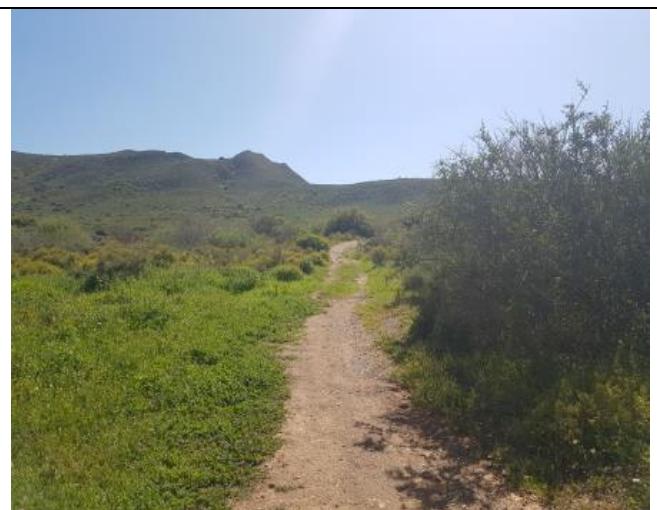


Photo 8: Proposed sewerage crossing. Non-perennial river visible on the left of picture.

5.8 The sites are not prone to flood damage. However, as the southern ravine will need to be crossed to access to the development an anticipated culvert size of approximately 4 x 3,0m x 1,8m will need to be installed for the crossing of the ravine to accommodate the 1:100-year flood. The current informal road which dips down into the river is at risk when the flow of the river increases.

5.9 Risks associated with the no-go option for the MMP i.e. the risk of not undertaking the maintenance activities as stated in the MMP:

- Flooding. The proposed new development will cause an increase in storm water which needs to be managed according to the storm water management plan in order to prevent flooding of residential areas etc.
- Damage to infrastructure.
- Extreme erosion - continual erosion without monitoring, prevention and mitigation could result in the altering of flow of the drainage line. It could also result in the washing away of the instream infrastructure should erosion not be mitigated or controlled to minimise the effects on the environment and downstream users.
- Siltation / build-up occurs over time within the river system. It is a maintenance requirement to remove siltation by cleaning the infrastructure placed within the drainage line to ensure that flow is not impacted / reduced. Blocked infrastructure could result in the washing away of the drainage line crossing or altering the flow of the drainage line which could result in the loss of ecosystem function.
- Encroachment and infestation of alien vegetation. Alien vegetation clearing to be followed up regularly to ensure that the infestation of alien vegetation is controlled. The encroachment of alien vegetation would result in the loss of indigenous vegetation through their resilience to out-compete naturally occurring vegetation.

5.10 Strategic plans where available, for example, a Catchment Management Strategy, with the objectives of the MMP shown to be in alignment with such plans:

The objectives of this MMP is aligned with the strategies as manifested in the **Catchment Management Strategy for the Breede-Gouritz Water Management Area, July 2017**.

The MMP speaks to the three overarching strategic areas governing the overall strategic management objective of the CMA described as follows:

Strategic Area 1: Protecting for People and Nature: focussing primarily on management of streamflow, water quality, habitat and riparian zones related to riverine, wetland, estuarine and groundwater resources, to maintain important ecosystem goods and services and biodiversity.

Strategic Area 2: Sharing for Equity and Development: focussing primarily on management of water use from surface and groundwater resources through the operation of infrastructure, in order to provide water for productive and social purposes within and outside of the WMA.

Strategic Area 3: Co-operating for Compliance and Resilience: focussing primarily on cooperation and management of institutional aspects to enable and facilitate the protection and sharing of water, including the more co-operative stakeholders, partnerships, information sharing, disaster risk and adaptation elements of the strategy.

This MMP therefore is well aligned to maintaining the objectives as manifested by the CMA.

6. METHOD STATEMENT

- 6.1 The method statement must provide a step-by-step plan (which may include a schematic diagram etc.) to inform the responsible person(s) on the process and actions to take in a sequential and logical manner, which aims to reduce the impact of undertaking the activity within a reasonable timeframe and cost.
- 6.2 A method statement should be compiled for each individual activity given the likely specific circumstances and conditions of a site requiring maintenance. However, in situations whereby uniform conditions and circumstances are evident for multiple sites requiring the same type of activity, a method statement can be given for a specific type of activity to be undertaken at multiple sites given the aforementioned requirements.
- 6.3 The detail of the method statement will be assessed by the Department and other relevant regulatory authorities to ensure actions that are taken are such that they do not perpetuate increased incidences of erosion/deposition of material.
- 6.4 Time periods must be given within which the maintenance actions contemplated need to be implemented. An indication must be made whether maintenance actions will be repeated, e.g. clearing of silt/debris from under a bridge annually or after flood events.
- 6.5 The following serves as a general guide required to minimise the spatial impact of the maintenance activity:
 - Repairs and maintenance should be undertaken within the dry season, except for emergency maintenance works.
 - Where at all possible, existing access routes should be used. In cases where none exist, a route should be created through the most degraded area avoiding sensitive/indigenous vegetation areas.
 - Responsible management of pollutants through ensuring handling and storage of any pollutants is away from the watercourse. When machinery is involved, ensure effective operation with no leaking parts and refuel outside of the riparian area, at a safe distance from the watercourse to manage any accidental spillages and pose no threat of pollution.
 - At no time should the flow of the watercourse be blocked (temporary diversions may be allowed) nor should the movement of aquatic and riparian biota (noting breeding periods) be prevented during maintenance actions.
 - No new berms can be created.
 - In circumstances which require the removal of any top soil, this must be sufficiently restored through sustainable measures and practices.
 - Concerted effort must be made to actively rehabilitate repaired or reshaped banks with indigenous local vegetation.
 - No deepening of the watercourse beyond the original, pre-damage determined thalweg, unless such deepening is directly related to the natural improved functioning and condition of such a watercourse.
 - Where at all possible, limit the disturbance to the zone of the thalweg. This is due to the ecological importance of the low flow channel and respective habitat being allowed to re-establish improving the ecological condition.

- The build-up of debris/sediment removed from a maintenance site may:
 - be utilised for the purpose of in-filling or other related maintenance actions related to managing erosion, which form part of an adopted MMP;
 - not be used to enlarge the height, width or any extent of existing berms;
 - not be deposited anywhere within the watercourse or anywhere along the banks of a river where such action is not part of the proposed maintenance activity (ies). Material that cannot be used for maintenance purposes must be removed out of the riparian area to a suitable stockpile location or disposal site. Further action and consideration may be required where the possibility of contaminated material may occur, such as in urban watercourses.
- The use of foreign material, such as concrete, rubble, woody debris and/or dry land based soil, is strictly prohibited from being used in maintenance actions, unless for the specific purpose of repairs to existing infrastructure, coupled with appropriate mitigation measures.
- On completion of the maintenance action, the condition of the site in terms of relative topography should be similar to the pre-damaged state (i.e. the shape of the river bank should be similar or in a state which is improved to manage future damage). This ultimately dictates that the channel, banks and bed cannot be made narrower, higher or deepened respectively. Exceptions are considered for systems involved with the management of stormwater and improvements for water quality within the urban context.

METHOD STATEMENTS

Activity A		
Description of maintenance activity	Alien vegetation removal along the drainage line. Removal of alien vegetation from the river channel and associated areas that were constructed and rehabilitated.	
Actions	<p>The following actions are anticipated to be undertaken in order to carry out alien vegetation removal:</p> <ul style="list-style-type: none"> Removal of the invasive and alien plants should be according to the appropriate invasive alien plant clearing guidelines/methods provided by the Working for Water Programme. 	
Impacts of actions	<p>The following impacts are anticipated as a result of undertaking the maintenance activity:</p> <ul style="list-style-type: none"> Minor disturbance to the local indigenous vegetation within the aquatic habitats as a result of removal of alien and invasive plants. Clearance of alien and invasive vegetation from the area and subsequent improvement in the ecological health where construction and rehabilitation has taken place within aquatic habitats 	
Severity of impacts	Minor disturbance to the local vegetation	If all mitigation measures are implemented, the severity of the impact will be Negligible.
	Alien vegetation clearance	<ul style="list-style-type: none"> N/A this impact is a POSITIVE
Measures to mitigate the severity of the impact	Minor disturbance to the local vegetation	<p>Mitigation measures listed as follows:</p> <ul style="list-style-type: none"> Removal of the invasive and alien plants should be according to the guidelines provided by the Working for Water Programme.
	Alien vegetation clearance	<ul style="list-style-type: none"> N/A this impact is a POSITIVE
Remedial measures if mitigation measures are not implemented adequately on site.	There are no additional remedial mitigation measures other than those listed above. As such, all mitigation measures as outlined above should be implemented in full.	
Method of Access to the site	Access to the site could be gained using the access roads and selected demarcated areas.	
Time period of maintenance management activity	The maintenance management activity should be undertaken on a regular basis after the work is completed. The maintenance management activity will last for approximately 1-2 days.	

Activity B		
Description of maintenance activity	Site Inspections of the drainage line corridor. Inspection of the upgraded drainage line crossing and rehabilitated areas.	
Actions	<p>Undertake regular inspections to ensure that:</p> <ul style="list-style-type: none"> • The river channel, drainage line crossing and associated areas do not become blocked with sediment, debris or nuisance vegetation growth; • No erosion of the upgraded drainage line crossing and associated areas occurs; and • The areas remain clear of invasive alien plants and nuisance plant growth should it serve to block the channel or associated areas. These inspections can be undertaken from the banks where there is access and disturbance of any aquatic habitat is minimal. • All waste within the drainage channels must be removed on a weekly basis. • Sandy areas and riffles must be maintained for frog habitat. 	
Impacts of actions	<p>The following impacts are anticipated as a result of undertaking the maintenance activity:</p> <ul style="list-style-type: none"> • A negligible disturbance to the local vegetation as a result of the inspection process. 	
Severity of impacts	Minor disturbance to the local vegetation	If all mitigation measures are implemented, the severity of the impact will be Negligible.
Measures to mitigate the severity of the impact	Minor disturbance to the local vegetation	Mitigation measures are listed as follows: <ul style="list-style-type: none"> • The minimum area for the maintenance activity to be adequately undertaken should be properly demarcated. Outside of the maintenance activity area should be treated as a no-go area.
Remedial measures if mitigation measures are not implemented adequately on site.	<p>There are no additional remedial mitigation measures other than those listed above. As such, all mitigation measures as outlined above should be implemented in full.</p>	
Method of Access to the site	<p>Access to the site could be gained using the access roads and selected demarcated areas.</p>	
Time period of maintenance management activity	<p>The maintenance management activity should be undertaken on a regular basis after the river works are completed and in particular following significant rainfall events as well as prior to the onset of the winter rainfall period. This maintenance management activity will last for not more than 2 hours.</p>	

Activity C	
Description of maintenance activity	Erosion Protection along the drainage line; at drainage line crossing and the pipeline crossings.
Actions	<p>The following actions are anticipated to be undertaken in order to remove blockages from the river channel and associated areas:</p> <ul style="list-style-type: none"> • All rubble and waste debris in the river channel should be removed out of the river channel and banks by hand. Particular attention should be given to upstream of the structure in the drainage line. • Clearing of nuisance growth of plants within the channel if necessary, should also be undertaken by hand during the low/no flow period.
Impacts of actions	<p>The following impacts are anticipated as a result of undertaking the maintenance activity:</p> <ul style="list-style-type: none"> • Minor disturbance to the local indigenous vegetation as a result of accessing the site • Disturbance to the river banks due to removal of sediment, debris and nuisance plant growth
Severity of impacts	<p>Disturbance to the river bed and banks due to removal of sediment, debris or nuisance plant growth</p> <p>If all mitigation measures are implemented, the severity of the impact will be Negligible.</p>
Measures to mitigate the severity of the impact	<p>Disturbance to the river bed and banks due to removal of sediment, debris or nuisance plant growth</p> <p>Alien vegetation clearance</p> <p>Mitigation measures listed as follows:</p> <ul style="list-style-type: none"> • The disturbance of aquatic habitats associated with the maintenance works should be limited (both temporal and spatial extents) as far as possible. • Care should be taken to minimize the sedimentation that would be caused downstream of the works. • Work should preferably be undertaken by hand with no machinery driven into aquatic habitats. • Activities associated with the maintenance work should be undertaken during the low flow period before the onset of the high flows. • Soil, debris and nuisance plant growth removed from the river channel and associated areas should not be dumped within the immediate areas surrounding the aquatic habitats or any indigenous vegetation removed from the site. Removed soil could be used to fill eroded areas.
Remedial measures if mitigation measures are not implemented adequately on site.	<p>There are no additional remedial mitigation measures other than those listed above. As such, all mitigation measures as outlined above should be implemented in full.</p>
Method of Access to the site	Access to the site could be gained using the access roads and selected demarcated areas.
Time period of maintenance management activity	The maintenance management activity should be undertaken on a regular basis after the work is completed. The maintenance management activity will last for approximately 1-2 days.

		Activity D
Description of maintenance activity	Removal of Sediment, Debris or Nuisance vegetation growth within the drainage line corridor; at the drainage line crossing and the pipeline crossings.	
Actions	<p>The following actions are anticipated to be undertaken in order to remove blockages from the river channel and associated areas:</p> <ul style="list-style-type: none"> • All rubble and waste debris in the river channel should be removed out of the river channel and banks by hand. Particular attention should be given to upstream of the structures in the drainage line. • Clearing of nuisance growth of plants within the channel if necessary, should also be undertaken by hand during the low/no flow period. 	
Impacts of actions	<p>The following impacts are anticipated as a result of undertaking the maintenance activity:</p> <ul style="list-style-type: none"> • Minor disturbance to the local indigenous vegetation as a result of accessing the site; • Disturbance to the river banks due to removal of sediment, debris and nuisance plant growth. 	
Severity of impacts	Disturbance to the river bed and banks due to removal of sediment, debris or nuisance plant growth	If all mitigation measures are implemented, the severity of the impact will be Negligible.
Measures to mitigate the severity of the impact	Disturbance to the river bed and banks due to removal of sediment, debris or nuisance plant growth Alien vegetation clearance	Mitigation measures listed as follows: <ul style="list-style-type: none"> • The disturbance of aquatic habitats associated with the maintenance works should be limited (both temporal and spatial extents) as far as possible. • Care should be taken to minimize the sedimentation that would be caused downstream of the works. • Work should preferably be undertaken by hand with no machinery driven into aquatic habitats. • Activities associated with the maintenance work should be undertaken during the low flow period before the onset of the high flows. • Soil, debris and nuisance plant growth removed from the river channel and associated areas should not be dumped within the immediate areas surrounding the aquatic habitats or any indigenous vegetation removed from the site. Removed soil could be used to fill eroded areas.
Remedial measures if mitigation measures are not implemented adequately on site.	There are no additional remedial mitigation measures other than those listed above. As such, all mitigation measures as outlined above should be implemented in full.	
Method of Access to the site	Access to the site could be gained using the access roads and selected demarcated areas.	
Time period of maintenance management activity	The maintenance management activity should be undertaken on a regular basis after the work is completed. The maintenance management activity will last for approximately 1-2 days.	

7. MONITORING AND REPORTING

It is important to note that any and all activities undertaken outside the scope of the adopted MMP, in terms of the action outlined within the given method statement, the responsible person(s) will be subject to Section 24(F) of NEMA and that appropriate enforcement and compliance requirements will follow.

The specific reporting information required by the competent authority should be discussed during the consultation phase between the proponent and the Department. The relevant information required should be considered on a case-by-case basis.

The following Forms A and B are to be considered as a guideline in terms of the type of information required. It is proposed that Form A below must be completed by the relevant person(s) before maintenance activities are undertaken and Form B after a maintenance activity has been completed. A copy of each completed Form A & B must be sent to the relevant WUA/IB/local authority management if they have undertaken the development of the MMP. For any individual landowner applications, the landowner is responsible to ensure a record of all maintenance activities is recorded as per Form A & B below. Form A and B must also be sent to the Provincial Department of Agriculture, Directorate: Sustainable Resource Management.

The Department may, within a reasonable notice period, request to evaluate the maintenance activities and assess the maintenance sites as per the adopted MMP.

Form A should be completed at least 7 working days before the commencement of any maintenance activity and Form B at least 3 working days following the completion of the maintenance activity(ies). At least two photographs are required from two different points of perspective (A and B) looking at the site (coordinates of these points are required). When listing the type and reference code, this must be done by specifically listing the relevant detail within the adopted MMP.

REPORTING FOR INTENT TO UNDERTAKE MAINTENANCE ACTIVITIES – FORM A				
Section A: Landowner Details				
Name	Surname	Farm No.	Erf No.	Today's Date
Section B: Details of proposed maintenance activity				
WUA/GA reference number and DEA&DP reference number for MMP.	Activity Type:	Reference code (make reference to MMP)	Footprint area (m²)	Volume of material (m³)
Equipment to be used:	Description of method for planned activity:			Date when work will commence:
Date of last flood event for site:	Note any further damage and comments regarding the state of the site			

Section C: Photographs of activity location before maintenance	
Before A	
Coordinates: S E	
Before B	
Coordinates: S E	
Date of photos taken:	

REPORTING FOR COMPLETION OF MAINTENANCE ACTIVITIES – FORM B				
Section A: Landowner Details				
Name	Surname	Farm No.	Erf No.	Today's Date
Section B: Details of proposed maintenance activity				
WUA/GA reference number and DEA&DP reference number for MMP.	Activity Type:	Reference code (make reference to MMP)	Footprint area (m ²)	Volume of material (m ³)
Equipment that was used:	Description of method for completed activity and if commence date changed			Date activity completed

Date of last flood event for site:	Note any challenges or difficulties experienced in following the MMP method statement
Section C: Photographs of activity location after maintenance	
After A Coordinates: S E	
After B Coordinates: S E	
Date of photos taken:	

DEFINITIONS

"Activity" means an activity identified in any notice published by the Minister or MEC in terms of section 24D(1)(a) of the Act as a listed activity or specified activity. Activity in this document refers to the activities as listed in Listing Notice 1, 2 and 3 of the Environmental Impact Assessment Regulations, 2014 (as amended).

"Bush Encroachment" means stands of plants of the kinds specified in column 1 of Table 4 of the Conservation of Agricultural Resources Act (Act No. 43 of 1983) where individual plants are closer to each other than three times the mean crown diameter.

"Diverting" as defined in the General Authorisation, in terms of section 39 of the National Water Act, 1998 (Act no 36 of 1998) for Water Uses as defined in Section 21(c) and 21(i) (GN. 509 of 26 August 2016), means to, in any manner, cause the instream flow of water to be rerouted temporarily or permanently.

"Ecological Infrastructure" refers to naturally functioning ecosystems that deliver valuable services to people, such as water and climate regulation, soil formation and disaster risk reduction.

"Estuary" has the meaning assigned to it in the National Environmental Management: Integrated Coastal Management Act, 2008 (Act No. 24 of 2008)

"Flood event" is the event where land is inundated by the overflowing of water from a river channel and where this event causes significant damage to infrastructure or results in watercourse erosion and/or sediment deposition.

NOTE that flooding can be a natural phenomenon in many river or wetland systems which, due to encroachment and human modification of the form and function of the affected system, may have evolved into a potential hazard to life or property.

"Flow-altering" as defined in the General Authorisation, in terms of section 39 of the National Water Act, 1998 (Act no 36 of 1998) for Water Uses as defined in Section 21(c) and 21(i) (GN. 509 of 26 August 2016), means to, in any manner, alter the instream flow route, speed or quantity of water temporarily or permanently.

"General Authorisation" in this document refers to the General Authorisation in terms of section 39 of the National Water Act, 1998 (Act no 36 of 1998) for Water Uses as defined in Section 21(c) or Section 21(i) (GN. 509 of 26 August 2016).

"Impeding" as defined in the General Authorisation, in terms of section 39 of the National Water Act, 1998 (Act no 36 of 1998) for Water Uses as defined in Section 21(c) and 21(i) (GN. 509 of 26 August 2016), means to, in any manner, hinder or obstruct the instream flow of water temporarily or permanently, but excludes the damming of flow so as to cause storage of water.

"Indigenous vegetation" refers to vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

"Maintenance" means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint.

"Maintenance Management Plan" means a management plan for maintenance purposes defined or adopted by the competent authority.

"River Management Plans" as defined in the General Authorisation, in terms of section 39 of the National Water Act, 1998 (Act no 36 of 1998) for Water Uses as defined in Section 21(c) and 21(i) (GN. 509 of 26 August 2016), any river management plan developed for the purposes of river or storm water management in any municipal/metropolitan area or described river section, river reach, entire river or sub quaternary catchment that considers the river in a catchment context.

"River reach", a length of river characterised by a particular channel pattern and channel morphology, resulting from a uniform set of local constraints on channel form. A river reach is typically hundreds of meters in length.

"Stretch" a section of watercourse, delineated between two or more mapped coordinates, within which proposed maintenance activities are to take place as guided by a MMP.

"Thalweg" refers to the line of lowest elevation within a valley or watercourse.

"Watercourse" means:

- (a) a river or spring;
 - (b) a natural channel in which water flows regularly or intermittently;
 - (c) a wetland, lake or dam into which, or from which, water flows; and
- any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and

a reference to a watercourse includes, where relevant, its bed and banks.

"Wetland" means, land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

ACRONYMS

CBA	Critical Biodiversity Area
DEA&DP	Department of Environmental Affairs & Development Planning
DWS	Department of Water & Sanitation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
GA	General Authorisation, in terms of the National Water Act, 1998 (Act No. 36 of 1998)
GN	Government Notice
IB	Irrigation Board
MEC	Member of Executive Council
MMP	Maintenance Management Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEMBA	National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)
NFEPA	National Freshwater Ecosystem Priority Areas
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PES	Present Ecological State
SANParks	South African National Parks Authority
WUA	Water Users Association
WULA	Water Use Licence Application

REFERENCE GUIDE FOR DRAFTING MMPs FOR A WATERCOURSE

Ecosystem Guidelines for Environmental Assessment in the Western Cape, Edition 2, 2016.
Available at: www.bgis.org.za

Wetland offsets: A best practice guideline for South Africa, 2016. Available at:
<http://www.wrc.org.za>

Preliminary guideline for the determination of buffer zones for rivers, wetlands and estuaries, 2014. Available at: <http://www.wrc.org.za>

National Water Act, 1998 (Act No. 36 of 1998). Available at:
<http://www.gov.za/documents/national-water-act>

General Authorisation, in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998) for water uses as defined in Section 21(c) or Section 21(i).

ANNEXURE A

DEPARTMENTAL DETAILS

CAPE TOWN OFFICE: REGION 1 (City of Cape Town & West Coast District)	CAPE TOWN OFFICE: REGION 2 (Cape Winelands District & Overberg District)	GEORGE OFFICE: REGION 3 (Central Karoo District & Eden District)
<p>Requests for competent authority to adopt an MMP must be sent to the following details:</p> <p>Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 1) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Development Management (Region 1) at: Tel: (021) 483-5829 Fax (021) 483-4372</p>	<p>Requests for competent authority to adopt an MMP must be sent to the following details:</p> <p>Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 2) Private Bag X 9086 Cape Town, 8000</p> <p>Registry Office 1st Floor Utilitas Building 1 Dorp Street, Cape Town</p> <p>Queries should be directed to the Directorate: Development Management (Region 2) at: Tel: (021) 483-5842 Fax (021) 483-3633</p>	<p>Requests for competent authority to adopt an MMP must be sent to the following details:</p> <p>Department of Environmental Affairs and Development Planning Attention: Directorate: Development Management (Region 3) Private Bag X 6509 George, 6530</p> <p>Registry Office 4th Floor, York Park Building 93 York Street George</p> <p>Queries should be directed to the Directorate: Development Management (Region 3) at: Tel: (044) 805-8600 Fax (044) 8058650</p>

WESTERN CAPE DEPARTMENT OF AGRICULTURE DETAILS

Francis Steyn
 Director: Sustainable Resource Management, LandCare Programme
 Western Cape Department of Agriculture
 Private Bag X1
 Elsenburg
 7607
 Main Building, Elsenburg, Muldersvlei Road
 Tel: 021 808 5090
 Email: franciss@elsenburg.com

Annex A: Stretch of watercourse being applied

Legend

BSP ESA: Restore

- ESA2: Restore from plantation or high density IAP
- ESA2: Restore from other land use
- ESA2: Restore where appropriate (CT)

BSP ESA

- ESA: Aquatic
- ESA: Terrestrial

BSP CBA: Degraded

- CBA2: Aquatic
- CBA2: Terrestrial

BSP CBA

- CBA: Terrestrial
- CBA: Terrestrial (CT)
- CBA: Forest
- CBA: River
- CBA: Estuary
- CBA: Wetland
- CBA: Aquatic (CT)

Scale: 1:9 028

Date created: November 14, 2018



**Western Cape
Government**

Agriculture

0 0.1 0.2 0.4 km

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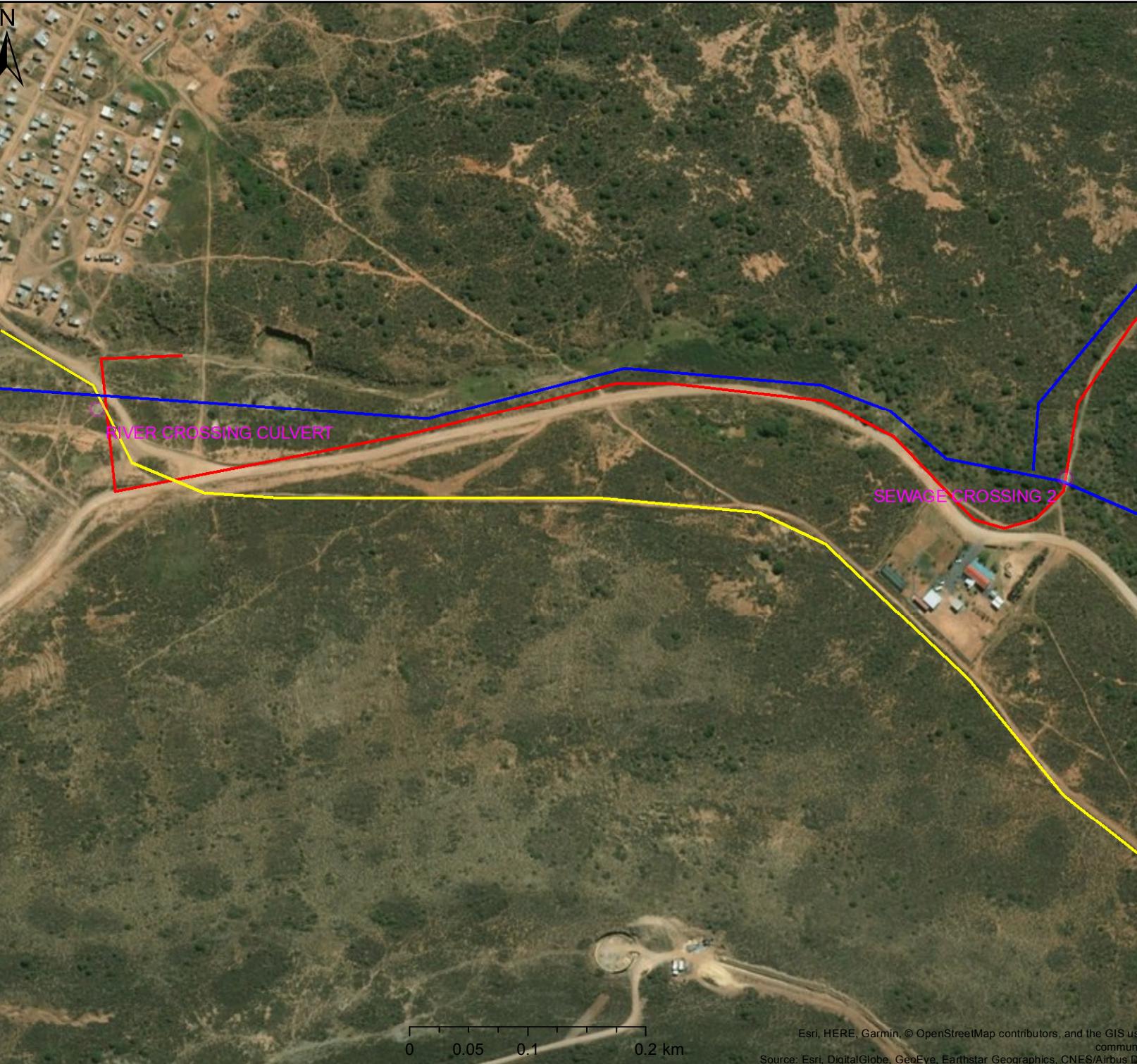
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus Dfesa

N Annex B: GPS

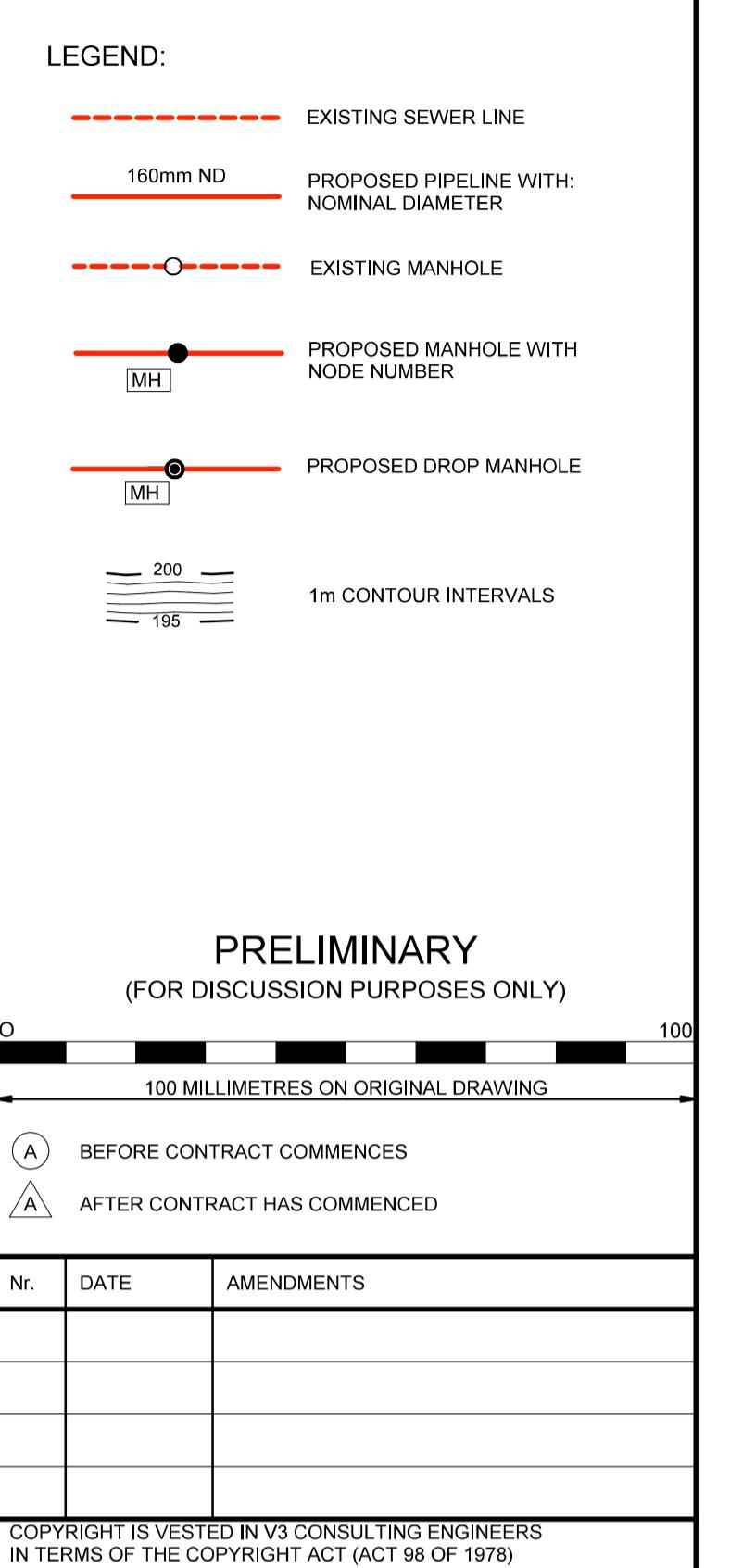
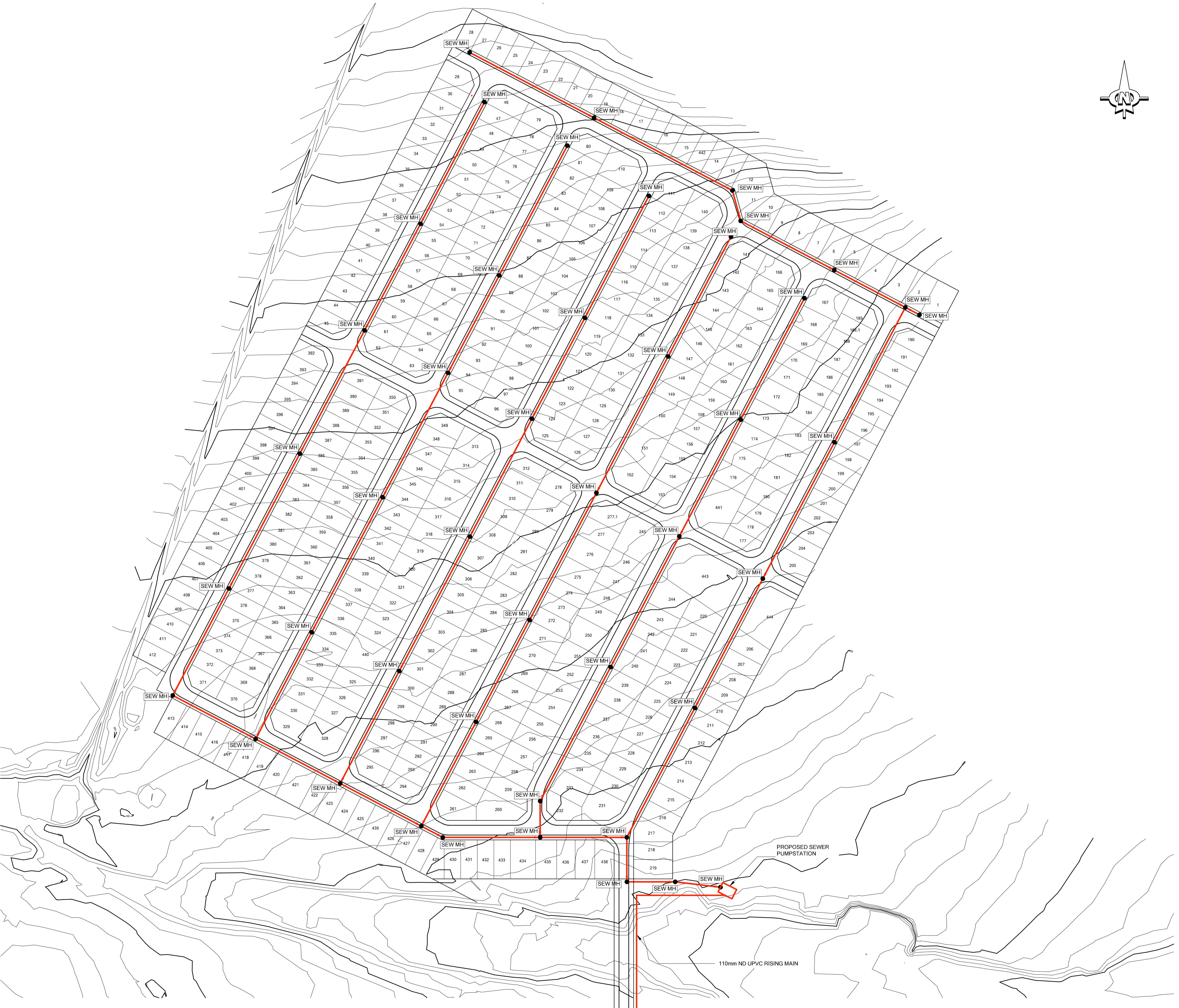
Latitude (S): (deg.; min.; sec)
Longitude (E): (deg.; min.; sec)

Culverts – river road crossing ,
Water pipeline crossing ,
Sewage crossing 1 , Storm water
pipeline:
 $33^{\circ}55'30.52"S$ $20^{\circ}4'55.90"E$

Sewage crossing 2:
 $33^{\circ}55'32.74"S$ $20^{\circ}5'21.07"E$



Western Cape
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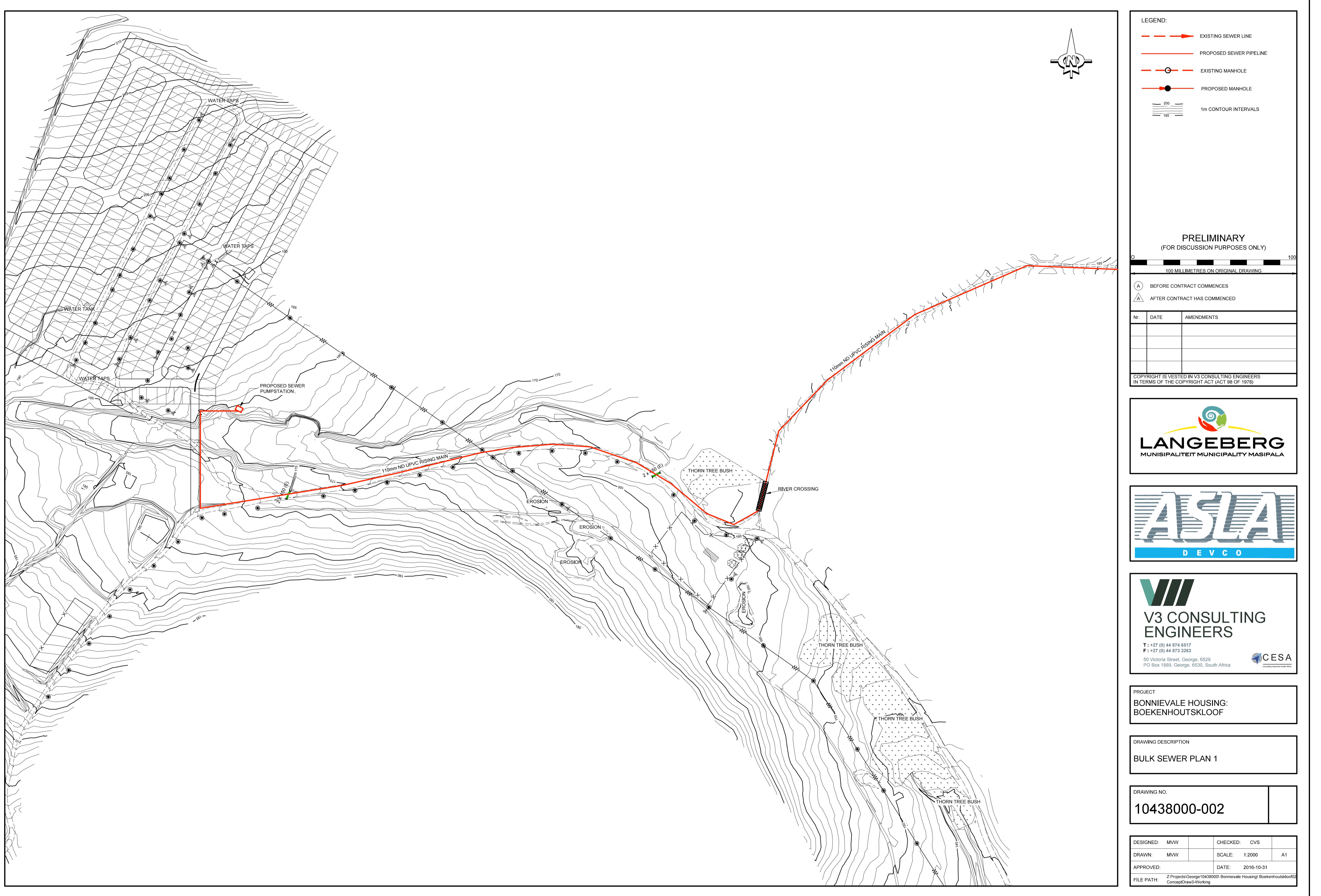


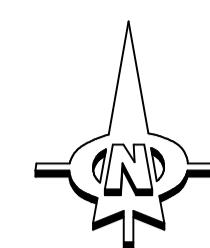
PROJECT
BONNIEVALE HOUSING: BOEKENHOUTSKLOOF

DRAWING DESCRIPTION
PROPOSED SEWER LAYOUT

DRAWING NO.
10438000-001

DESIGNED: RJ	RECD:	CHECKED: GRB	
DRAWN: RJ	RECD:	SCALE: 1:1000	A1
APPROVED:		DATE: 2018-07-31	
FILE PATH:	P:\Projects\George\10438000_Bonnievale_Housing_Boekenhoutskloof01\Inception\Draw3-Working\		





LEGEND:		
-----	EXISTING WATER PIPES	
—	PROPOSED WATER PIPES	
- - -	FUTURE WATER PIPES	
FH	EXISTING FIRE HYDRANT	
FH	PROPOSED FIRE HYDRANT	
→	PROPOSED VALVE	
—	EXISTING END CAP	
—	PROPOSED END CAP	
—	PROPOSED CONNECTION	
BM1 100.00	BENCHMARK WITH BENCHMARK NUMBER AND STAKE LEVEL	
200	1m CONTOUR INTERVALS	
PRELIMINARY (FOR DISCUSSION PURPOSES ONLY)		
0	100 MILLIMETRES ON ORIGINAL DRAWING	
(A)	BEFORE CONTRACT COMMENCES	
(A)	AFTER CONTRACT HAS COMMENCED	
Nr.	DATE	AMENDMENTS
COPRIGHT IS VESTED IN V3 CONSULTING ENGINEERS IN TERMS OF THE COPYRIGHT ACT (ACT 98 OF 1978)		



PROJECT:
**BONNIEVALE HOUSING:
BOEKENHOUTSKLOOF**

DRAWING DESCRIPTION:
PROPOSED WATER LAYOUT

DRAWING NO.
10438000-006

DESIGNED:	RJ	RECD LS	CHECKED:	GRB	
DRAWN:	RJ	RECD LS	SCALE:	1:1000	A1
APPROVED:	2018-07-31				
FILE PATH:	Z:\Projects\George\10438000\Bonnievale Housing\Boekenhoutskloof\ConceptDraw\Water1.DR4				



PRELIMINARY (FOR DISCUSSION PURPOSES ONLY)
O 100 MILLIMETRES ON ORIGINAL DRAWING
(A) BEFORE CONTRACT COMMENCES
(A) AFTER CONTRACT HAS COMMENCED
Nr. DATE AMENDMENTS

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PROJECT
BONNIEVALE HOUSING:
BOEKENHOUTSKLOOF

DRAWING DESCRIPTION
ROADS AND STORMWATER: PROPOSED LAYOUT

DRAWING NO.
10438000-010

DESIGNED: RJ		CHECKED: GRB	
DRAWN: RJ		SCALE: 1:1200	A1
APPROVED:		DATE:	2018-07-31

FILE PATH: P:\Projects_George\10438000_Bonnievale\using_Boekenhoutskloof\Inception\Draw3-Working