

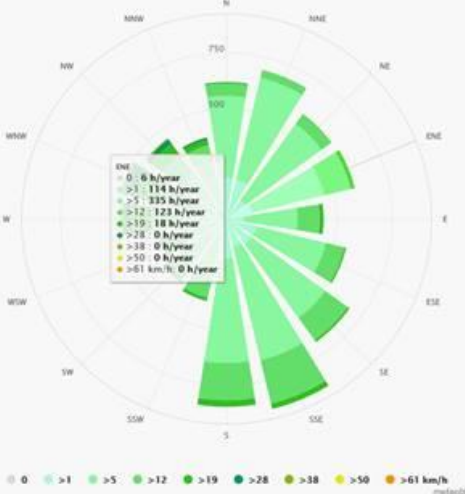
NO.	DATE	AFFILIATION	REFERENCE NUMBER	COMMENTS	RESPONSE	RESPONDENT
Comments on Post-App BAR June 2019						
1.	08-07-2019	DEADP: Pollutions & Chemicals Management Nicole Garcia	16/3/3/6/7/C2/3/ 0013/19	<p>Appendix F1.8 Comment in the Post-App BAR</p> <ol style="list-style-type: none"> On page 7 it is suggested that current sludge in the anaerobic pond be buried on-site and contained within the fenced off area. The Technical Report contains a soil analysis, however, no sludge analysis has been included in this document. Has the classification of the sludge been determined, and does it comply with the requirements for on-site disposal/ burial as per Volume 3 of the “guidelines for the utilization and disposal of wastewater sludge”, Water Research commission, TT 261/06,2006? What is the groundwater depth in this area and will this be monitored to ensure that buried sludge does not contaminate the groundwater resources? It is also stated that it is difficult to transport sludge due to its jelly-like consistency. This implies that the current sludge has a high moisture/ water content. Will sludge be dried prior to burial? Has the option to dry 	<ol style="list-style-type: none"> The burying of untested is sludge as well as grit & screenings is not considered a preferred/viable alternative any longer. Please note that a meeting was held on 25 July 2019 with DEA&DP Directorate: Waste Management & Pollutions and Chemicals Management to discuss alternatives with regards to the handling/disposal of wastewater sludge within existing ponds on site as well the daily grit and screening. Please refer to Appendix 7.4 for the email summarizing of the outcome of the meeting. The burying of untested is sludge as well as grit & screenings is not considered a preferred/viable alternative any longer. Please refer to Appendix 7.4 for the email summarizing of the outcome of the meeting held. Noted and agreed. The establishment for temporary drying for the sludge to dry is considered the preferred alternative. Sludge to be classified to determine suitable disposal method. 	EnviroAfrica

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				<p>sludge prior to transportation for off-site use/disposal been explored (as per sludge classification and relevant disposal options)? Drying beds should be considered as wet sludge will pose a much higher risk of groundwater contamination, should the wet sludge be buried or stored on an unlined permeable surface.</p> <p>4. Page 19 states that construction is expected to take four months and goes on to say that construction will commence in July 2019 and end August 2019. This is two months as mentioned, please clarify.</p> <p>5. The irrigation of the sports field will occur closer to residential areas than the current irrigation area. What are the predominant wind directions as the sports field is close to residential dwellings. What arrangements are being made for the winter periods when sports fields are saturated and the demand for watering is limited?</p>	<p>4. Thank you for pointing out this inconsistency. Construction is expected to take a period of 4 – 6 months. Construction to start as soon as all legal authorisations have been obtained.</p> <p>5. The prevailing wind directions are North-North East and South-South East. This means that the winds will blow over the village towards the sportsfields. It also means that the current situation is very similar, as the irrigated area is directly north of the village. See windrose for Klaarstroom below based on 30 years of hourly data.</p>	<p>Gert Meiring (BVI Engineers)</p>
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					 <p>Gert Meiring] The annual evaporation rate at Klaarstroom is in excess of 2200mm per annum. This means that the average volume that will be evaporated from the ponds' surface is in the order of 22m³ per day average. This varies from about 8m³/day in winter up to 26m³/day in summer months. The result of this is that the water available for irrigation will only be about 4mm per day on average. The risk that there will be large volumes of poorly treated effluent irrigated onto sportsfields is therefore very small. Even in winter, it will be basically impossible to "water log" the sportsfield with a precipitation of 4mm per day.</p>	<p>Gert Meiring (BVI Engineers)</p>
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				<p>6. With reference to the previous questions, what is the retention time of the effluent in the storage dam on the sports field?</p> <p>7. Due to the fact that sewage has to be pumped up to the treatment works, as well as pumped for irrigation onto the sports field, are there stand-by generators in place in the event of power outages? Please explain ho the situation will be managed when no power is available.</p>	<p>6. The proposed volume of the Irrigation dam at the sportsfield is 121m³. The expected average discharge from the pond system is calculated at 61m³/day. This provides a storage of approximately 2 days if no irrigation is possible. One must also consider that the primary storage pond located at the proposed works has a 7 day storage capacity. In case of a power failure or pump breakdown, there is therefore at least a week's time available to affect repairs.</p> <p>7. The pumping of the untreated raw sewage falls outside of the Engineer's Scope of Works. This system has been in place for many years, and as such, BVi did not have any mandate to address this. The issue at the sportsfields is not correctly understood. The Treated Effluent flows under gravity from the proposed Final Effluent Storage Pond to the Irrigation Dam at the Sportsfields. The purpose of the pump located at the Irrigation Dam is simply to pressurize the irrigation distribution system, in this case a hydraulically powered crawling irrigator. Should a power failure occur here, the Client is still able to irrigate, but then it would be flood irrigation and a very small area of the sportsfield would benefit.</p>	<p>Gert Meiring (BVI Engineers)</p> <p>Gert Meiring (BVI Engineers)</p>
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2.	08-07-2019	DEADP: Waste Management Etienne Roux	19/2/5/3/C2/3/W L0037/19	<p>Appendix F1.9 Comment in the Draft BAR</p> <ol style="list-style-type: none"> 1. The above-mentioned document, dated 4 July 2019, as received by the DEADP: Waste Management on 13 June 2019, refers: 2. The Department has reviewed the documentation and had the following comments: <ol style="list-style-type: none"> 2.1 The Department understands that the Municipality intends to bury the sludge from the existing pond, on site. The Department is concerned with this disposal method, as the sludge has not been tested and should therefore, according to the precautionary principal as defined in the EMPr contained in the Report, be considered as hazardous waste. The Department requests that the sludge be tested and classified accordingly and that other uses or alternative disposal options for the sludge be investigated. 2.2 The report also stated that the grit and screenings from the inlet works will be buried on site, as the grit and screenings were in contact with raw sewage, it should also be assumed to be hazardous in nature. 2.3 Kindly note, that according to the NEMA: Waste Act "List of Waste Management 	<ol style="list-style-type: none"> 1. Noted. 2. Noted. <p>2.1 – 2.6 The burying of untested is sludge as well as girt & screenings is not considered a preferred/viable alternative any longer.</p> <p>Please note that a meeting was held on 25 July 2019 with DEA&DP Directorate: Waste Management & Pollutions and Chemicals Management to discuss alternatives with regards to the handling/disposal of wastewater sludge within existing ponds on site as well the daily grit and screening. Please refer to Appendix7.4 for the email summarising the outcome of the meeting.</p>	EnviroAfrica
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				<p>Activities that have or are likely to have a detrimental effect on the Environment” as contained in GN Np 921 of 29 Nov 2013, the disposal of general waste to land covering an area of more than 50m2 but less than 200m2 and with a total capacity not exceeding 25 000 tons is identified as a listed activity and as such, a Waste Management License will be required, prior to disposal, should this activity be triggered.</p> <p>2.4 Furthermore, the disposal of any quantity of hazardous waste to land is also identified as a listed activity in GN No. 912, and such a Waste Management License will be required, prior to the disposal of any quantity of suspected hazardous sludge.</p> <p>2.5 The Municipality is encouraged to consult the NEM:WA “National Norms and Standards for the Disposal of Waste to Landfill”, as contained in GN No. R. 636 of 23 Aug 2013, to determine the liner requirements the disposal areas will need to meet for the disposal of waste streams generated by the treatment works.</p> <p>2.6 Furthermore, kindly note, that according to the GN No. R 636, the disposal of waste with a moisture content of >40%. Or that liberates moisture and pressure in landfill conditions, and which has not be stabilised by treatment, will be prohibited from</p>		
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				<p>disposal to landfill in future it will be a requirement that the sludge have a moisture content of less than 40%.</p> <p>3. The Department reserves the right to revise initial comments and request further information based in the information received.</p>	<p>3. Noted.</p>	
3.	08-07-2019	DEADP: Development Management Jessica Christie	16/3/3/1/C2/3/0 008/19	<p>Appendix F1.10 Comment on DBAR</p> <p>1. The abovementioned proposal and the Draft BAR dated June 2019 and received by this Directorate from your environmental assessment practitioner, EnviroAfrica, on June 5 2019 refers.</p> <p>2. It is noted that the proposal entails the upgrade of the Klarstroom WWTW. The existing WWTW comprises of two ponds. One of the ponds is an aerobic pond ad the other pond is a facultative pond: the latter being in a watercourse, (i.e. an insream dam), it is also proposed to construct a 160mm uPVC pipeline of approx. 500m in length from the effluent storage point with will terminate in a new galvanized dam at the sports field.</p>	<p>1. Noted.</p> <p>2. Correct.</p> <p>3. Noted.</p>	EnviroAfrica

				<p>3. After considering the information provided in the Pre-App BAR, this directorate has the following comments on this proposal:</p> <p>3.1 General Requirements for a BAR: the Pre-App BAR as submitted to this Department does not comply with Reg 19(30) of the NEMA EIA Regs 2014 as the DBAR does not comply with Appendix 1 of said regulation. The above determination is based on inter alia the aspects highlighted below:</p> <p>3.1.1 Alternatives/ Need and Desirability Be advised that in terms of the EIA Regs and NEMA, the investigation to determine if they are feasibility and reasonable. In this regard it must be noted that the Department may grant authorisation for an alternative as if it has been applied for or may grant authorisation in respect of all or part of the activity applied for.</p> <p>Alternatives are not limited to activity alternatives, but include layout alternatives, design, operational and technological alternatives, you are hereby reminded that it is mandatory to investigate and assess the option of not proceeding with the with the proposed activity (the “No-go” option) in addition to the other alternatives identified. Every EIA process must therefore identify and investigate alternatives, with feasible and reasonable alternatives to be comparatively assessed.</p>	<p>3.1 Noted.</p> <p>3.1.1 Alternatives have been revised and updated in the report to speak to location alternative activity alternatives, layout alternatives, design, operational and technological alternatives.</p>	
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				<p>Alternatives must consider the mitigation hierarchy e.g. avoidance of negative impact, mitigate unavoidable negative impacts and maximise positive impacts etc. the alternatives present must show how the mitigation hierarchy was employed in the process to determine the preferred alternative.</p> <p>3.1.2 Implementation programme Please note that, in accordance with the provisions of the EIA Regs 2014, a period for which the environmental authorisation is required and must be provided. This period must be informed by the operational aspects and the non-operational aspects of the proposed development. As such, the date in which the activity will be concluded and the post construction monitoring requirements finalised must be determined.</p> <p>This Department requests that an implementation programme be provided which sets out the construction phase (non-operational aspects) of the proposed development and specifies the period required to conclude the respective activities (a date on which the activity will be deemed to have been concluded should be derived from such a programme), if the proposed development will include operational aspects, these aspects must be identified and the period for which the environmental authorisation is required must be provided. The term "N/A" in the DBAR on page 19 and 99 is not appropriate as it appears</p>	<p>3.1.2 The proposed sequence of construction activities is described in the project description in the BAR and EMPr.</p> <p>Construction is expected to take a period of 4 – 6 months. Commencement must begin within a month from the granting of the EA and WUL. The EA must be valid for 1 – 2 years, not including operational aspects. The EA should be valid for the life cycle of the WWTP, approximately 20 years, in terms of operational aspect. The tables have been updated in the BAR.</p>	
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				<p>that there will be operational aspects. If it is perceived that no operational aspects are evident, kindly discuss with this Directorate.</p> <p>3.1.3 Synchronisation of the WULA – EIA processes/ applications As previously stated in comments, the synchronisation between the EIA process and the WULA process must be evident in the report. It is further noted that the BGCMA that an application for a WULA must be submitted, None of this information is evident in the report.</p> <p>All aspects of the WULA application must be detailed in the FBAR. It is noted in the comments that the BGCMA required a number of different reports to be submitted to the BGCMA for the WULA to be processed i.e. Hydrological studies However, the appointed Freshwater Specialist, WATSAN indicated that no more hydrological studies are required. This Directorate is concerned about this statement as no detailed study has been undertaken to assess the impact on subsurface soil and groundwater where the proposed trenches for the sludge etc will be buried. The BGCMA must confirm in writing that they are satisfied with this aspect.</p> <p>You are reminded that if these processes are not aligned, the, lack thereof or delay as a result thereof may prejudice the success of the outcome of this application for environmental authorisation.</p>	<p>3.1.3 Noted. Please refer to BGCMA’s comments (Appendix F1.13) acknowledging the eWULA. Fresh water specialist Dirk van Driel is in the process of conducting the eWULA.</p> <p>Please refer to comments received from BGCMA as well as email correspondence Appendix F1.13.</p>	
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				<p>3.1.4 Methodology used in determining and ranking impacts and risks associated with the alternatives This Section in the DBAR that requires a description of the gaps on knowledge and the uncertainties in incomplete. Therefore the impact assessment is misleading.</p> <p>3.1.5 Specialist report The contents of the specialist report must meet the requirements outlined in Appendix 6 of GN No. 982 of 4 DEC 2014. The specialist reports as included and received by the Department does not meet the requirements in App 6. The specialist reports must be revised to comply with the requirements.</p> <p>Kindly be reminded that any report deemed to be a specialist report must comply with App 6 of the NEMA EIA Regs 2014.</p> <p>It is suggested that a table be inserted in the respective reports that indicate the</p>	<p>3.1.4 Noted. Gaps in the knowledge did pertain to the correct disposal of the exiting sludge in the ponds on site as well as well as the disposal of the sludge.</p> <p>A meeting was held with DEA&DP Directorate Waste Management & Directorate Chemicals and Pollutions to discuss these uncertainties and come to a solution. An email summary of the outcome of the meeting is available as Appendix F7.4. The impact ratings have been updated.</p> <p>3.1.5 Specialist reports have been revised and updated.</p>	
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				<p>requirements of Appendix 6 and which sections in the report corresponds to the different requirements of Appendix 6.</p> <p>3.1.6 Environmental Management Plan The contents of the EMPr must meet the requirements outlined in Section 24N (2) and (3) of the NEMA and Appendix 4 of GN No. R 982 of 4 Dec 2014.</p> <p>The EMPr must address the potential environmental impact of the activity throughout the project life cycle, including an assessment of the effectiveness of monitoring and management arrangements after implementation (auditing). The EMPr as included and received by this Directorate does not meet the requirements in Appendix 4 as mentioned above. The EMPr must be revised to comply with the requirements.</p> <p>It is suggested that the requirements as set out in Appendix 4 be incorporated in a table from where reference can be made to different section in the EMPr that corresponds to the requirements of Appendix 4.</p> <p>Greater clarity is required on the impact management outcomes in the EMPr, amongst others. It is also requested that the terminology in the EMPr related to the execution of tasks be checked for consistency.</p>	<p>3.1.6 The EMPr has been revised and updated. Please refer to Section 7.10 of the EMPr and Appendix 17.</p> <p>A table has been added as Appendix 18 of the EMPr.</p> <p>The EMPr has been revised and updated. Please refer to Section 7.10 of the EMPr and Appendix 17</p>	
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				<p>In addition to the above, the following comments and concerns relating to the EMPr:</p> <ul style="list-style-type: none"> • Frequency of ECO site visits No frequency of site inspections made by an ECO has been included in the EMPr. • Operational and non-operational aspects The EMPr must (where applicable) reflect both the operational and non-operational aspects and deal with these in a structured manner in separate section of the document. • Auditing programme It is noted in the EMPr that there is no section dealing with audits that must be undertaken at a required frequency. The author of the EMPr must include the auditing programme with will address the requirements of the EIA Regs. <p>4. Please note that the activity may not commence prior to an EA being granted by the Department. It is an offence in terms of Section 49A of the NEMA for a person to commence in a Listed Activity unless the Department has granted a EA 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. A</p>	<ul style="list-style-type: none"> • Please refer to Appendix 8 of the EMPr for the Contractor and/or ESO weekly environmental checklist. • Please refer to Section 7, section 8 as well as Appendix 17 of the EMPr. The Operational and Maintenance Manual attached as Appendix H2 deal with the operation aspects, i.e. sludge, grit & screenings management & standards for irrigation. • Please refer to Appendix 9 of the EMPr for the ECO Site monthly (minimum) audit report/ checklist. <p>4. Noted.</p>	
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				<p>person convicted of an offence in terms of the above is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding 10 years, or to both such a fine and imprisonment.</p> <p>5. The Department reserves the right to revise initial comments and request further information based on information received.</p>	<p>5. Noted</p>	
4.	10-07-2019	EnviroAfrica Inge Erasmus (EAP)		<p>EnviroAfrica email query Appendix F1.11 to DEADP: Waste Management and DEADP: Pollutions Management</p> <p>I please want to ask your advice regarding the comments received from DEADP: Waste Management and DEADP: Pollutions & Chemicals Management pertaining specifically to the proposed disposal of the existing sludge & the disposal of grit and screening. Please refer to the comments from the Departments attached.</p> <p>I now understand that the grit & screening material is considered hazardous and that if this is to be buried on site the applicant will have to obtain a waste license. Would it then be acceptable to rather establish a storage area for the collection of grit & screenings to be disposed of at a suitable site once a suitable amount was collected? For this, a waste license would not have to be obtained?</p> <p>In terms of the existing sludge on site, I understand that because this sludge was not tested, it is considered hazardous waste. Would it be</p>	<p>Response to query from DEADP: Waste Management and DEADP Pollutions Management Formal Letter Appendix F1.10.1 below.</p>	

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				<p>acceptable then to rather establish drying beds for the drying of sludge to be disposed of at a suitable landfill or in another manner? Would the sludge have to be tested regardless to be able to determine method of disposal?</p> <p>Would the Department be able to recommend a lab or testing facility that would be able to conduct the testing of existing sludge?</p> <p>I look forward to your valued response.</p>		
5.	11-07-2019	DEADP: Waste	19/2/5/3/C2/3/W L0037/19	<p>Appendix F1.12 Response to query raised regarding comments on the DBAR</p> <p>1. The query raised electronically by the DEADP: Waste & Pollutions & Chemicals on 10 July 2019 refer.</p>	<p>1. Please note that a meeting was held on 25 July 2019 with DEA&DP Directorate: Waste Management & Pollutions and Chemicals Management to discuss these comments to alternatives with regards to the handling/disposal of wastewater sludge within existing ponds on site as well the daily grit and screening.</p>	EnviroAfrica

				<p>2. Kindly note, should waste be stored on site the facility will need to register in line with the NEMA: Waste Act “National Norms and Standards for the Storage of Waste” as contained in GN No, 926 of 29 Nov 2013.</p> <p>3. Should more than 80m³ of Hazardous Waste or 100m³ of General Waste be stored at the facility for longer than 90 days, the Facility will need to adhere to GN No 926.</p> <p>4. Waste may not be stored for longer than 18 months.</p> <p>5. It is the prerogative of the municipality to determine if it is financially viable to install drying beds. Although the Municipality will be able to use the drying beds in future when de-sludging the ponds, the drying beds should also adhere to GN No 926 as the drying of sludge in drying beds is also viewed as storage of waste.</p> <p>6. The drying of the sludge does not negate the requirements of having the sludge tested. The sludge must be tested in order to determine the best possible management options for the sludge.</p>	<p>Please refer to Appendix F7.4 for the email summering of the outcome of the meeting.</p> <p>2. Noted.</p> <p>3. Noted.</p> <p>4. Noted.</p> <p>5. Noted. The establishment of temporary drying beds is proposed for the drying of the sludge for.</p> <p>6. Noted and agreed. Sludge as well as grit& screenings to be tested.</p>	
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				<p>Volume 1 of the Guidelines for the utilisation and disposal of wastewater sludge provides a guideline on the various management options available, based on the sludge classification results. Sludge is generally tested after it has been sufficiently dried.</p> <p>7. The Department is not in a position to advise on a service provider for the testing of sludge. The municipality will need to determine a suitable service provider based on the location and budget. All sludge classification tests must be done by an accredited lab.</p> <p>8. The Department reserves the right to revise initial comments and request further information based on the information received.</p>	<p>7. Noted.</p> <p>8. Noted.</p>	
6.	15-07-2019	BGCMA R Makahane	4/C/10/2/J33C/ Klaarstroom 178/RE 32, Prince Albert	<p>Appendix F1.13</p> <p>Comment on Post-App BAR</p> <p>1. According to Bvi there are boreholes on the site, south of the N12 next to the river. You are advised to identify all the boreholes that are likely to be impacted by this activity; and conduct monitoring for water level water quality in order to inform the statement that says groundwater in the area is of poor quality. This data will form</p>	<p>1. Please refer to email correspondence regarding with BGCMA regarding borehole test result. Appendix F13.1 & F13.2. Test results from boreholes do not indicate signs of groundwater pollution.</p>	EnviroAfrica

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				<p>part of baseline information to help you in deciding the suitable pond lining material and further action in case pollution plume identified.</p> <p>2. As indicated via the online water use license application system, the WUAL must be submitted and further assessment of the submitted report will be done.</p>	<p>2. Noted. Freshwater Dirk van Driel to conduct eWULA.</p>	
Comments on initial public participation and Pre-App BAR						
1.	27-02-2019	BGCMA R Makahane	4/C/10/2/J33C/ Klaarstroom 178/RE 32, Prince Albert	<p>Appendix F1.1</p> <p>Comment on submitted report dated 08 February 2019 (Background information and BAR summary) refers:</p> <p>The BGCMA has reviewed the submitted document and made the following comments:</p> <p>Based on the provided information in the Notice, the WULA for section 21 (c), (i) , (e) and (g) water uses will be required. The anticipated technical reports may include the following:</p> <ol style="list-style-type: none"> 1. Relevant EIA studies 2. Method statements 	<ol style="list-style-type: none"> 1. Noted and included in the Pre-App and Post-App BAR. 2. Method Statements form part of the EMPr and will be discussed at the Start-up Meeting. Method Statements to be developed by the Contractor and 	<p>EnviroAfrica</p> <p>EnviroAfrica</p>

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				<p>3. EMP</p> <p>4. Stormwater Management</p> <p>5. Hydrological Studies</p> <p>6. Design Drawings</p> <p>7. Rehabilitation Plan for affected watercourse</p>	<p>signed off by the ECO before construction starts.</p> <p>3. EMPr is included as Appendix H1 of the BAR. The Operational Manual is included as Appendix H2.</p> <p>4. The freshwater specialist recommends the following: The berms of the pond must be high enough to direct any stormwater around the WWTW. This is a low rainfall area and a very small sub-catchment More than the berms are not required. Please refer to the Storm Water Management Plan, Appendix A.</p> <p>5. According to the Freshwater specialist, apart from the rainfall and estimated runoff from the sub-catchment no more hydrological studies are required.</p> <p>6. Pre-lim design drawing were included in the Pre- and Post-App BAR, Appendix B.</p> <p>7. The Freshwater Specialist states that the WWTW is going to be a permanent feature of the drainage line. It is not ever going to be removed.</p> <p>Rehabilitation of the site to take place as per the EMPr.</p>	<p>EnviroAfrica</p> <p>WATSAN Africa (Dr Dirk van Driel, Freshwater specialist)</p> <p>WATSAN</p> <p>EnviroAfrica</p> <p>WATSAN</p> <p>EnviroAfrica</p> <p>EnviroAfrica</p>
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				<p>8. Master Layout Plan (Must include all infrastructure, water courses, scientific determined buffers, flood lines, riparian habitat, and ecological values features; on A1 paper).</p> <p>9. Stakeholder consultation for affected watercourse</p> <p>10. Freshwater ecological report with impact assessment associated with the characteristics (flow regime, water quality, biota, riparian and riparian habitat) of a watercourse.</p> <p>11. Geohydrological study</p> <p>12. Water quality report.</p>	<p>8. Layout plans included in the Freshwater report (Appendix G) and Appendix A of the BAR.</p> <p>9. Please refer to Appendix F of the BAR for the Public Participation Process followed.</p> <p>10.</p> <p>11. Please refer to Appendix G for the Freshwater report.</p> <p>12. According to the freshwater specialist, the groundwater in the Karoo shale is mostly deep down of poor quality (salty) and there is only little of it. It is mostly It is most likely the case at the site of the Klaarstroom WWTW.</p> <p>13. According to the Freshwater specialist, the drainage line is mostly dry, with too little water to sample during rainfall events.</p> <p>According to Bvi there are boreholes on the site, south of the N12 next to the</p>	<p>EnviroAfrica EnviroAfrica</p> <p>EnviroAfrica & WATSAN</p> <p>WATSAN</p> <p>WATSAN</p> <p>EnviroAfrica</p>
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					river. Borehole testing should form part of the Operational EMP to evaluate the impact on groundwater quality.	
2.	14-03-2019	Prince Albert Local Municipality (Ward Councillor) Linda Jaquet		Appendix F1.2 I Support the application I wish to be kept informed about the application. Linda Jaquet	Noted. The Post-App BAR will be made available.	EnviroAfrica
3.	22-03-2019	SANRAL Nicole Abrahams		Appendix F1.3 The above listed project bears reference. <ol style="list-style-type: none"> 1. I would hereby wish to register as an I&AP for this particular project. 2. The South African National Roads Agency SOC Limited (SANRAL) has received background information and a site layout plan for this project and based on the proximity of the pipeline crossing the N12 National Road, it appears that SANRAL could be impacted by this development. 3. If services need to be constructed over or under the national road, (in this case the N12) or within 60m measured from the road reserve fence, the service owner must apply for a written permission from SANRAL, before any work may be carried out. Attached please find an application form for the proposed encroachment. 	<p>Please refer to Appendix F1.3.1 for email correspondence.</p> <p>Dear Nicole Please refer to the engineer , Mr Gert Meiring’s communication with Ms Colene Runkel and Mr Evan Burger with regards to the proposed road crossing (Appendix F1.3.1.1-F1.3.1.4).</p> <p>Mr Runkel states that the N12 which we want to cross is not a proclaimed road and falls in the jurisdiction of PGWC.</p> <p>In the last attached email Mr Burger states that a motivational letter with detailed drawings will be sufficient to serve as an application but that we are not allowed to cross the road through the culvert or trench.</p> <p>The EAP will register PGWC as an I&AP and make the relevant reports available to them for comment.</p>	

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					<p>The Applicant will conduct the necessary application and provide the relevant drawings for the proposed road crossing.</p> <p>Pipeline route Alternative A is the Preferred Alternative. It is proposed the pipeline cross the N12 via Horizontal Directional drilling. Pipeline route Alternative D is also a considered Alternative. It is proposed the pipeline cross the road attached to the exiting bridge.</p>	
4.	27-03-2019	DEADP Jessica Christie	16/3/3/7/1/C2/3/ 0013/19	<p>Appendix F1.4 Acknowledgment of receipt of the Pre-App BAR</p> <ol style="list-style-type: none"> 1. The abovementioned report, dated 12 March 2019 and received by this Directorate on 14 March 2019, refers 2. This letter serves as an acknowledgement of receipt of the abovementioned document 3. This Directorate will provide comments on the content of the Pre-App BAR within the period specified i.e. by the 15th April 2019. 4. Please note that the proposed activities may not commence prior to the EA being granted by the Department. 5. The Department reserves the right to revise initial comments and request further information based on any news or revised information received. 	<ol style="list-style-type: none"> 1. Noted 2. Noted 3. Noted. No comments received. Appendix F1.4.1 4. Noted 5. Noted 	

5.	31-03-2019	J Klue Neighbour		<p>Appendix F1.5</p> <p>Attention : INGE ERASMUS Regarding the above matter, herewith some comments on above application regarding the above proposal. I am positive with what you want to do, I just have some points that I am concerned about. Please contact me should you require any further information.</p> <p>Comment on the report is captured as follows:</p> <ol style="list-style-type: none"> 1. Water het vroeër oorgeloop on the Sandrivier in wat weer afvloeï na grootriver waar kinders swem. Roovin vissies voorkom en boorgate se drinwater vandaan kom, water was toe nie geklorineer nie. Almal moet seker maak dit gebeur nie weer nie. 2. Dit is waar pyplyn deur die pad kom nie soos aangedy nie. 	<p>Noted.</p> <ol style="list-style-type: none"> 1. Noted and agreed. Hence the urgent need to upgrade the existing Klaarstroom WWTP to produce a final effluent of an acceptable quality and to ensure that the plant is managed and maintained correctly to ensure the facilities optimal use. 2. Please note that the pipeline that is being referred to here is the "Proposed pipeline Alternative A". This is a <u>new</u> pipeline alternative proposed to carry final effluent to a proposed new galvanized storage dam on the sportfield. Final effluent to be treated with a calcium hypochlorite solution before being used for irrigation of the sportfield. Please refer to Appendix A, Locality Maps for the figure indicating the existing <u>pipelines</u>. 	EnviroAfrica
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				<p>3. Hier is waar aangrensende eienaar gebruik om vee mee deur te trek. 'n Verbindingspad twee spoor ner verby die rioolwerke geloop, alternatiewe paadjie moet net beskikbaar wees.</p> <p>4. Sandrivier (nie groot rivier nie)</p> <p>5. Dit is waar pyplyn deur die pad kom nie soos aangedy nie.</p> <p>6. Privaat grond</p> <p>7. As krag afgaan wat gebeur dan</p>	<p>Please also note that new/ additional pipeline alternatives are being considered to carry final effluent to the proposed dam. Alternatives discussed in the BAR.</p> <p>3. Noted.</p> <p>4. Noted and corrected.</p> <p>5. Please refer to the explanation, point 2 above.</p> <p>6. Noted.</p> <p>7. Please note that the Klarstroom WWTW makes use of oxidation ponds and constructed wetlands/reed beds, which means that waste water is treated under naturally occurring conditions. The advantage of natural systems are that they continue to function even if they are severely neglected as they are dependent on naturally occurring process. The proposed design and layout for the upgrade was chosen so that the natural slope assists gravity flow through the system – no electricity required to pump effluent through the system. The</p>	
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				<p>8. Die water het 2 jaar gelede afgelopp in Sandrivier in, aangrensende eienaar het vir jare gekla daaroor end at dit rou riool is en st diere drin water. Toe is daar ekstra ten ken chlorineerder ogesit en water in meentgrond se veld ingepomp om ook te dien as voedingsbron vir diere op gemeenskapsgrond, my insien dit het goed gewerk en moet daar weer voorsiening gemaak word vir iets soortgelyk as te veel water vir sportgronde is en water moet weer in sand rivier inloop. Gemeenskap se kinders swem partykeer in grootrivier en gekontamineerde water kan baie gevaarlik wees.</p>	<p>final effluent to flow to the storage dam via a gravity pipeline for irrigation.</p> <p>The only component which will require electricity is a small pump station which will be provided at the dam to feed the crawling irrigator which will be used to irrigate the sportfield. Should the electricity be off, irrigation will have to be placed on hold or a generator will have to be used.</p> <p>8. Noted and agreed. Please see BVI Engineer – Gert Meiring’s response:</p> <p>The annual evaporation rate at Klarastroom is in excess of 2200mm per annum. This means that the average volume that will be evaporated from the ponds’ surface is in the order of 22m³ per day average. This varies from about 8m³/day in winter up to 26m³/day in summer months. The result of this is that the water available for irrigation will only be about 4mm per day on average. The risk that there will be any runoff from the irrigation is therefore very small.</p> <p>Additionally, given the design of the “new” treatment plant and the relatively long retention periods allowed for in the process, the chances of the final effluent not meeting</p>	<p>Gert Meiring, BVI Engineers</p>
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					irrigation standard is very low. If, for whatever reason, the final effluent does not meet irrigation standard, the only alternative would be to recycle the final effluent from the storage pond back to the Inlet Works using a portable petrol powered pump and a lay flat hose.	
6.		DEADP, Directorate: Waste Management Etienne Roux	19/2/5/3/C2/3/W L0037/19	<p>Appendix F1.6 Comments on Pre-App Draft BAR</p> <ol style="list-style-type: none"> 1. The above-mentioned document (the Report), dated March 2019, as received by the DEADP, Directorate: Waste Management (the Department) on 19 March 2019, refers 2. The Department has reviewed the documentation and has the following comments: 3. According to page 12 of the BAR, the existing system has a design capacity of 50m³/day. It is proposed that the current capacity to the Klaarstroom WWTS be upgraded to new capacity of 61m³/day (11m²/day expansion) for dry weather and the peak wet weather flow was calculated to be 127m³/day or 1.47l/s. The report also states on the same page "records indicate a measured peak daily flow of 80m³/day which is approximately 60% higher than the current design capacity". Based on the above, will the upgrade to 61m³/day be 	<ol style="list-style-type: none"> 1. Noted 2. Noted 3. Mr Gert Meiring, BVI Engineer had the following response: The water supply to Klaarstroom is provided from 2 boreholes located south of the town. The geohydrological assessment of these two boreholes indicate that the maximum water that they can provide is 86m³/day. (<i>"Groundwater Management and Artificial Recharge Feasibility Study"</i> : Sept 2007 : <i>Groundwater Africa, Dr.R Murray</i>). The peak Wet Weather Flow is calculated using a peak factor of 1.8 	<p>EnviroAfrica</p> <p>EnviroAfrica</p> <p>Gert Meiring, Bvi Engineer</p>

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				<p>sufficient to handle the measures peak daily (80m³/day) and calculated peak wet weather flow (127m³/day)?</p>	<p>+ 15% infiltration rate into the system due to stormwater leakage into the reticulation system, hence the calculated peak of 127m³/day.</p> <p>Due to the peak flows always being considerably higher than the Average Dry Weather Flow, it is not financially viable to design the complete WWTP for the peak flow, as this is an irregular occurrence. Subsequently, it is common practice to design the Inlet Works to accommodate the peak flows, and then the unit processes to deal with the Average Dry Weather Flow.</p> <p>Due to the allowance of 500mm freeboard on pond systems, a large degree of attenuation is achieved by the ponds during the occurrence of peak flows. For example, the area of the two proposed anaerobic ponds is approximately 60m². At a peak flow of 127m³/day, the peak hourly flow will be 5.34m³/h. This flow will only increase the depth of the ponds by 87mm in an hour. All the other ponds have an even greater surface area, which means that the effect will be even less.</p> <p>In addition to the above, it must be taken into consideration that all the wastewater from Klaarstroom is pumped. A pump has a fixed flow rate, which means that the flow to the plant will ALWAYS be the same, only the frequency of pumping will increase,</p>	
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				<p>4. The report states "the depth of the current single anaerobic pond is unknown, and the volume thereof probably completely filled with sludge. These existing ponds need to be de-sludged. This sludge is considered difficult to handle, with a black jelly-like consistency and difficult to pump it is therefore suggested that the existing sludge be buried on site and contained within the fenced off area." Kindly indicate the estimated volume of sludge contained in the pond and kindly provide comment on the nature if the sludge based in any tests that was performed on the sludge.</p>	<p>that is the pump will switch on and pump the wastewater more often in peak flows than during average dry weather flow.</p> <p>4. The current anaerobic pond has approximate dimensions of 12.5m x 12.5m and an average depth of 1.5m which is common for this type of design. The side slopes are 1 : 1.5. This equates to a total usable volume of 160m³. Lets make an assumption and say that the pond is 60% filled with sludge. This equates to a volume of 96m³, say 100m³ that needs to be dealt with.</p> <p>No analysis of the sludge within the existing ponds was done. Typically, anaerobically digested sludge which has been in this pond for years is fairly stable and similar in nature to what is found in a septic tank after 3 months retention. It is what remains after all the biodegradable components have been digested. It will be a brown to black finely graded material with the consistency of jelly. Of course, there will be a portion of this sludge which is not fully digested as it has only recently entered the pond. Typically, anaerobically digested pond sludge could have the following basic characteristics, but it is highly variable</p>	
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				<p>5. According to the report, tests will be performed on sludge during the operational phase to determine the best method of disposal, which may include land farming or composting has any of these possibilities been considered for the sludge currently in the oxidation pond present on the site.</p>	<p>and dependant on the characteristics of the incoming raw sewage, retention time in the pond and degree of degradation already achieved.</p> <ul style="list-style-type: none"> • Inorganic components- grit, gravel, bone fragments • Organic Non-Biodegradable fraction- Predominantly cellulose material such as hair or grass and straw • Bacteria- hydrolysing, acid forming and methane forming bacteria • Endogenous Residue - from death of bacteria\ • Organic Biodegradable fraction- Untreated settled material not yet hydrolysed <p>5. These possibilities have been considered, however, based on the financial constraints for the project, as well as the nature of the sludge in the existing ponds, these possibilities have been ruled out as not feasible. The jelly like consistency of the sludge make it very difficult to handle, temporary drying beds will have to be established for the sludge to dry out and sludge would have to be transported for many kilometres to a registered facility (closest facility is Oudtshoorn) which presents an even greater risk of uncontrolled spillage occurring. The financial cost is simply too high.</p>	
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				<p>6. What is the expected volume of sludge which will be produced by the proposed upgrade, to be removed from the ponds every 5 – 7 years?</p> <p>7. Kindly elaborate on how the dedicated areas identified for sludge and screening disposal on site was selected with specific reference as to how the associated risks or impacts has been considered.</p>	<p>Therefore it is proposed that an area be dedicated to the safe disposal of the sludge on site. This area must be contained within the fenced off area of the site. The area selected for the disposal site is previously disturbed land as it is the site where the old septic tank was situated. The proposed site does not fall within any drainage lines. Composting is not a viable option due to the need for copious amounts of organic bulking material. Similarly, Land Farming would require transport of the sludge which has its own risks.</p> <p>6. Literature on the subject indicates that domestic effluent contains approximately 0.08 liter per capita per day of undigested sludge (<i>WRC Report No. 544/1/00, GA Norris, CSIR</i>). This equates to approximately 17 cubic meters per annum, but will probably be less, as the volume decreases by about 65% after digestion with only the non-biodegradable fraction remaining. Therefore we are probably looking at a volume of about 43 m³ after 7 years based on our assumptions above.</p> <p>7. There areas were selected as they do not fall within the drainage lines on site. The area selected for disposal of sludge and grit is also considered transformed and disturbed as it is the</p>	
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				<p>8. This report states that the final effluent will be sent to a lined galvanised dam with a roof, located close to the sport field, which will be irrigated with the effluent. Kindly confirm id this dam will be lines and also what the quantity of the dam will be as the report states conflicting volumes.</p> <p>9. How will the chlorine dosing be managed? Will it be an automated or manual system?</p>	<p>site where the old septic tank is situated which will be demolished.</p> <p>8. The proposed irrigation dam will have a storage volume of 121m³ and will have dimensions of 10m diameter x 1.55m high covered with a galvanized sheeting roof structure. The dam is fire retardant and manufactured from Aluzinc corrugated sheets of 0.8mm thickness. The dam is provided with an 800g/m² supported PVC Liner which carries a 12 year warrantee. The liners are UV stabilized and contain biocides to minimize fungus growth, thus making it suitable for water storage.</p> <p>9. Calcium Hypochlorite will be provided in “chip” form and a “chip doser” will be utilized to dose the chlorine solution into the irrigation water. Typically, a chip doser consists of a plastic basin filled with Calcium Hypochlorite chips. A stream of water is directed to the base of the basin at a controlled flow rate, where the water serves to dissolve the calcium hypochlorite chips. The solution then flows through the perforated base of the basin into the dam to disinfect the water within. The system is semi-automated in that the water for dissolving the chips is sourced from the irrigation pump outlet as a side stream. This means that as soon as</p>	
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				<p>10. What will happen to effluent that does not meet irrigation standards?</p>	<p>the irrigation pump is started, chlorine solution will be dosed into the dam contents.</p> <p>10. Given the design of the “new” treatment plant and the relatively long retention periods allowed for in the process, the chances of the final effluent not meeting irrigation standard is very low. If, for whatever reason, the final effluent does not meet irrigation standard, the only alternative would be to recycle the final effluent from the storage pond back to the Inlet Works using a portable petrol powered pump and a lay flat hose.</p> <p>The annual evaporation rate at Klaarstroom is in excess of 2200mm per annum. This means that the average volume that will be evaporated from the ponds’ surface is in the order of 22m³ per day average. This varies from about 8m³/day in winter up to 26m³/day in summer months. The result of this is that the water available for irrigation will only be about 4mm per day on average. The risk that there will be large volumes of poorly treated effluent irrigated onto sportsfields is therefore very small.</p> <p>11. Noted and included.</p>	<p>EnviroAfrica</p>
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				<p>11. Kindly include this Department's Directorate: Pollution and Chemicals Management as an interested and affected party in order for them to provide comment on the application, once the application is lodged.</p> <p>12. Should there be any major spills of hazardous substances at the facility which could lead to environmental degradation, the management of such spills should adhere to section 30 of the NEMA as amended, which includes reporting responsibilities.</p> <p>13. The Department reserves the right to revise initial comments and request further information based upon the information received.</p>	<p>12. Agreed.</p> <p>13. Noted and agreed.</p>	
7.	15-04-2019	Cape Nature Colin Fordham	14/2/6/1/5/3_ PA/178/32RE_ 2019/CF002	<p>Appendix F1.7</p> <p>Following the review of the PreBAR, and appendices; and given the above mentioned sensitivity of the site, CapeNature would like to make the following comments/ recommendations:</p> <p>1. Any indigenous vegetation that require removal should be rescued and used for rehabilitation purposes. CapeNature would like to reiterate that all endangered species or protected species listed in Schedules 3 and 4 respectively, in terms of the Western Cape Nature Conservation Laws Amendment Act, 2000 (Act No. 3 of 2000) may not be picked or removed without the</p>	<p>1. Noted and agreed. Condition was added to the BAR.</p>	EnviroAfrica

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				<p>relevant permit, which must be obtained from CapeNature. This is also to ensure plants that rescued plant material is accounted for and used in the rehabilitation or relocation process. To obtain such permits please contact the relevant Conservation Services Officials at the George CapeNature Regional Office or use the following website address http://www.capenature.co.za/permits-information/.</p> <p>2. CapeNature would also like to remind the landowner that, in terms of the Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983) (“CARA”), landowners must prevent the spread of alien invasive plants on the property. The level of alien infestation is therefore not be seen as reducing the sensitivity of a site, nor is the subsequent removal of alien vegetation from a property regarded as a mitigation measure due to this is being a legal requirement. Infestation by alien does not necessarily mean that an area is not important for biodiversity as some vegetation types are particularly prone to invasive alien infestation, but may recover when cleared of alien vegetation.</p> <p>3. In addition to CARA, in terms of the Alien and Invasive Species Regulations, NEM:BA, 2014, specific alien plant species (e.g. <i>Opuntia ficus-indica</i>) are either prohibited or listed as requiring a permit; aside from</p>	<p>2. Noted and agreed. Condition added in the BAR.</p> <p>3. Noted and agreed. Condition added in the BAR.</p>	<p>EnviroAfrica</p> <p>EnviroAfrica</p>
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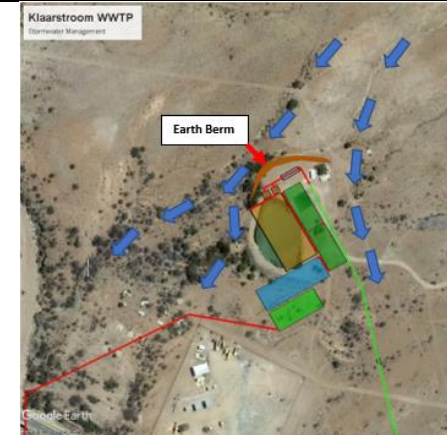
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				<p>restricted activities concerning, inter alia, their spread, and should be removed.</p> <p>4. Given the location of the facility within a non-perennial drainage line it is unclear how the design would accommodate for potential flash flooding events (which Karoo is know for). It is recommended that an appropriate storm water management plan be compiled to ensure that the infrastructure is adequately protected and that the risk of contaminated spills entering the freshwater resources is minimised.</p>	<p>4. Gert Meiring from BVI Engineers gave the following response(s):</p> <p>Your concerns in this regard are noted and subsequently we propose that a low earth embankment (1.0m high) be placed on the northern side of the proposed works to channel any stormwater around the proposed works as indicated on the image below. The primary concentrated runoff from the drainage lines as indicated will then be mitigated. Similarly, the second drainage line from the east could be diverted using a trench along the toe-line of the eastern ponds to ensure that stormwater is diverted to the south of the works.</p>	<p>Gert Meiring, BVI Engineers</p>
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5. Will there be any run-off from the sport fields is the evaporation rate significant enough to ensure that runoff will not contaminate the nearby runoff.



The Storm water Management Plan is included as Appendix A.

6. Given the current volume of sludge that has accumulated in the systems, it is recommended that this should be removed and disposed of at a suitably registered facility and not disposed of on-site like proposed.

5. The annual evaporation rate at Klarstroom is in excess of 2200mm per annum. This means that the average volume that will be evaporated from the ponds' surface is in the order of 22m³ per day average. This varies from about 8m³/day in winter up to 26m³/day in summer months. The result of this is that the water available for irrigation will only be about 4mm per day on average. The risk that there will be any runoff from the irrigation is therefore very small.

6. This possibility has been considered, however, based on the financial

				<p>7. Future proposed on site disposal should be located outside the extend of any areas that would be prone to flooding events. CapeNature understands the financial constraints of the applicant, and the small volume of sludge that may be generated on a monthly basis. It is recommended that a broad chemical description of what the sludge consists of and how this process breaks down sludge into its various components is required. Cape Nature required this information to understand how the onsite disposal of sludge will not result in contamination of the property (and CBA), over the long term. It is however still</p>	<p>constraints for the project, as well as the nature of the sludge in the existing ponds, this has been ruled out as not feasible. The jelly like consistency of the sludge makes it very difficult to handle, temporary drying beds would have to be established for the sludge to dry out and sludge would have to be transported for many kilometres to a registered facility (closest facility is Oudtshoorn) which presents an even greater risk of uncontrolled spillage occurring. The financial cost is simply too high. Therefore it is proposed that an area be dedicated to the safe disposal of the sludge on site. This area must be contained within the fenced off area of the site. The area selected for the disposal site is previously disturbed land as it is the site where the old septic tank was situated. The proposed site does not fall within any drainage lines. Composting is not a viable option either, due to the need for copious amounts of organic bulking material to make it work. Similarly, Land Farming would require transport of the sludge which has its own risks.</p> <p>7. Noted. As stated in point 4 above, it is proposed that a low earth embankment (1m high) be placed on the northern side of the works as stated in point 4 above. The runoff from the</p>	
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				<p>preferable for the sludge to be disposed of at a registered facility.</p>	<p>drainage lines will be mitigated. Similarly, the second drainage line from the east could be diverted using a trench along the toe-line of the eastern ponds to ensure that stormwater is diverted to the south of the works.</p> <p>The bulk of the sludge is removed from the incoming raw sewage by the settlement in the anaerobic primary ponds. These ponds are typically deep (> 1.50m) in order to create anaerobic conditions, i.e. without free available dissolved oxygen.</p> <p>Anaerobic ponds, to function correctly, must establish a population of hydrolysing anaerobic bacteria, acid forming bacteria and methane forming bacteria. The hydrolysing bacteria break down the complex biodegradable organic material to simpler compounds that are then transformed to short chain fatty acids by the acid forming bacteria. These short chain fatty acids then serve as food or substrate for the methane forming bacteria. The methane bacteria are extremely sensitive to dissolved oxygen. Thus, for satisfactory operation of the anaerobic pond, it is essential that either oxygen diffusing into the surface of the pond is rapidly scavenged or the surface of the pond is covered to prevent oxygen diffusion.</p>	
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					<p>Rapid scavenging of diffused oxygen can be achieved by ensuring that the biodegradable organic load (COD load) discharged to the pond is as high as possible.</p> <p>Prevention of oxygen diffusion can be achieved by permitting a stable crust to form on the surface of the pond naturally, or by provision of an artificial cover for the pond. In South Africa, the latter is seldom done. In addition, the inlets to the anaerobic ponds are positioned below the surface water level, preferably on the floor of the pond. This serves two purposes, firstly, it prevents entrainment of oxygen by the water stream falling on the surface of the pond, and secondly, anaerobic bacteria are non-motile, so the incoming stream on the floor of the pond serves to mix the incoming raw sewage with the anaerobic bacteria, thereby enhancing contact.</p> <p>Typically, anaerobically digested sludge which has been in this pond for several years would be fairly stable and similar in nature to what is found in a septic tank after 3 months retention. It is what remains after all the biodegradable components have been digested. It will be a brown to black finely graded material with the consistency of jelly.</p>	
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				<p>8. It should be noted that Cape Nature will not support the use of any alien invasive plant species within the proposed reed beds. Only the use of cosmopolitan or indigenous plant species can be supported. It is recommended that an <u>Operational EMP be compiled detailing the sludge disposal and reef bed maintenance activities</u> that are proposed for the facility.</p>	<p>Of course, there will be a portion of this sludge which is not fully digested as it has only recently entered the pond. Typically, anaerobically digested pond sludge could have the following basic characteristics, but it is highly variable and dependant on the characteristics of the incoming raw sewage, retention time in the pond and degree of degradation already achieved.</p> <ul style="list-style-type: none"> • Inorganic components- grit, gravel, bone fragments • Organic Non-Biodegradable fraction- Predominantly cellulose material such as hair or grass and straw • Bacteria- hydrolysing, acid forming and methane forming bacteria • Endogenous Residue - from death of bacteria • Organic Biodegradable fraction- Untreated settled material not yet hydrolysed <p>It is almost impossible to provide even a guess of what the concentrations of chemical constituents of such a sludge would be, as there are too many variables that could affect the composition. The only possible means of knowing this would be to take a</p>	
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					<p>sample and have it analysed at a laboratory.</p> <p>8. The proposed plant species for the Klaarstroom reed bed is <i>Phragmites Australis</i>, or the common reed. There are however a wide range of plants that can provide a similar function such as <i>Typha Augustifolia</i>, <i>Typha Capensis</i>, <i>Cyperus papyrus</i>, <i>Scirpus lacustris</i> and many others.</p> <p><u>An abbreviated Method Statement for the removal and disposal of the sludge would be as follows:</u></p> <ol style="list-style-type: none"> 1. Anaerobic Pond liquid fraction to be removed by pumping the water out of the pond using a suitable pump. 2. Pumping must continue until all visible liquid has been removed from the pond and the remaining sludge fraction is clearly visible. 3. The contractor must now prepare the area where the sludge is to be buried by excavating a hole of suitable size to accommodate all the sludge. 4. A portion of the excavated material not containing any rocks larger than 50mm diameter is then taken from the spoil heap and mixed into the wet sludge remaining in the pond. 	
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					<ol style="list-style-type: none"> 5. The mixed material is the allowed to stand for two days to allow most of the moisture to be absorbed by the soil mixed into the sludge. 6. This will stabilize the material and make it easier to handle. If not mixed with soil, the sludge will run out of the excavator bucket faster than what the operator can scoop it up. In addition, streams of sludge will be spilled onto the surrounds as the excavator is rotated to move the sludge from the pond to the truck transporting it. 7. The soil/sludge mixture can then be removed mechanically with an excavator by scooping it out of the pond, and loading it onto a tipper truck for transport to the prepared excavation. If after the first attempt at loading, it appears as if the sludge is still to fluid, more soil can be added until a stable mixture that can be handled is reached. 8. The soil sludge mixture is then placed in the excavation in layers of 300mm thick. After each layer, a layer of clean soil is placed over the sludge 150mm thc, followed by another layer of soil/ sludge mixture. 9. Stop filling the excavation with the soil/sludge mixture approximately 	
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				<p>9. The minister has not officially adopted WCBSP (2017), although it has been endorsed. Therefore the presence of CBA does not trigger NEMA Listing Notice Activities, however the WCBSP (2017), needs to be referred to and referenced where required. The WCBSP (2017) data is of particular importance to biodiversity specialist reports.</p> <p>10. CBA regions are areas delineated that are in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure. As stipulated in the Land Use</p>	<p>300mm from the natural ground level.</p> <p>10. Fill the remaining 300mm depth with clean excavated soil and course material such as rocks and stones to provide a cap over the excavation which stands 150mm proud of the normal ground level. This is to accommodate for differential settlement of the soil, as it compacts the layers below due to gravity.</p> <p>11. Continue this process until all the sludge has been removed from the pond in question.</p> <p>12. On completion of the capping process, the area where sludge has been buried shall be clearly marked with posts and fenced off from access.</p> <p>13. The site will be monitored for a period of 1 year after completion of the process for any signs of leaking, erosion or washout. In case of any of the above occurring, the contractor will make the needed repairs within his retention period.</p> <p>Please also refer to the EMPr and the Operations Manual Appendix H1 & H2.</p> <p>9. Noted.</p>	
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				<p>Advice (LUA) Handbook (Pool-Stanvliet et al. 2017)⁵ although the property selected may have undergone a level of disturbance, this cannot be used as motivation for establishing of development within CBA or ESA areas. It should be noted that it is the landowner's responsibility to ensure his property is suitably maintained at a level consistent with LUA guidelines. The loss of the CBA does compromise conservation targets and the loss of ESA would compromise the CBA. Could the EAP discuss this development in context with the CapeNature LUA guideline document? Particular reference should be made to the reasons GIS layer. Reference to this document was not found within the Pre-BAR.</p> <p>11. Using specialist findings, a detailed No-Go Areas map should be compiled and appended to the Environmental Management Programme (EMPr). The aim of this map is to sensitise the contractor to the location of sensitive habitat relative to construction footprints. This will also empower the Environmental Control Officer (ECO) to ensure the strictest level of compliance regarding the protection of sensitive habitat.</p> <p>12. To conclude, the upgrading of WWTW is essential for improving the water quality of our freshwater resources. CapeNature</p>	<p>10. Noted. The guideline was consulted with regards land use advise and developments in CBAs/ EAs. The Handbook was referenced in the BAR. Please also note that the Sensitivity Maps, Appendix D have been updated.</p> <p>11. Noted and included, Appendix B.</p>	
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**UPGRADE OF KLAARSTROOM OXIDATION POND
WASTEWATER TREATMENT SYSTEM**

COMMENTS AND RESPONSE REPORT

DATE: AUGUST 2019

				<p>encourages all such systems to be rigorously monitored and compliance strictly enforced throughout the project lifecycle to ensure that such systems do not fall into a state of disrepair. Training of municipal staff regarding the operation of such facilities should already being in the construction phase of the project to ensure that all such personnel are fully skilled in terms of ensuring the facilities optimal use. CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received.</p>	<p>12. Noted. Condition included in the BAR.</p>	
<p>Comments on Initial Public Participation & Pre-App BAR (Feb 2019)</p>						