




PROPOSED TOWNSHIP DEVELOPMENT ON ERF 1, ERF 16, ERF 87 AND PLOT 2777, TOPLINE, !KHEIS LOCAL MUNICIPALITY

APPLICANT: !Kheis Local Municipality

COMMENT AND RESPONSE REPORT

(DENC Ref. No: NC/EIA/09/ZFM/!KHE/TOP1/2020)

No.	Comment Date, Comment Format, Organisation/I&AP	Comment	Response from EAP/Applicant/Specialist/Project Manager
Comments Received on Initial Public Participation			
1	Date: 17/06/2020 Format: Email Letter I&AP: Gariiep Watch (Chairman: Mr Ferdie Botha/ Technical Advisor: Mr Fritz Bekker)	<p>Gariiep Watch is a civic society organisation that endeavours to protect the lower Orange River through effective monitoring and data collection, improved communication by role-players and the enhancement of public participation.</p> <p>We noted your abovementioned NEMA Public Participation Process (Ref. 0512) for a new township development at Topline, with much concern.</p>	<p>Respondent: EAP</p> <p>Noted. Thanks for your comment.</p>
		<p>Gariiep Watch performs quarterly water quality studies and a risk assessment procedure at various localities in the lower Orange River including the river reach flowing through the !Kheis Local Municipalities jurisdiction. Our water quality results show that a number of point and diffuse sources of sewerage pollution may be affecting the surface and ground water resources in the vicinity of these townships and beyond. Furthermore, recent site visits to sewerage water infrastructure at these !Kheis townships showed that much of the sewerage water infrastructure is not being maintained or used for it intended purpose. Pump stations to the oxidation dam systems are not working, sewerage infrastructure is being vandalized, oxidation dam linings are damaged or removed and raw sewerage is being disposed into the veld or towards dry water courses.</p>	<p>Respondent: EAP</p> <p>Noted. Current water supply, sewage and solid waste management capacities and issues have been identified and detailed in the Engineer's Services Report (Appendix 4B). Construction and upgrades to existing sewerage management infrastructure has been recommended by the Engineer to service the proposed development.</p>

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		<p>The photographs in Figure 1 show some of the oxidation dam systems encountered at !Kheis Local Municipality during 2019.</p>  <p>Figure 1: Oxidation dam systems at !Kheis Local Municipality (2019)</p> <p>The extension of existing townships that already have inadequate, unmaintained or unused sewerage infrastructure will only aggravate their pollution risk towards the downstream environment.</p> <p>We therefore object to any new township development in the !Kheis Local Municipality and request the following information:</p> <ol style="list-style-type: none"> 1. A list of all new proposed township developments in the !Kheis Local Municipality where EnviroAfrica CC is the appointed environmental practitioner. 2. Details pertaining to new sewerage infrastructure that are planned for these developments. 	<p>1. <i>Requested information has been sent to the I&AP.</i></p> <p>2. Noted. The total sewer flow was calculated at 272 000l/day. Thirty (30%) of the households are currently serviced by VIPs whereas sixty (60%) of households utilize toilets with a conservancy tank (maintained by municipal waste trucks). Should a full-borne sewerage system be required, the associated infrastructure will include a pumpstation (which must be capable of delivering 23.4l/s to the WWTW), rising main pipeline (new 200m diameter Class 6 PVC pipelines (2100m and 3100m), and oxidation ponds (with a capacity of 0.3Ml/ day). It is recommended that the existing WWTW</p>

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		Please also register Gariep Watch as an I&AP for these new township developments.	be relocated due to its current close proximity to the existing Topline Settlement. Noted, Gariep Watch has been registered as an I&AP.
Respondent: !Kheis Local Municipality Response on initial PP (Appendix 1E.5)			
!Kheis Municipality exercises its executive functions within its boundaries in terms of Section 151 of the Constitution of the Republic of South Africa as a local authority. As such the Constitution enjoins the Municipality to adhere to the objectives in accordance with Section 152 and the development within its boundaries in terms of Section 153.			
The Municipality must exercise its rights and duties in terms of Section 4 of the Municipal Systems Act 32 of 2000 to ensure that the communities are consulted properly and that the needs are addressed. To fulfil these obligations the Municipality consulted the community annually to compile the master strategic plan (Integrated Development Plan).			
The need for housing within the Municipality is currently critical and needs to be addressed. Some of the applicants are on a waiting list for a house since 2013. It is essential to ensure that these people on the backlog list be assisted to restore dignity and fulfil the obligations as a local authority. The consolidated respond of !Kheis Municipality on the comments from various individuals and organizations on the housing projects are as follows:			
<ol style="list-style-type: none"> 1. The purpose of the whole exercise is to obtain correct information from professionals to address the shortcomings and comply with legislation to render basic services to our communities. 2. That this Council adhere to the call of its poor residents to avail land for housing purpose. 3. The Technical reports will address the needs and will serve as business plans to obtain financial support from Government institutions. 4. To obey to the course of restoring dignity to poor people and correct the imbalances of the past. 			
Comments Received on Draft Scoping Report			
2	Date: 28 th August 2020 Format: Email Letter I&AP: SAHRA	Interim Comment SAHRA requires the draft EIA documents before further comments can be issued. Should you have any further queries, please contact the designated official using the case number quoted above in the case header.	Respondent: EAP Noted, thank you. The draft EIR will be made available to SAHRA for comment.
3	Date: 22 nd September 2020 Format: Email Letter I&AP: Gariep Watch	The July 2020 EnviroAfrica draft Scoping Report and Plan of Study for the above-mentioned development of 248 erven on 36 ha at Topline has reference.	Respondent: EAP Noted, thank you for your comment.

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		<p>Thank you for registering Gariep Watch as an Interested and Affected Party and incorporating our correspondence of 17 June 2020 in the draft Scoping Report. This letter highlighted our concerns that pertain to the lack of wastewater infrastructure and maintenance of existing wastewater infrastructure at the !Kheis local municipality.</p> <p>We agree that housing is necessary to promote socioeconomic development and to provide the basic needs of the Topline community. However, the process of urbanization and population growth, if not handled carefully, may result in increased surface and ground water pollution towards the Orange River. Intensive urban growth far from job opportunities can also lead to greater poverty with local governments unable to provide services for all people.</p> <p><u>Our comments pertaining to this application for Topline are as follows:</u></p> <p>1. The proposed extension of the Topline settlement will interfere with two well-defined drainage lines that flow directly into the Orange River. Although the identification of site alternatives may not be feasible as noted in the Scoping Report, layout alternatives should be considered especially since the development will be within a Critical Biodiversity Area. The drainage line on Erf 1 could be avoided completely without the loss of much development potential. We therefore believe that the layout could be tailored to exclude sensitive drainage lines, corridors or riparian zones.</p> <p>2. The existing oxidation pond system situated to the south-west of the Topline development area is in disrepair. It is uncertain where the wastewater is disposed of but not inconceivable that it is discharged into the veld nearby where ground- and surface water resources can become polluted. This aspect should be investigated as part of the impending EIA.</p> <p>3. It is recommended that specialist botanical studies should be performed as part of the EIA to delineate the two watercourses and its associated vegetation. A ground water investigation should also be performed as part of the freshwater impact assessment. River health indices will not be feasible on the ephemeral drainage lines but could be conducted in the Orange River up-stream and down-stream from the proposed development.</p>	<p>Noted. Please refer to the Engineer's Services Report (Appendix 4B) stipulating recommended sewage infrastructure construction / upgrades to service the proposed development.</p> <p>Noted. As per the EMPr (Appendix H), the construction of the proposed development must comply with conditions stipulated in the EMPr, Specialist Reports, and the EA (if granted). This aids in avoiding, mitigation, and / or rehabilitating impacts (in accordance with the Mitigation Hierarchy) identified by the Specialists, EAP, and/ or I&APs.</p> <p>1. Noted. Alternative design layouts, incorporating environmentally sensitive areas (including watercourses and botanical features as identified by the Freshwater Specialist and Botanical Specialist, respectively), have been appended as Appendices 2A-D. Design Alternative 4 (Appendix 2D) is the preferred layout and incorporates the aforementioned drainage lines – zoning these areas as Open Space II and Open Space III. Therefore, this mitigates impacts associated with the proposed housing development in close proximity to the identified watercourses.</p> <p>2. Noted. The Engineer's Services Report (Appendix 4B) has identified the capacities of existing services (<i>viz</i> – water supply, sewage management, solid waste removal, electricity supply, roads, and stormwater management) and has proposed recommendations for the servicing of the proposed Topline Housing Development.</p> <p>3. Noted. A Botanical (Appendix 6A), Heritage Impact Assessment (Appendix 6B), Freshwater Impact Assessment (Appendix 6C), and Geotechnical Investigation (Appendix 6D) have been conducted. Moreover, watercourses present within the proposed development footprint are non-perennial watercourses which are mostly dry throughout the year. The Freshwater Impact Assessment (Appendix 6C) includes biomonitoring of the Orange River at different sampling points. As per the Freshwater Assessment, biomonitoring was conducted at eleven (11) sampling points along the Lower Orange River, namely Augrabies Lair</p>

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		<p>Aspects pertaining to solid waste, stormwater, groundwater and wastewater management should be key components of the Environmental Impact Assessment.</p> <p>The Orange River is used for many purposes downstream from this development, including the potable use by communities, often directly from the river and without treatment. All necessary measures must be put in place to prevent any pollution from reaching the Orange River.</p>	<p>trust, Groblershoop, Kakamas Triple D, Hopetown Sewer, Hopetown Sewer, Keimoes Housing, Upington Erf 323, Upington Affinity, Styerkraal, Grootdrink Bridge, and Turksvy Dam. These sites were sampled based on elucidating the combined impact of the propose developments on the Orange River. Biomonitoring was carried out according to the description of Dickens and Graham, (2002). Impacts on the Orange River, associated with the proposed development, have been included in the Freshwater Assessment. Mitigation measures and recommendations as proposed by the Specialists have been included and addressed in the Draft EIR (and in particular the Draft Environmental Management Programme, EMPr).</p>
Acceptance / Approval of Final Scoping Report			
4	<p>Date: 11th December 2020 Format: Email Letter I&AP: DENC (Mr. Olebile Seshupo (Case Officer))</p>	<p>The final scoping report for the Environmental Impact Assessment which was submitted by you in respect to the above-mentioned application and received by the Department in 16th October 2020 has been accepted by the Department. You may accordingly proceed with the undertaking of the environmental impact assessment in accordance with tasks that are outlined un the plan of study for environmental impact assessment. Also as part of the specialist studies identified please include traffic impact assessment as the proposed development is situated adjacent to the N10.</p>	<p>Respondent: EAP It is noted that the Final Scoping Report has been accepted / approved. The next phase is to submit the Draft EIR (this report) and notify the registered I&APs of the availability of this report for comment.</p> <p>A letter was submitted to the SANRAL (Appendix 3E.2.1). In response, SANRAL stipulated;</p> <ul style="list-style-type: none"> • It is an extension of the existing township; • No direct access from the N10 is requested. <p>Overall, SANRAL stated that they have no objection. Moreover, a Traffic Impact Assessment (TIA) was not requested / required by SANRAL.</p>
5		<p>I would like to also highlight two things, one being that a traffic impact assessment be conducted for all the proposed townships that are adjacent to the N10, also liaise with the Traffic Department for any comments or recommendations. Secondly, please include biodiversity impact assessment on all the proposed townships so that both fauna and flora are assessed. The reason for this is because I have noticed that in some instances you have only mentioned botanical impact assessment which will only focus on vegetation/plants.</p>	<p>Respondent: EAP Noted. Please note that the proposed development is located adjacent to the N10. Please see comment above (Comment No. 4). Letter submitted to the SANRAL has been attached as Appendix 3E.2.1 and response from the SANRAL as Appendix 3E.2.2. A letter was submitted to the SANRAL (Appendix 3E.2.1). In response, SANRAL stipulated;</p> <ul style="list-style-type: none"> • It is an extension of the existing township; • No direct access from the N10 is requested. <p>Overall, SANRAL stated that they have no objection. Moreover, a Traffic Impact Assessment (TIA) was not requested / required by SANRAL.</p>

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			Please note that the fauna (and avi-fauna) information has been included as part of the Botanical Assessment (Appendix 6A) – detailing the overall biodiversity of the proposed site for development.
Comments Received on Draft EIR			
10	<p>Date: 26th February 2021 Format: Email Letter I&AP: Gariep Watch</p>	<p>Gariep Watch reviewed the draft Environmental Scoping Reports as part of the public participation process and commented on each separate report on 22 September 2020. We note with disappointment that all our comments have not been incorporated into the specialist reports or draft EIR's. These raised issues remain unresolved. Our further comments on the draft EIR's have been narrowed down to apply to all six of these development proposals, and are provided below:</p>	<p>Thank you for your comments. Please note that issues raised by the Gariep Watch were addressed in the Draft EIR. It must be further noted that this application is for the proposed housing development and <u>not</u> for the authorisation of a WWTW – in light of this, should the EA be granted for this application, the recommended WWTW would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTW. Please see following for summary of responses to previous comments raised:</p> <ol style="list-style-type: none"> 1. Findings of the Specialists, EAP and the Municipality were considered with regards to design alternative layouts (Appendix 2A-D). Design Alternative 4 (Appendix 2D) is the preferred layout and incorporates the aforementioned drainage lines – zoning these areas as Open Space II and Undetermined Zone and therefore, mitigating the impacts associated with the proposed housing development in close proximity to the identified watercourses. Moreover, proposed mitigation measures relative to the construction and operational phases have been included in the Final EIR, Specialist Reports and the EMPr, which must be complied with should the EA be granted. 2. Illegal dumping was noted during the site visit conducted by the EAP and Specialists. Illegal dumping was identified as an impact to watercourses and the surrounding environment (e.g. Appendix 6C) and mitigation measures were proposed. Illegal dumping has been addressed in the Specialist Reports and Engineer's Services Report where a solid waste management plan was recommended to be compiled and implemented for the proposed development as a condition should the EA be granted. Mitigation measures and recommendations stipulated by the Specialists and Engineer (which has been included in the EMPr – Appendix H) must be complied with. 3. Issues relating to water quality and sewerage infrastructure have been addressed in the draft EIR, Specialist Reports (Appendix 6A-D), and Engineer's Services Report (Appendix

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			<p>4B). As per the Engineer's Services Report, the Engineer has detailed existing services (including water supply, sewage management, solid waste management, electricity, roads, and stormwater management) capacity and has made recommendations relative to services required to service the proposed development. As per the Draft EIR, the proposed development is supported subject to the implementation of the recommended mitigation measures proposed by specialists, and stipulated in the EMPr, and the compilation and effective implementation of a waste management plan. This waste management plan would include the construction of a Wastewater Treatment Works with the capacity to service the current and proposed housing development.</p> <p>4. Watercourses (non-perennial watercourses) present within/ surrounding the proposed development footprint are mostly dry throughout the year. The Freshwater Impact Assessment (Appendix 6C) includes biomonitoring results of the Orange River which were sampled at different locations. As per the Freshwater Assessment, biomonitoring was conducted at eleven (11) sampling points along the Lower Orange River, namely Augrabies Lair trust, Groblershoop, Kakamas Triple D, Hopetown Sewer, Hopetown Sewer, Keimoes Housing, Upington Erf 323, Upington Affinity, Styerkraal, Grootdrink Bridge, and Turksvy Dam. These sites were sampled based on elucidating the combined impact of the proposed developments on the Orange River. Biomonitoring was carried out according to the description of Dickens and Graham, (2002). Impacts on the Orange River, associated with the proposed development, have been included in the Freshwater Assessment as well as the Final EIR. Proposed mitigation measures have also been incorporated in these reports.</p>
11		<p>PROTECTION OF DRAINAGE LINES, CORRIDORS AND RIPARIAN ZONES</p> <p>Drainage lines, corridors and riparian zones close to these township developments are being used for illegal dumping and ablutions with rainfall that washes pollutants towards the lower Orange River. Measures</p>	<p>Noted. Areas associated with watercourses have been zoned as open space – thereby incorporating a buffer from potential anthropogenic impact. Moreover, mitigation measures proposed by the Specialists have been included in the EMPr and Final EIR. Should the EA be granted by the competent authority, all mitigation measures must be complied with. In addition to parameters stipulated in the Engineer's Services Report (Appendix 4B), a Stormwater Management Plan (SWMP) must be</p>

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		<p>to prevent and mitigate stormwater contamination should be investigated with cognisance of the expected run-off from these catchments, including the new development areas. It should, however, be endeavoured to avoid any development close to watercourses/dry drainage lines.</p> <p>We note and agree with the recommendation in the May 2020 Freshwater Report by Watsan Africa that a buffer zone of 50 m should be left undeveloped around all natural drainage lines. However, the township layout plans as shown in, for example, Figure 23 of the draft Boegoeberg EIR does not take cognisance of this recommendation. These buffer zones have been indicated in Appendix 2D (preferred layout site plan). The draft EIR's should be updated to include the correct plans that show the buffer zones.</p> <p>We disagree with the low-risk ratings that were awarded in the draft EIR's impact assessment for the destruction and contamination of the drainage lines. The draft EIR's do not address the design specifications of numerous road crossings that will be required when new erven are developed in close proximity to these drainage lines.</p> <p>Storm water runoff from many of these new townships will first flow through an agricultural zone before it reaches the Orange River. The mitigation of storm water that is contaminated with solid waste and sewerage has not been properly addressed as the impact on down-slope producers have not been evaluated. There is no clear plan to prevent solid waste from entering the drainage lines, polluting storm water and subsequently ending up in the Orange River.</p> <p>No link is made between the identified Critical Biodiversity Areas on the development sites and the drainage lines, corridors and riparian zones. The specialist studies in support of this application were therefore produced in isolation without any integration of results. Corridors protect environmentally sensitive areas by providing avenues for wildlife movement, buffers between natural and human communities as well as green space for humans.</p> <p>The exiting and visible high risk of contamination and destruction of the drainage lines cannot summarily be downgraded to a low risk as reported in the Freshwater Reports risk assessment and the draft EIR's. The threat</p>	<p>designed and compiled to address concerns raised by the I&AP - namely the potential flow of sewage- and/or solid waste-contaminated stormwater runoff from the development into the drainage lines and subsequently, the Orange River. Therefore, it is recommended that the proposed development be supported/ authorized subject to the compilation of a SWMP which includes required engineering parameters (Appendix 4B) and the management of potentially sewage- and/or solid waste-contaminated stormwater runoff.</p> <p>This design layout was adapted from the Engineer's Services Report (Appendix 4B) to highlight the location of existing/ proposed services. The layout presented in Figure 23 is not the preferred layout (relative to zoning). Please refer to Appendix 2D for the preferred layout. It must be further noted that this application is for a proposed housing development and not for the authorisation of a WWTW – in light of this, should the EA be granted for this application, the recommended WWTW would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTW. As per the Freshwater Report (Appendix 6C), <i>"The drainage lines pass right through the current settlement, with a strip of land of about 50m wide to accommodate the drainage lines. It does not seem if formal storm water canals are required for this small catchment with a limited runoff. If anything of the kind is required for the new development, it can be small, minimalistic, with no more impact on the drainage line that is really required. From an environmental point of view, it would probably be best to leave a strip of land around the drainage line without any further disturbance"</i>. And proposed mitigation measures include <i>"Leave a strip of land 50m wide around the drainage line"</i>. This mitigation measure was included in the Draft EIR which must be complied with should the EA be granted. Specialists were consulted through the process with regards to the design layout and whether the proposed layout would negatively impact factors relative to the Specialist's field of expertise.</p> <p>Noted. These risk ratings were based on the Specialist Reports (Appendix 6A-D). This is the opinion of each Specialist relative to their field of expertise. For example, the Freshwater Assessment was based on the risk matrix developed by the Department of Water and Sanitation (DWS). Therefore, the rating of risks was undertaken in accordance with</p>

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		to these drainage lines will increase profoundly with these proposed new developments, its associated infrastructure and human pressure.	<p>such guidelines in combination with the Specialist's experience and knowledge within the field (please refer to Specialist CVs – Appendix 6A – D). As per the Engineer's Services Report (Appendix 4B), internal roads can be upgraded to interlocking paved streets.</p> <p>Noted. In addition to parameters stipulated in the Engineer's Services Report (Appendix 4B), a Stormwater Management Plan (SWMP) must be designed and compiled to address concerns raised by the I&AP - namely the potential flow of sewage- and/or solid waste-contaminated stormwater runoff from the development into the drainage lines and subsequently the Orange River. Therefore, it is recommended that the proposed development be supported/ authorized subject to the compilation of a SWMP which includes required engineering parameters (Appendix 4B) and the management of potentially sewage- and/or solid waste-contaminated stormwater runoff. Please note that this application is for the proposed housing development and not for the authorisation of a WWTW – in light of this, should the EA be granted for this application, the recommended WWTW would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTW. As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9). Moreover, it was not in the scope of this EIR to develop a waste management plan however, mitigation measures addressing these issues have been proposed and must be implemented during the construction and operational phases of this project – which aims to mitigate solid waste from entering the drainage lines, polluting storm water, and subsequently ending up in the Orange River.</p> <p>According to the Northern Cape CBA maps the proposed site falls within a CBA area. As per the Botanical Assessment (Appendix 6A), the site will not impact on any recognised centre of endemism. The 2016, Northern Cape CBA Map identifies biodiversity priority areas, called Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs), which, together with protected areas, are important for the persistence of a</p>

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			<p>viable representative sample of all ecosystem types and species as well as the long-term ecological functioning of the landscape as a whole (Holness & Oosthuysen, 2016). The 2016 Northern Cape Critical Biodiversity Area (CBA) Map updates, revises and replaces all older systematic biodiversity plans and associated products for the province. The entire, proposed site for development falls within a CBA. The connectivity (namely the potential loss of ecological migration corridors) was considered and rated as Low (The transformation will destroy connectivity within the site but will not result in a significant impact on the surrounding area, where connectivity is still excellent) which was reduced to insignificant (should the proposed mitigation measures be implemented). Open Space zoning has been provided within the design layout (please refer to Appendix 2D), buffering the non-perennial watercourses from the proposed household activities. A buffer has been incorporated on watercourses (namely the non-perennial drainage lines), which have a corridor feature – thereby retaining the potential corridor function. Please refer to Appendix 6A (Botanical Assessment) for more information on the CBA.</p> <p>Noted. Risk ratings in the Draft EIR were based on Specialist Reports. Please note that these risks were reduced to a low risk should the proposed mitigation measures be implemented. These mitigation measures have been included in the Draft EIR, Final EIR, EMPr, and Specialist Reports and must be complied with should the EA for this project be granted. Please refer to scoring matrices (Appendices 6A-D) and Appendix 7 for the Environmental Impact Assessment (which describes potential impacts and proposed mitigation measures).</p>
12		<p>EXISTING SEWERAGE MALPRACTICES</p> <p>The existing problems and adverse impacts pertaining to sewerage disposal malpractices should be addressed before embarking on any new developments. Years of bad governance by this dysfunctional municipality simply will not change overnight. It is dishonest to give the !Kheis Municipality the benefit of the doubt when assigning risks to new developments that will most likely just amplify the existing problems. Past behaviour predicts future behaviour.</p>	<p>Noted. Please note that this application is for the proposed housing development and not for the authorisation of a wastewater treatment works (WWTW) – considering this, should the EA be granted for this application, the construction of a WWTW (as recommended by the Engineer) would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTWs. Existing sewage services and future sewage infrastructure, required to service the proposed development, were addressed in the Engineer's Services Report (Appendix 4B). As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the</p>

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		<p>New sewerage oxidation dam systems or WWTW's have been proposed in the draft EIR's. The question is asked whether these new bigger facilities will be properly maintained and operated if the modest existing pump stations and sewerage dams are not.</p> <p>In the context of existing challenges pertaining to sewerage water treatment at !Kheis Municipality, we cannot agree with the assumption made in the freshwater impact assessment and the draft EIR's that an increased volume of sewerage poses a low risk.</p> <p>Table 1 was prepared from information contained in the October 2020 Bvi Engineering reports and show the expected cumulative sewerage flows per day.</p> <p>Table 1: Expected sewerage flows</p> <table border="1" data-bbox="524 715 1256 1129"> <thead> <tr> <th>TOWNSHIP</th> <th>EXPECTED NEW SEWERAGE FLOW l/day</th> </tr> </thead> <tbody> <tr> <td>WEGDRAAI 360 stands</td> <td>461 500</td> </tr> <tr> <td>TOPLINE 248 stands</td> <td>272 000</td> </tr> <tr> <td>OPWAG 730 stands</td> <td>365 000</td> </tr> <tr> <td>GROOTDRINK 370 stands</td> <td>546 000</td> </tr> <tr> <td>GROBLERSHOOP 1500 stands</td> <td>889 600</td> </tr> <tr> <td>BOEGOEBERG 550 stands</td> <td>531 050</td> </tr> <tr> <td>TOTAL</td> <td>3 065 150 l/day</td> </tr> </tbody> </table> <p>These calculations show that the expected cumulative volume of sewerage that will need to be treated with the development of 3 758 new erven, will amount to 3 065 m3/day.</p> <p>This cumulative volume of sewerage that will need to be discharged near the lower Orange River is significant. It can be expected that downstream users, aquatic ecosystems and ground water users down-slope of these</p>	TOWNSHIP	EXPECTED NEW SEWERAGE FLOW l/day	WEGDRAAI 360 stands	461 500	TOPLINE 248 stands	272 000	OPWAG 730 stands	365 000	GROOTDRINK 370 stands	546 000	GROBLERSHOOP 1500 stands	889 600	BOEGOEBERG 550 stands	531 050	TOTAL	3 065 150 l/day	<p><u>compilation of a waste management plan to address sewage and solid waste concerns (highlighted by the EAP, Specialists and I&APs), compilation of a Stormwater Management Plan,</u> and the implementation of mitigation measures proposed by the Specialists (Appendix 6A-D) and included in the EMPr.</p> <p>Noted. Please see comment above. Please note that the recommended construction / upgrade to sewage infrastructure to service the current and future development has been included in the Engineer's Services Report (Appendix 4B). The construction and / or operation of the recommended WWTW does not form part of this application and would therefore be addressed in an application for the construction of the WWTW.</p> <p>Noted. Please note that the recommendations made in the Draft EIR were based on findings from the specialists and site visits conducted. A low risk rating was given to the proposed increase in sewage generation should mitigation measures (which includes the construction of the recommended WWTW) be implemented. As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9). Moreover, it was not in the scope of this EIR to develop a waste management plan however, mitigation measures addressing these issues have been proposed and must be implemented during the construction and operational phases of this project – which aims to mitigate solid waste from entering the drainage lines, polluting storm water, and subsequently ending up in the Orange River.</p> <p>Noted and confirmed that Table 1 shows total (combination of existing and expected) sewage generation for each proposed development and the overall total.</p>
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TOTAL	3 065 150 l/day																		

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		<p>developments may be adversely affected. These cumulative impacts have not been addressed in the draft EIR's. The re-use of treated wastewater should be investigated as part of impact management and mitigation measures.</p>	<p>Noted and confirmed that the total expected sewage flow will be 3 065 150 l/day (3 065.15m³/day).</p> <p>Noted. Cumulative impacts have been rated in the Botanical (please refer to Appendix 6A) and Freshwater (please refer to Appendix 6C) reports. Mitigation measures for these cumulative impacts have also been proposed and incorporated into the Draft / Final EIR. As per the Freshwater Assessment, biomonitoring was conducted at eleven (11) sampling points along the Lower Orange River, namely Augrabies Lair trust, Groblershoop, Kakamas Triple D, Hopetown Sewer, Hopetown Sewer, Keimoes Housing, Upington Erf 323, Upington Affinity, Styrkraal, Grootdrink Bridge, and Turksvy Dam. These sites were sampled to elucidate the combined impact of the proposed developments on the Orange River, and was carried out according to Dickens and Graham, (2002). The PES of the Orange River (for both riparian and instream zones) were categorized as Class C (Moderately modified - a loss and change of the natural habitat and biota, but the ecosystem function is predominantly unchanged), and is an Ecologically Important system (as classified by the Freshwater Specialist). Furthermore, the Orange River is Ecologically Sensitive.</p> <p>As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the</p>

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			<p>implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9). Moreover, it was not in the scope of this EIR to develop a waste management plan however, mitigation measures addressing these issues have been proposed and must be implemented during the construction and operational phases of this project – which aims to mitigate solid waste from entering the drainage lines, polluting storm water, and subsequently ending up in the Orange River. The potential re-use of treated wastewater would be addressed in the application for the proposed construction of the WWTW.</p>
13		<p>GROUND WATER CONTAMINATION</p> <p>Ground water quality down-slope from the proposed developments and the existing settlements should be investigated. It is believed that, in the absence of adequate wastewater services at many of these settlements, much sub-surface pollution may reach the shallow aquifer and neighbouring boreholes. These down-slope boreholes are being used for irrigation, livestock watering and potable purposes and may pose a serious risk to public health.</p> <p>Aspects pertaining to ground water contamination and its impact on downslope landowners and the Orange River were not addressed in the draft EIR's. The geotechnical report by Cederland Geotechnical Consult only briefly makes mention of a ground water aquifer that may be less than 15 metres deep, which means that a shallow ground water aquifer does exist.</p> <p>No boreholes were identified in the development zones and no ground water samples were analysed. The total disregard of this potential serious impact is a critical omission in the draft EIR's. It is disconcerting that no surface or ground water samples were analysed as part of the Freshwater Impact Report. Historical data was also ignored. The outcome of freshwater risk assessments for each development area cannot be trusted without any information on fresh water.</p>	<p>Noted. The current status of water supply, sewage and solid waste management, electricity, stormwater management, and road infrastructure and future infrastructure, required to service the proposed development, was determined by the Engineer (Appendix 4B). According to the Geo-technical Assessment (Appendix 6D), no perched groundwater was encountered on site during the geotechnical investigation (and is not anticipated to be problematic on site). As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9).</p> <p>Noted. As per the Freshwater Impact Assessment, the watercourses present within the development footprint were dry (i.e. non-perennial drainage lines) and therefore, surface water sampling could not be undertaken. As this application was for the proposed development of housing, the scope/ terms of reference of the Freshwater Impact Assessment was based on the nature of the proposed development. A Freshwater Impact Assessment was undertaken in terms of the National Water Act (NWA), Act No. 36 of 1998, which includes the completion of a Risk Matrix, as published on the DWA webpage. As per the Freshwater</p>

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			<p>Assessment, biomonitoring was conducted at eleven (11) sampling points along the Lower Orange River, namely Augrabies Lair trust, Groblershoop, Kakamas Triple D, Hopetown Sewer, Hopetown Sewer, Keimoes Housing, Upington Erf 323, Upington Affinity, Styerkraal, Grootdrink Bridge, and Turksvy Dam. These sites were sampled to elucidate the combined impact of the proposed developments on the Orange River, and was carried out according to Dickens and Graham, (2002).</p>
14		<p>NEW INFRASTRUCTURE REQUIREMENTS</p> <p>The existing wastewater services at the development areas are clearly inadequate and are inefficiently maintained. New infrastructure should be designed, built and maintained to prevent any sewerage water from polluting the groundwater or the lower Orange River.</p> <p>The design of new sewerage water infrastructure as performed by Bvi Civil Engineers neglected to specify whether oxidation dam systems should be equipped with an impermeable lining.</p> <p>The Gariep Watch water quality monitoring program clearly show that polluted shallow aquifers close to the river impact adversely on the Orange Rivers' water quality. A river profiling study close to a township such as Brandboom will in all likelihood show increases in <i>E. coli</i> as the river progresses past the township. These increases will be in the absence of any visible surface flow or point sources of sewerage pollution. Cederland Geotechnical Consult identified shallow aquifers at these !Kheis Municipality development sites and these aquifers must be protected according to law. No mitigation was proposed in the draft EIR's or associated specialist studies because this risk was not evaluated. The Gariep Watch comments on the draft Scoping Report were therefore ignored.</p> <p>Every township in the development area is littered with glass, plastic and chemicals that may cause water pollution. Licenced municipal waste disposal facilities should be developed to cater for any new development before it is undertaken. These facilities should be properly maintained.</p>	<p>The Engineer's Services Report (Appendix 4B) investigated the status of existing services and proposed recommendations relative to the construction and/or upgrade of existing infrastructure to service the proposed housing development. It must be noted that this application is for the proposed housing development and not for the authorisation of a wastewater treatment works (WWTW) – considering this, should the EA be granted for this application, the recommended WWTW would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTWs. As per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9).</p> <p>Noted. This should be incorporated into the application for the proposed construction of the WWTW.</p> <p>As per Final EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists</p>

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			<p>(Appendices 6A-D) and included in the EMPr (Appendix 9). Moreover, it was not in the scope of this EIR to develop a waste management plan however, mitigation measures addressing these issues have been proposed and must be implemented during the construction and operational phases of this project. These mitigation measures/ recommendations have been proposed by Specialists and aims to mitigate solid waste from entering the drainage lines, polluting storm water, and subsequently ending up in the Orange River. The potential re-use of treated wastewater would be addressed in the application for the proposed construction of the WWTW.</p> <p>Solid waste management has been identified as a potential impact by Specialists, I&APs, and was included in the EIR. Mitigation measures and recommendations proposed by the Specialists and EAP have been included in the EIR and the EMPr. This includes the recommended compilation of a stormwater management plan and wastewater management plan which incorporates engineering parameters (please refer to Appendix 4B) and concerns raised by the I&APs, namely the management of sewage and solid waste. Moreover, illegal dumping was observed during the site visit and by the Specialists.</p>
15		<p>BIOMONITORING IN SUPPORT OF A WATER USE LICENCE APPLICATION</p> <p>Wide-ranging assumptions were made in the Freshwater Reports to substantiate desktop ecological scores without site-specific field work. SASS5 is just one of the recognized rapid bioassessment methods, making use of benthic macroinvertebrates to assess ecosystem integrity in rivers. It is of limited use without information on instream water quality, flow, habitat, etc.</p> <p>Caution is therefore needed in applying rudimentary SASS surveys as the sole protocol when determining a rivers Present Ecological State (PES), Ecological Importance (EI), Ecological Sensitivity (ES) and for the completion of an aquatic ecosystem risk assessment. No fish, sediment, hydrology, geomorphology, water quality, diatom, habitat or riparian vegetation assessments were performed. The Freshwater Report's outcome is therefore based on opinion and not on scientifically credible research.</p>	<p>Respondent: Freshwater Specialist</p> <p>The Department of Water and Sanitation maintains an elaborate biomonitoring schedule in the Lower Orange River. Sampling rounds are conducted every 3 months on selected sampling stations. These biomonitoring results are not available to specialist scientists for WULA's. The DWS, according to their rich database, is in the best position to decide if the limited biomonitoring results as offered can contribute towards their decision-making.</p> <p>Moreover, a Fresh Water Report for a WULA, apart from some of the key water quality attributes that can be measured with field instruments, because of typical time and budget constraints, cannot conduct microbiological and chemical water analysis. Again, the DWS maintains an elaborate sampling and national water quality analytical programme that has resulted in a long and very rich database. The DWS will draw on this knowledge for their decision-making.</p>

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		<p>Gariep Watch is maintaining a detailed biomonitoring program on the lower Orange River and one of our sites are situated at EWR02 (Boegoeberg). A Boegoeberg SASS5 score of 146 was calculated by accredited practitioners of Clean Stream Biological Services for Gariep Watch during September 2019.</p> <p>The DWS's River Health database as well as a 2010 macroinvertebrate survey for the DWS supports this score at EWR02. The SASS5 scores at twelve Orange River localities including the Boegoeberg area as sampled by Watsan Africa ranged between 18 and 50. This major discrepancy between our finding of 146 and those reported by Watsan Africa in their Freshwater Reports is disturbing, especially because these low scores are blamed solely on toxic agricultural runoff. There is no basis for this assumption and all findings in the Freshwater Reports should then be viewed with circumspection.</p> <p>Proof of the accreditation of Watsan Africa's SASS practitioners are requested.</p>	<p>Some of the details: A SASS5 score of 146 is certainly not representative of a mature river, with limited habitat types and many impacts. To uphold this score as the base-line for the Lower Orange River is simply unrealistic and scientifically undefendable.</p> <p>The specialist is a registered scientist, in line with South African legislation who has participated in the National River Health Programme and have been conducting biomonitoring since its inception.</p>
16		<p>ECOLOGICAL WATER REQUIREMENTS</p> <p>A comprehensive Reserve determination for the lower Orange River WMA was conducted for the Orange Senqu River Commission (ORASECOM) and the DWS in 2016. This DWS report deals with the ecological water requirements for surface and ground water in the lower Orange River and includes a site EWR02, which is located at Boegoeberg in Management Resource Unit C (Prieska to Boegoeberg). No mention or reference is made to this important DWS Report No. RDM/WMA06/00/CON/COMD/0216 of August 2016 in the Freshwater Reports. The 2016 Ecoclassification at site EWR02 showed that the Ecological Importance and Sensitivity (EIS) is High, the Present Ecological State (PES) is moderately modified (Category C) and the Recommended Ecological Category (REC) falls in Category B/C.</p> <p>Another relevant report has also not been considered by the compilers of the Freshwater Reports and draft EIR's. Rivers for Africa as the professional service provider for DWS compiled a report on the ecological requirements for surface and ground waters in the lower Orange River WMA (Report no. RDM/WMA06/00/CON/COMP/0217 of</p>	<p>Respondent: Freshwater Specialist</p> <p>In the Freshwater Report, the Present Ecological State of the Orange River was assessed to be a Class C. This supports the findings of the 2016 report that assigned a "C" as well. It remains for the I&AP to scientifically prove that the "cumulative" impacts of the 6 proposed developments would be of such a scale and nature that a General Authorization should not be granted, provided the sewage and waste issues are resolved.</p>

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		<p>July 2017). This report provides valuable input towards the implementation of an ecological reserve downstream from the development area.</p> <p>The aquatic impact assessments in the Freshwater Reports and draft EIR's have not incorporated relevant, available and credible scientific research. These reports can therefore not be relied on to plan for the mitigation of aquatic biodiversity-related risks that may be associated with the proposed developments.</p> <p>The cumulative impact of these six major developments on ecological water requirements in the lower Orange River were not considered in the draft EIR's. A water use licence in terms of Section 21 of the NWA should not be granted if this impact is not properly understood.</p>	
17		<p>WATER QUALITY</p> <p>Freshwater Reports without any reference to surface or ground water quality information should be viewed with caution. It is stated in the Freshwater Reports by Watsan Africa that pesticides in agricultural return flow is responsible for a heavy impact on biomonitoring results, resulting in a reduced SASS score. Detailed pesticide analyses of agricultural return flows and DEEEP toxicity studies were performed for Gariep Watch by Clean Stream and BiotoxLab. These analyses did not show any pesticides or environmental toxicity in the agricultural return flows or in the lower Orange River.</p> <p>The impact assessments that pertain to water quality in the Freshwater Reports and subsequent draft EIR's are based on speculation and not on credible scientific research. In the absence of water quality data, any conclusions made in these reports cannot be used to plan for the mitigation of any surface or ground water quality risks that may be associated with the proposed developments.</p> <p>Gariep Watch do appreciate and support Watsan Africa's viewpoint that further developments will exacerbate the current sewerage treatment and disposal malpractices. This forewarning by the project team's own specialists was shrewdly not carried over to the draft EIR's or risk assessment matrix.</p>	<p>Respondent: Freshwater Specialist and EAP</p> <p>According to the findings of the Freshwater Report, a General Authorization would be in order, provided that the wastewater and urban waste issues be resolved. This is entirely in agreement with the I&AP's stance on these "malpractices".</p> <p>Please note that as per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9). Moreover, it was not in the scope of this EIR to develop a waste management plan however, mitigation measures addressing these issues have been proposed and must be implemented during the construction and operational phases of this project. These mitigation measures/ recommendations have been proposed by Specialists and aims to mitigate solid waste from entering the drainage lines, polluting storm water, and subsequently ending up in the Orange River. The potential re-use of treated wastewater would be addressed in the application for the proposed construction of the WWTW.</p>

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		<p>These Freshwater Reports were also prepared in support of a water use licence application (WULA) as required in terms of Section 21 of the National Water Act. Outdated and speculative information were provided therein, and a new water use licence could not in all conscience be approved by the DWS. The context of current sewerage treatment and disposal malpractices should be taken into consideration when reviewing new licence applications.</p>	
18		<p>WATER ABSTRACTION</p> <p>The abstraction of additional water resources from the lower Orange River was not addressed in the specialist studies or draft EIR's. The cumulative impact of all !Kheis township development proposals should be evaluated. This is a serious omission and considered to be another fatal flaw in the environmental application process.</p> <p>Available research should be used to prepare a credible water use licence application that takes cognisance of the Ecological Reserve. Relevant reports are DWS Report No. RDM/WMA06/00/CON/COMD/0216 of August 2016 and Report no. RDM/WMA06/00/CON/COMP/0217 of July 2017.</p> <p>Table 2 was prepared from information enclosed in the Bvi Engineering reports and show the existing annual average daily water demands compared with the expected growth in annual average daily water demand.</p>	<p>Respondent: Freshwater Specialist and EAP</p> <p>The DWS is in the best position to discount the additional water abstraction against the Ecological Reserve. This is a formidable study on its own and is beyond the scope of a WULA Fresh Water Report. Moreover, this additional water abstraction is negligible if compared to that of agriculture and irrigation.</p> <p>Please note that a Water Use License Application is in process. The Department of Water and Sanitation is the competent authority with regards to granting the Water Use license.</p>

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		<p>Table 2: Existing and new annual average daily water demands.</p> <table border="1" data-bbox="539 336 1218 627"> <thead> <tr> <th>TOWNSHIP</th> <th>CURRENT AVERAGE DAILY DEMAND m³/day</th> <th>EXPECTED NEW DAILY DEMAND m³/day</th> <th>ADDITIONAL WATER REQUIREMENT m³/day</th> </tr> </thead> <tbody> <tr> <td>WEGDRAAI 360 stands</td> <td>535</td> <td>319</td> <td>216</td> </tr> <tr> <td>TOPLINE 248 stands</td> <td>428</td> <td>279</td> <td>149</td> </tr> <tr> <td>OPWAG 730 stands</td> <td>488</td> <td>106</td> <td>382</td> </tr> <tr> <td>GROOTDRINK 370 stands</td> <td>681</td> <td>459</td> <td>222</td> </tr> <tr> <td>GROBLERSHOOP 1500 stands</td> <td>3496</td> <td>1172</td> <td>2324</td> </tr> <tr> <td>BOEGOEBERG 550 stands</td> <td>710</td> <td>380</td> <td>330</td> </tr> <tr> <td>TOTAL</td> <td>6 338 m³/day</td> <td>2 715 m³/day</td> <td>3 673 m³/day</td> </tr> </tbody> </table> <p>Table 2 shows that the total cumulative new water demand will increase to 9 053 m³/day, which include the developments additional cumulative water demand of 3 623 m³/day.</p> <p>This additional water requirement from the lower Orange River for the development of 3 758 new stands is significant. It can be expected that downstream users and especially the aquatic ecosystems may be affected during low flow conditions. These cumulative impacts have not been addressed in the draft EIR's.</p>	TOWNSHIP	CURRENT AVERAGE DAILY DEMAND m ³ /day	EXPECTED NEW DAILY DEMAND m ³ /day	ADDITIONAL WATER REQUIREMENT m ³ /day	WEGDRAAI 360 stands	535	319	216	TOPLINE 248 stands	428	279	149	OPWAG 730 stands	488	106	382	GROOTDRINK 370 stands	681	459	222	GROBLERSHOOP 1500 stands	3496	1172	2324	BOEGOEBERG 550 stands	710	380	330	TOTAL	6 338 m³/day	2 715 m³/day	3 673 m³/day	<p>Noted, and confirmed (please note that the expected new daily demand for Groblershoop is 1127m³.day and not 1172m³/day). Total_{expected new daily demand} = 2670m³/day and Total_{additional water requirement} = 3668m³/day.</p> <p>Please note that a Water Use License Application is in process. The Department of Water and Sanitation is the competent authority with regards to granting the Water Use license.</p>
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19		<p>PROCEDURAL SHORTCOMINGS</p> <p>Gariep Watch commented on the draft Scoping Report on 22 September 2020. These comments should have been addressed by the various specialists for its inclusion into the draft EIR's, which is dated January 2021. The Freshwater Reports are dated May 2020, which means that the Sept 2020 Gariep Watch comments have been ignored and not included in these reports or the draft EIR's.</p> <p>This is a serious shortcoming in the interactive public participation process that should be followed for such an important and expansive development proposal.</p> <p>The draft EIR's by EnviroAfrica conclude with an assertion that the proposed development does not pose any significant impact, should the</p>	<p>Please note that issues raised by the Gariep Watch were addressed in the Draft EIR in the following way. It must be further noted that this application is for the proposed housing development and <u>not</u> for the authorisation of a WWTW – in light of this, should the EA be granted for this application, the recommended WWTW would require a new application where environmental impacts will have to be re-assessed relative to impacts associated with WWTW. Moreover, as per the conclusion of the EIR, it is recommended that the proposed Housing Development be supported and be authorised with the necessary conditions of approval, namely the compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures</p>																																

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		<p>proposed mitigation measures be implemented. We strongly disagree with this misleading statement and view it as a fatal flaw in the process. The real risks to the lower Orange River as highlighted by Gariep Watch has been ignored and were therefore not included in the environmental decision-making process that leads to mitigation.</p> <p>We believe that there is a high likelihood that existing adverse impacts associated with untreated sewerage discharges from the !Kheis Municipality will merely continue and new developments will compound the severity of these impacts. Prevailing malpractices at the !Kheis Municipality should be resolved before embarking on any new extensions.</p> <p>Please feel free to contact Gariep Watch if there are any questions or queries.</p>	<p>proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9).</p> <p>Please see following for summary of responses to previous comments raised:</p> <ol style="list-style-type: none"> 1. Findings of the Specialists, EAP and the Municipality were considered with regards to design alternative layouts (Appendix 2A-D). Design Alternative 4 (Appendix 2D) is the preferred layout and incorporates the aforementioned drainage lines – zoning these areas as Open Space II and Undetermined Zone and therefore, mitigating impacts associated with proposed households being in close proximity to the identified watercourses. Moreover, proposed mitigation measures relative to the construction and operational phases have been included in the Final EIR, Specialist Reports, and the EMPr, which must be complied with should the EA be granted. 2. Illegal dumping was noted during the site visit conducted by the EAP and Specialists. Illegal dumping was identified as an impact to watercourses and surrounding environment (e.g. Appendix 6C) and mitigation measures were proposed. Illegal dumping has been addressed in the Specialist Reports and Engineer's Services Report where a solid waste management plan was recommended to be compiled and implemented for the proposed development as a condition of the EA. Mitigation measures and recommendations stipulated by the Specialists and Engineer (and as included in the EMPr – Appendix H) must be complied with. 3. Issues relating to water quality and sewerage infrastructure have been addressed in the draft EIR, Specialist Reports (Appendix 6A-D), and Engineer's Services Report (Appendix 4B). As per the Engineer's Services Report, the Engineer has detailed existing services (including water supply, sewage management, solid waste management, electricity, roads, and stormwater management) capacity and recommended the construction / upgrade of services (e.g., sewage management infrastructure) to adequately service the proposed development. As per the Draft EIR, the proposed development is supported with the necessary conditions of approval, namely the

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			<p>compilation of a stormwater management plan, waste management plan (addressing sewage and solid waste management), along with the implementation of recommendations / mitigation measures proposed by Specialists (Appendices 6A-D) and included in the EMPr (Appendix 9).</p> <p>Watercourses (non-perennial watercourses) present within the proposed development footprint are mostly dry throughout the year. The Freshwater Impact Assessment (Appendix 6C) included the biomonitoring of the Orange River at different sampling points. As per the Freshwater Assessment, biomonitoring was conducted at eleven (11) sampling points along the Lower Orange River, namely Augrabies Lair trust, Groblershoop, Kakamas Triple D, Hopetown Sewer, Hopetown Sewer, Keimoes Housing, Upington Erf 323, Upington Affinity, Styerkraal, Grootdrink Bridge, and Turksvy Dam. These sites were sampled in order to elucidating the combined impact of the proposed developments on the Orange River. Biomonitoring was carried out according to Dickens and Graham, (2002). Impacts on the Orange River, associated with the proposed development, have been included in the Freshwater Assessment as well as the Final EIR. Proposed mitigation measures have also been included.</p>
20	<p>Date: 24th February 2021 Format: Email Letter I&AP: SAHRA</p>	<p>Final Comment The following comments are made as a requirement in terms of section 3(4) of the NEMA Regulations and section 38(8) of the NHRA in the format provided in section 38(4) of the NHRA and must be included in the Final EIA and EMPr: 38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit no objections to the proposed development; 38(4)b – The recommendations of the specialists are supported and must be adhered to. No further additional specific conditions are provided for the development; 38(4)c(i) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt/Phillip Hine 021 462 5402) must be alerted as per section 35(3) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule;</p>	<p>Noted, thank you for providing comment on the aforementioned project.</p> <p>These requirements have been included as part of the Final EIR and EMPr.</p>

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		<p>38(4)c(ii) – If unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase/Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance with section of the NHRA is an offense in terms of section 51(1)e of the NHRA and item 5 of the Schedule; 38(4)d – See section 51(1) of the NHRA;</p> <p>38(4)e – The following conditions apply with regards to the appointment of specialists:</p> <p>i) If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA; The Final EIA and EMPr must be submitted to SAHRA for record purposes;</p> <p>The decision regarding the EA Application must be communicated to SAHRA and uploaded to the SAHRIS Case application.</p> <p>Should you have any further queries, please contact the designated official using the case number quoted above in the case header.</p>	