CONSERVATION INTELLIGENCE

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Amathemba Environmental Management Consulting
P.O. Box 3420
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7536

Attention: Ingrid Eggert
By email: ingrid@inclover.co.za

Dear Ingrid

Draft Basic Assessment Report for the Proposed Wastewater Treatment Works and Associated Infrastructure for the Lactalis Dairy Factory, Remainder of Farm 695 and Portion 12 of Farm 175, Bonnievale
(DEA&DP ref. no.: 16/3/3/6/B1/4/1145/22)

CapeNature would like to thank you for the opportunity to comment on the proposed development and would like to make the following comments. Please note that our comments only pertain to the biodiversity related impacts and not to the overall desirability of the proposed development.

Project Description

It is understood that the application is for a wastewater treatment works (WWTW) for the Lactalis (previously Parmalat) Dairy Factory to treat the effluent generated to an acceptable standard. The effluent is currently transported and stored in an irrigation dam on a nearby farm and used for irrigation, with the balance disposed of in the adjacent Breede River. A water use license (WUL) was issued for the WWTW and associated activities in 2021. A Basic Assessment process commenced in 2019 but has since lapsed. Three alternative locations were assessed in the 2019 application and only the preferred alternative is assessed in detail in the current application (the other alternatives are discussed in the alternatives section of the Basic Assessment Report (BAR).

The WUL provides authorisation for 550 000 m³/annum of effluent for irrigation and 730 000 m³/annum of effluent to be disposed into the Breede River. Discharge to the river may only take place from April – August. Based on our interpretation, the irrigation dam will still be receiving untreated effluent while the treated effluent from the WWTW will all be disposed of into the Breede River. The sludge removed during the treatment process will be disposed of at a composting facility. The emergency dam at the factory is designed to accommodate any flows which cannot be accepted during emergencies, presumably including

electrical outages. Additional flow can be rerouted to the irrigation dam through existing infrastructure.

Further, based on our interpretation, the irrigation on Portion 12 of Farm 175 does not trigger any listed activities and therefore does not require environmental authorisation (assuming the existing activities have received environmental authorisation), but is however integral to the overall understanding of the management of the effluent and the associated impacts. Confirmation must be provided in this regard.

Desktop Information

The footprint of the preferred alternative for the WWTW is mainly occupied by No Natural according to the Western Cape Biodiversity Spatial Plan but encroaches into Critical Biodiversity Area 1 (CBA). The services trench traverses No Natural in the western section and patches of CBA 1 in the vicinity of the factory. The vegetation types mapped are Cape Lowland Alluvial Vegetation at the factory with the remainder mapped as Breede Shale Renosterveld. The threat statuses for these vegetation types are Critically Endangered and Least Threatened respectively, with both proposed as Endangered in in the draft 2021 updated threat status.

A watercourse is mapped leading east from the WWTW footprint and the Breede River is located to the north of the factory with a tributary joining the Breede River at the factory location.

Botanical Assessment

The botanical assessment provides a description of the habitat present with the footprint of the development proposal. The habitat is highly disturbed to transformed, with the WWTW located within a disused dam. The services trench traverses a patch of disturbed indigenous vegetation west of the main road and recently cultivated lands to the west and is located adjacent to existing development (e.g. roads) around the factory.

The botanical assessment disputes the mapping of the CBAs. Clarification should be provided if this only refers to the CBAs within the development footprint. The small patches of CBA around the factory could be queried, however the large expanse of CBA to the west of the development contains intact habitat forming a landscape corridor from the Breede River to the south. We wish to note that the maps in the botanical assessment does not refer to the latest layout as provided in Appendix A3.

With regards to the application of the plant and animal species themes for the screening tool, no Plant Species of Conservation Concern were encountered, and the habitat is evaluated as unsuitable for any Faunal Species of Conservation Concern, which is supported.

The conclusion is that the impact is of very low significance and the development is acceptable with no specific mitigation measures required. CapeNature supports the findings with the implementation of standard mitigation measures as contained in the Environmental Management Programme.

Freshwater Ecosystems Impact Assessment

The freshwater ecosystems impact assessment assessed the freshwater ecosystems for both the footprint of the WWTW and associated infrastructure and the irrigation dam and fields. The decommissioned dam within the WWT footprint has an artificially excavated channel leading from it and is therefore not a natural freshwater feature. The watercourse entering

the Breede River at the factory is however verified. The watercourse is described as severely impacted.

The Breede River is described as high ecological importance as it is one of the largest rivers in the Western Cape and supports a large extent of aquatic habitats along its length. The section adjacent to the site is however impacted, in particular the water quality through the adjacent agricultural activities and WWTW outflows. The current outflow from the factory is contributing to this impact.

As indicated above, the area affected by the irrigation dam and irrigated fields is also described although this does not form part of this application. The irrigation with untreated effluent has impacted the affected area as a result of the water quality, including the watercourse which traverses the site. The watercourse contains algal scum on the surface and a strong odour which is indicative of poor water quality. Water quality testing was also included as part of the freshwater assessment (and the previous assessment) with the results concluding that the freshwater systems have poor water quality in particular the watercourse downstream of the irrigated field.

The impact assessment for the freshwater study provides a comprehensive assessment of the various impacts associated construction phase and operational phase of the WWTW with the pollution of watercourses as a result of leakages and pollution of the Breede River through discharge of treated wastewater listed as high negative significance prior to mitigation. Following mitigation these are reduced to low and medium significance respectively. A list of mitigation measures are provided which are supported and should all be implemented.

The impact assessment is qualified with the statement that the proposal will result in an improvement from the current situation, as the quality of the effluent will be improved, which is supported. In this regard, we recommend that an additional impact table is provided indicating the current operational phase impacts as a comparison.

The impacts associated with the irrigated fields are discussed, as they are considered important to raise, even if they do not form part of the current application. The current impacts are listed as serious and that they need to be addressed. Mitigation measures have been proposed and CapeNature supports that these are implemented. The groundwater assessment undertaken focused on the irrigation area, as the WWTW will not entail any effluent entering the groundwater. The report indicates that there is over-irrigation in the irrigated fields.

We wish to note that the freshwater assessment refers to the use of treated effluent for irrigation. Further it is noted that the report states that confusingly, the WUL provides different water quality standards for the effluent to be disposed into the river and the effluent for irrigation. We wish to note that our understanding of the project is that treated effluent will be disposed in the river and that untreated effluent would continue to be used for irrigation. It is essential that clarity is provided in this regard and that this is clearly described in the BAR and assessed accordingly in the specialist assessments.

CapeNature fully supports that irrigation should make use of treated effluent as opposed to untreated effluent. If treated effluent is to be used for irrigation a new pipeline will need to be constructed between the WWTW and the irrigation dam, unless the existing pipeline from the factory to the irrigation dam could be reconnected to the effluent outflow into the Breede River. Either way, this needs to be included in the project scope.

The water quality of the current effluent and proposed water quality of the treated effluent is indicated in Section B 4.4 (Tables 1 and 2) of the Draft BAR and the quality of the treated effluent will be much improved e.g. chemical oxygen demand from 4000 mg/l to 75 mg/l; total suspended solids from 700 mg/l to 25 mg/l. It is however noted that this table then refers to treated effluent for irrigation. The improved water quality of the treated effluent will reduce the existing impacts as a result of irrigation with effluent. We recommend however that further input is required from the freshwater specialist regarding the extent to which the improved water quality as indicated in Tables 1 and 2 will change the impact of irrigation and disposal to the Breede River.

We wish to note that there is a demand for irrigated agriculture within the vicinity of the WWTW. While irrigation does result in the significant negative impact of loss of natural habitat due to cultivation, we would support that wastewater effluent of a suitable quality is used for irrigation *in lieu* of using water allocations from the Breede River system which is already significantly impacted by water abstraction. We therefore wish to recommend that the alternative of treatment of all effluent generated and used for irrigation in appropriate locations (existing or previously cultivated lands). It is however noted that the WUL has already been issued and any changes would require amendment.

Conclusion

In conclusion, CapeNature supports the development of a WWTW to improve the quality of effluent from the facility. The impact on terrestrial and aquatic habitat as a result of the development of the project infrastructure is acceptable with the recommended mitigation measures.

However, we recommend that there is further investigation of alternatives for the use of treated effluent for irrigation which can further reduce the existing impacts on water quality from the irrigation of effluent and disposal of effluent to the Breede River, and if necessary, amendments to the WUL can be applied for. Further clarification must be provided whether the current proposal is for irrigation with treated or untreated effluent.

CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received.

Yours sincerely

Rhett Smart
For: Manager (Landscape Conservation Intelligence)

cc. Elkerine Rossouw, Breede Gouritz Catchment Management Agency