

Our ref: OUT22/1876

Carl Dumbleton

Planning and Assessment Group  
NSW Department of Planning and Environment

Email: [carl.dumbleton@planning.nsw.gov.au](mailto:carl.dumbleton@planning.nsw.gov.au)

22 April 2022

---

Subject: **Howlong Sand and Gravel Quarry Expansion (SSD-8804) -Response to Submissions (RTS)**

Dear Mr Dumbleton

I refer to your request for advice sent on 22 February 2022 to the Department of Planning and Environment (DPE) Water about the above matter.

The proposed extension of the Howlong Quarry is the expansion of the existing sand and gravel quarry from 30,000 tonnes p.a. to 330,000 tonnes p.a.

The RTS has addressed a number of our concerns. However further information is required to address our concerns about water take and licensing. Please see **Attachment A** for details.

Please note that the licensing and approval function has now moved from NRAR to DPE Water.

Should you have any further queries in relation to this submission please do not hesitate to contact DPE Water Assessments [water.assessments@dpie.nsw.gov.au](mailto:water.assessments@dpie.nsw.gov.au), or the following coordinating officer within DPE Water:

Simon Francis – Senior Project Officer

E: [simon.francis@dpie.nsw.gov.au](mailto:simon.francis@dpie.nsw.gov.au)

M: 0428 926 117

Yours sincerely

A handwritten signature in blue ink that reads "Liz Rogers".

Liz Rogers  
Manager, Assessments, Knowledge Division  
**Department of Planning and Environment: Water**

## **Attachment A**

### **Detailed advice to DPE Planning & Assessment regarding the Howlong Sand and Gravel Quarry Expansion (SSD-8804) - Response to Submissions (RTS)**

---

The RTS has included amendments to the project design which has addressed a number of concerns in our review of the EIS. This includes the proposed realignment of the levee near the Stage 1 area and the proposed use of a turkeys nest dam to store water pumped out of the pits. These are both supported. The use of the turkeys nest dam removes the requirement to account for the take of the water from the dam for a secondary purpose such as irrigation.

#### **1.0 Water Take and Licencing**

---

##### **1.1 Recommendations – Prior to Determination**

The proponent should:

- ensure sufficient entitlement is obtained prior to water take occurring from the NSW Murray River Regulated Water Source,
- recalculate the peak groundwater take from each stage of the project due to the need to consider the reduction in flows from the alluvium to the river as water take from the groundwater source. If insufficient entitlement is available in the two WALs nominated in the RTS the proponent will need to demonstrate this can be acquired on the water market.

##### **1.2 Recommendations – Post Approval**

The proponent should:

- ensure sufficient water entitlement is held in a water access licence/s to account for the maximum predicted take for each water source prior to take occurring.
- ensure that relevant nomination of work dealing applications for Water Access Licences proposed to account for water take by the project have been completed prior to the water take occurring.
- develop a detailed Closure Plan covering all aspects of water licensing, water management, and mitigation strategy post quarrying within 2 years of operation and be informed by groundwater model validation. It should include accounting for the on-going take (139 ML/year) from losses due to evaporation.
- be aware of the rules of the relevant water sharing plans and how they may impact the project and ability to trade or take water.

##### **1.3 Explanation**

The revised groundwater modelling for the Project prepared by the consultants has resulted in a more refined and accurate prediction of likely groundwater inflows, including predicted induced flow estimate from the Murray River. It has increased the understanding of the likely groundwater and surface water interactions. The updated modelling assessment was peer reviewed and found to be ‘fit for purpose’ to achieve the stated objectives.

The revised groundwater model has updated the water take requirements due to groundwater interception in the pits. This has reduced the peak groundwater take predicted in the EIS of 2890ML/yr in Stage 4 down to 1776ML/yr. This water take can be accounted for by Water Access Licences nominated by the proponent. One of the WALs however (WAL29915) currently authorises water take at an irrigation property approximately 20km away. The holder of this WAL needs to confirm this WAL will be available for use when required or alternative options to acquire entitlement need to be identified.

The revised groundwater model has also been used to calculate the water take from connected water sources to meet the requirements of the NSW Aquifer Interference Policy. Whilst this prediction has indicated a peak take from the Murray River of 1002ML/yr in Stage 4, the Department advises that the approach used of calculating this via net loss is not appropriate. Rather the water take from the Murray River needs to be calculated based on only the increase in flows from the river to the alluvium. Any reduction in flows from the alluvium to the river need to be considered as groundwater take. Based on

---

Appendix 7 to the RTS this results in the peak take from the river being 217ML/yr in Stage 1, 2 and 3, 335ML/yr in Stage 4(ab) and 453ML/yr in Stage 4(cde). Based on significant water entitlement in the NSW Murray River Regulated Water Source and an active trading market, no risks were identified in acquiring the necessary entitlement.

Due to the change in method to calculate the water take from the Murray River outlined above, the proponent is required to review the water take from the groundwater source by considering the reduced discharge to the Murray River as groundwater take.

The RTS had indicated water take from the Murray River did not need to be accounted for due to existing impact in the area and a recognition of this within the water sharing plan. This view is not supported by the Department. This is due to the requirement in the NSW Aquifer Interference Policy of aquifer interference activities to account for water take from connected water sources, with no pathway to consider existing levels of impact from other activities to negate this requirement.

Post closure modelling has indicated recovery to within 1m of pre operation groundwater level at the most extensive stage 4 pit after 50 years. Further, that an annual volume of 139 ML/year would be needed to cover the on-going anticipated net evaporation losses from the pits after closure, unless surrendered to the Secretary. This on-going indirect take post closure will need to be addressed in a Closure Plan. The proponent will need to ensure sufficient entitlement is maintained at the site to account for this water take.

The RTS has not included any further options to minimise ongoing water take at the site post closure as was requested on review of the EIS. It is recognised the proponent will have sufficient water entitlement to account for the ongoing water take. However, based on broad principles for sustainable and efficient use of water the recommendation to consider all options to minimise water take post closure is maintained.

## **2.0 Groundwater modelling and general issues**

---

### **2.1 Recommendations – Post Approval**

The proponent should:

- develop a Water Management Plan prior to commencement of expansion operations to address construction and operation stages of the project. It should detail all aspects of water management, onsite water monitoring, data assessment and reporting processes, trigger action response plans including contingency and make good strategies. Key elements will include a Sediment and Erosion Control Plan, Site Water Balance, Monitoring and Reporting and a Contingency Response Plan.
- accurately meter and monitor water take from surface and groundwater sources with an ongoing review of actual versus modelled predictions. This will be a key component to confirm impact predictions, the adequacy of mitigating measures and compliance for water take.
- Ensure, in the event floodplain harvesting is proposed, that the project is consistent with the Floodplain Harvesting Policy and where required acquire sufficient water entitlement in a floodplain harvesting access licence to account for the predicted take prior to take occurring.
- Ensure that the design, construction and management of works within waterfront land need is in accordance with the “Guidelines for Controlled Activities on Waterfront Land (NRAR 2018)”.

### **2.2 Explanation**

We note that the recommendations developed as part of the groundwater model update has included the need for an update within 12 months of the project commencing and then every three years, in addition to detailed monitoring and documentation of the site water balance management. This is supported as it will aid in verifying water take at the site. It is proposed however to review the licensing requirements at Yr 10 when a model recalibration is performed. It is requested that the future licensing requirements be reviewed at each model update and the annual monitoring data be used to verify licence requirement predictions and identify if there are any variations that would require the predictions to be reviewed.

We support the proposed approach to address potential floodplain erosion risks due to levee construction and potential erosion risks following levee removal. These will require review at detailed design stage, and

---

ongoing monitoring and maintenance will be required to ensure their effectiveness. This can be addressed in a management plan.

The project as modelled exceeds the NSW Aquifer Interference Policy (2012) minimal impact criteria in relation to groundwater dependent ecosystems (GDEs). DPE-Water recognises that the modelled outcome is a maximum predicted impact scenario, based on available data and maintained pit dewatering. However, the quarrying operations do not require maintaining the pits in a fully dewatered state for all the period of operation, which would enable periods of recovery of groundwater. This would be expected due to the regulated river flow resulting in lower than predicted impacts on the fringing GDEs. To reduce this potential impact the proponent has proposed a revegetation program of impacted areas to provide suitable buffers to the Murray River, and enhance the biodiversity value of the land. These combined integrated quarry operations management, water management and revegetation program and water monitoring and mitigation plans are acceptable to DPE Water to manage and mitigate this impact.

We consider the monitoring and sampling programme as described in the supplied documentation is satisfactory.

Whilst water quality impacts on the River Murray are considered unlikely due to the groundwater flow direction being into the formed lakes which will act as groundwater sinks, there is some potential for increased salinity within the old pits due to evaporation effects. DPE-Water have no issue with this assessment but note that this has assumed continued irrigation extraction from pits to manage water level and salinity as part of continued water management strategy after the company has departed the project.

**End Attachment A**