

Our ref: OUT22/2146

Mandana Mazaheri
Planning and Assessment Group
NSW Department of Planning and Environment
Email: mandana.mazaheri@planning.nsw.gov.au

21 April 2022

Subject: **Tomingley Gold Extension Project (SSD-9176045) Environmental Impact Statement (EIS)**

Dear Ms Mazaheri

I refer to your request for advice sent on 25 February 2022 to the Department of Planning and Environment (DPE) Water about the above matter.

This project proposal is to develop an open cut and underground gold mine and associated infrastructure.

DPE Water has reviewed the EIS and has concerns regarding the groundwater model and water take. Additionally, we have numerous post approval recommendations to ensure effective water monitoring and management. Please see **Attachment A** for more detail.

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 or to the following coordinating officer within DPE Water:

Alistair Drew – Project Officer
E: Alistair.drew@dpie.nsw.gov.au

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 Tomingley Gold Extension Project (SSD-9176045) Environmental Impact Statement (EIS)

1.0 Groundwater Model

1.1 Recommendation – Prior to Determination

- The proponent should independently review the groundwater model to determine if it is robust, reliable and fit for purpose according to the requirements of the NSW Aquifer Interference Policy (AIP).

1.2 Recommendation – Post Approval

- The proponent should undertake a review of the groundwater model in year 2024 with observed data to revise the peak groundwater inflow into the pits, to ensure sufficient shares (entitlement) is held or additional shares purchased to account for any additional take.

1.3 Explanation

The transient numeric groundwater model is only self-assessed as class 2 confidence level type and fit for the purpose. However, the Aquifer Interference Policy (AIP) requires the groundwater inflow estimate and the predicted impacts associated with the aquifer interference activity to be based on complex modelling platform that is independently reviewed and determined to be robust and reliable and deemed fit for the purpose.

The groundwater model over predicts the impacts and possibly the volume of groundwater inflow into the pits. The proponent proposed to review the groundwater model in 2024 with observed groundwater levels and pit inflow information to refine the maximum predicted groundwater inflow in year 2026. Based on this review, the proponent may need to consider securing additional groundwater entitlement to account incidental take due to the aquifer interference activity.

2.0 Water Take

2.1 Recommendation – Prior to Approval

- Confirmation is requested as to the source of the water included in the “moisture in ore” water input in the water balance, and justification as to whether its removal needs to be accounted for by holding a water entitlement. Where a water entitlement is required the proponent needs to demonstrate this can be acquired.

2.2 Recommendations – Post Approval

The proponent should:

- Update the Water Management Plan to reflect additional modifications to the surface and groundwater systems, and include relevant water storage, take and transfer infrastructure. Monitoring, mitigation, and management measures should also be updated.
 - develop a plan to measure/meter the groundwater inflow into the pits to confirm take predictions, and the adequacy of any mitigation measures and compliance for water take.
 - develop a method to accurately meter and monitor water take from surface and groundwater sources with 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.
-

- report on water take at the site each year (direct and indirect) in the Annual Review. This is to include water take where a water licence is required and where an exemption applies. Where a water licence is required the water take needs to be reviewed against existing water licences.
- 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.
- be aware of the rules of the relevant water sharing plans.

2.3 Explanation

The documentation has adequately defined the water requirements for the project and the proposed water supply sources. The proposed increase in external groundwater supplies to 1400ML/yr is recognised to meet the sites needs during an extreme low rainfall and groundwater inflow period. The proposed replacement bore at the “Dappo” property and use of existing entitlement at this bore raises no concerns. The proponent will need to ensure relevant applications are completed with WaterNSW to change the Water Access Licence as proposed.

The proponent has committed to acquiring additional entitlement via trading with existing entitlement holders to account for the predicted maximum 308ML/yr increase in groundwater inflows due to the project. This is a viable option. No concerns are raised with the proponent’s proposal to remodel the groundwater inflows at the end of 2025 to confirm the future groundwater take requirements. The proponent is aware of the need to hold sufficient entitlement before the water take occurs and there are viable pathways to achieve this.

Clarification is requested as to the source of water in the “moisture in ore” water input parameter in the water balance. Where this is water take from a watersource, such as groundwater, sufficient entitlement will need to be held.

3.0 Surface Water

3.1 Recommendations – Post Approval

The proponent should:

- include monitoring of geomorphic condition (along with the included water quality monitoring) of watercourse and riparian areas in their Operational Management and Mitigation Measures.
 - include monitoring geomorphic condition including erosion and sedimentation at a range of locations upslope, within and downslope of the Project Site, including within Gundong and Bulldog Creeks, as well as in unnamed watercourses. Particular attention should be paid to the reaches downstream of the culvert outlets where flows will be concentrated and may extend for longer periods after higher flows or flooding.
 - Specify triggers for remedial action in a detailed Trigger Action Response Plan (TARP) as part of any approval of the extension. Justification for design of the monitoring program and TARPs should include explanation of objectives, timing, frequency and duration of any monitoring program and how the TARPs response triggers will be followed and reported.
 - Prepare performance reporting on channel form and any remedial actions to allow assessment and review of River Style condition and future geomorphic recovery. Any remedial actions or stream rehabilitation should be guided by the Rehabilitation Manual for Australian Streams (Rutherford et al. 2000).
-

3.2 Explanation

Watercourses and drainage lines traverse the proposed extension to the mine area and the realigned elevated Newell Highway. The open cut area of the mine will intercept a small portion of the rainfall and runoff in the catchment

Peak flood heights and peak flow velocities have only a minor change compared to existing conditions over much of the modelled areas, with the exception being greater water depths ponding immediately upstream of the realigned Newell Highway and installed bunds. Flood depths and flow velocities are also modelled to increase downstream of the proposed culverts under the realigned Newell Highway. The peak flow downstream of the realigned highway is modelled to be lower than the existing plan with “the higher highway acting to retard flow and only allowing flow downstream in a slower manner through the culverts as opposed to the overtopping of the road in the existing case”. No information could be located about the duration of the flow through the culverts from water ponded behind the realigned and elevated highway, nor an assessment of the likely geomorphic stability below the armoured rock pads at the culverts where the sustained flow will be concentrated.

Table 8.1 containing recommended environmental safeguards and management measures (Surface Water EIS Technical Report Part 5), does not include monitoring of geomorphic condition of the watercourses and riparian areas.

4.0 Other Post Approval Recommendations

The proponent should:

- Develop a water management plan including the construction & placement of new monitoring bores, frequency of monitoring, water quality analyte suites and trigger action response plan. Performance against this plan should be reported annually.
- develop a strategy for accounting for any water taken beyond the life of the operation of the project, such as continuing to hold the appropriate amount in licence shares (entitlement) to cover any on-going indirect take or surrendering an access licence with appropriate shares in the LFB MDB Groundwater Source at the completion of the project.
- ensure watercourse crossings and other works within waterfront land are in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR 2018). A vegetated buffer width consistent with the requirements of NRAR (2018) for a second order watercourse needs to be applied to Drainage Line F located to the south of the SAR deposit.

End Attachment A
