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Our Ref: 22555_R01_Wonga Roo_V1.0

29 June 2022

Ben Streckeisen
Glencore Coal Assets Australia
E| Ben.Streckeisen@glencore.com.au

Dear Ben,

RE: Statement of Environmental Effects, Proposed Surface Water Flow Monitoring Structure 'Site 1 – Wonga Roo'

This Statement of Environmental Effects has been prepared by Umwelt to accompany a development application to Mid-Western Regional Council (MWRC) for the installation of a surface water flow monitoring structure on Cockabutta Creek near Bungaba, NSW.

1.0 Background

In association with the exploration and development of Exploration Licence (EL) 8687 adjoining the existing operation at Ulan West Underground Mine, Ulan Coal Mines Pty Limited (UCMPL) is seeking to gain an understanding of base surface water flows across the Bungaba area to aid the calibration of surface and groundwater models that predict potential environmental impacts related to underground coal mining. To facilitate this baseline data collection, two surface water flow monitoring structures (FMS) are proposed to be installed at two locations on Cockabutta Creek. This Statement of Environmental Effects relates to the proposed structure at Site 1 – Wonga Roo.

2.0 Location and Site Description

The proposed surface water flow monitoring structure at Site 1 – Wonga Roo is to be located on Crown Land associated with Cockabutta Creek, bordered either side by Lot 2 DP 1219272 near Bungaba, NSW as shown in **Figure 2.1**. The associated data recording equipment/instrumentation cabinet would either be located within the same Crown Land parcel adjacent to the creek, or alternatively further away from the creek bank within private property on Lot 2 DP 1219272.

Water flow at the proposed location is ephemeral and the bed consists of sand and gravels of various sizes. The proposed site for the surface water flow monitoring structure was selected based on the constant gradient both up and down stream and the stability of the creek bed. A large tree adjacent to the south-western creek bank would provide a stable and supportive bank area in which to cut the structure and the associated root mass would provide added support during high flow periods.

Umwelt (Australia) Pty Limited
ABN 18 059 519 041
T| 1300 793 267
E| info@umwelt.com.au
www.umwelt.com.au

Legend

- Flow Monitoring 1 Location
- Monitoring Cabinet
- Property Boundary
- Lot 2, DP 1219272
- Crown Land
- Creek

Image Source: ESRI Basemap Data source: NSW DFSI (2021)

FIGURE 2.1

Locality Plan

The land surrounding the proposed monitoring location has been historically cleared for agricultural purposes and is currently used for low intensity grazing of sheep, goats and cattle.

Two access agreements would be required with both the private landholder of Lot 2 DP 1219272 and the NSW Department of Planning and Environment (DPE), Crown Lands division as shown in **Figure 2.1**. The Crown Land Licence will be incorporated into a sitewide UCMPL Crown Land Licence that includes other activities within Crown Land.

3.0 Proposed Works

The proposed surface water flow monitoring structure would be constructed from non-treated hardwood sleeper(s), approximately 5 m long, 50 mm thick and 150 mm high, supported across the width of the creek bed using galvanised star pickets as shown in **Figure 3.1**. A V-notch would be cut into the structure to allow low flow water to pass and flow measurements to be taken. The base of the V-notch would be positioned less than 100 mm off the base of the creek bed to prevent the formation of a barrier to fish passage, in accordance with Department of Primary Industries (DPI) guidance. The proposed flow monitoring structure is not intended as a water storage structure, and would be of insufficient height to impact high flow or flood events. During moderate to high rainfall events, water flow would overtop the structure.

A bubble pot flow sensor would be installed on the upstream side of the structure (refer to **Photo 3.1**). The bubble pot would be fastened to the end of a 25 mm galvanised pipe (which would house a nylon capillary tube) running along the base of the structure/creek bed then connected to a solar-powered steel instrumentation cabinet (refer to **Photo 3.12**), proposed to be located at the top of the north-eastern creek bank, away from potential flood waters. The pipe can be either located above or below ground, depending on landholder requirements. At this stage the instrumentation cabinet is proposed to be located on Crown Land, however ground surface conditions may necessitate its location further away from the creek bank on Lot 2, DP 1219272 (refer to **Figure 3.2**).

Installation of the structure, sensor and instrumentation cabinet would require the use of handheld or small mechanical tools including post hole borer, shovel, star picket driver or similar. A small channel would be required to be dug by hand across the creek to bed in the structure. The material from the channel would be placed behind and to the sides of the V-notch. Any other wastes (for example, timber or steel offcuts) would be removed from the site and recycled or reused through appropriate existing waste channels by UCMPL.

The intention of the surface water flow monitoring structure is to capture sufficient data over at least two seasons (i.e. 24 months) to establish baseline and background status of the water flow within Cockabutta Creek to inform potential environmental impact assessment. The structure would enable the capture of actual low flow data, rather than using data from empirical models which are based on high flow. If mining activities were approved to proceed within EL8687, it is anticipated that the structure would remain in place for the life of mining activities to enable continued monitoring of predicted impacts. Post mining, the structure and instrumentation cabinet would be removed, and the channel and support holes filled, as part of the total rehabilitation package at the end of life of mine. Under normal flow conditions it is likely that sediment would quickly fill in any additional holes to return the creek bed to its pre-installation condition. Any support holes dug into the bank or within the adjacent paddock would be filled and seeded as required.

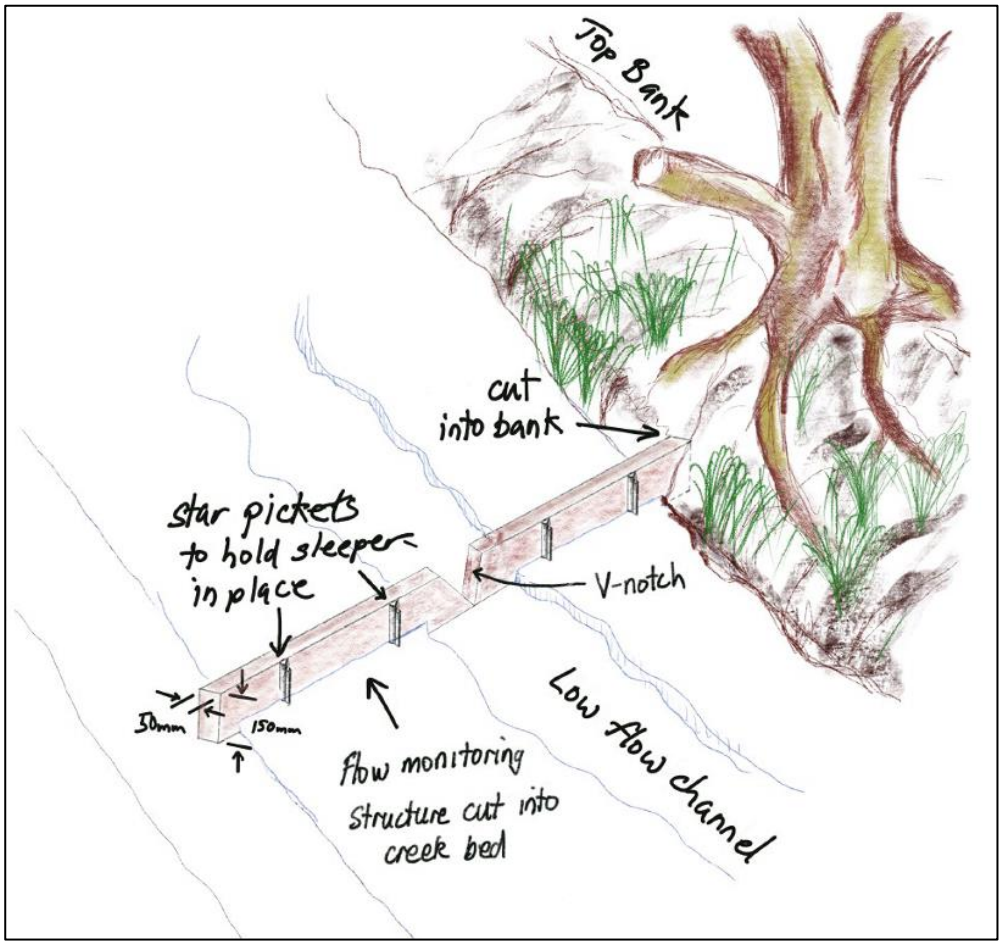

Figure 3.1 Design Schematic

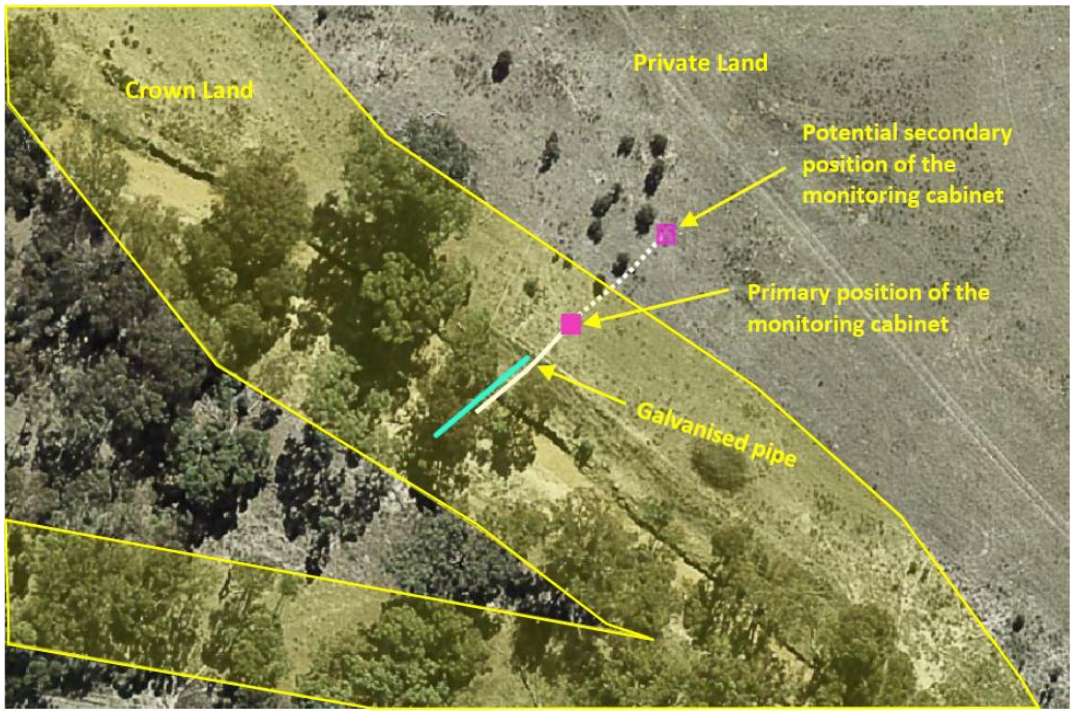

Figure 3.2 Indicative Layout

Photo 3.1 and 3.2 Typical Bubble Pot Sensor and Instrumentation Cabinet

4.0 Planning Considerations

4.1 NSW Legislation

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the primary land use planning statute in NSW. In determining an application for development, a consent authority must take into consideration the matters referred to in section 4.15(1) of the EP&A Act. These matters are addressed in **Table 4.1**.

Table 4.1 Section 4.15 Matters for Consideration

Matters for consideration	SEE reference
(a) the provisions of: *(i) any environmental planning instrument, and*	Refer to **Section 4.2**
(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority, and	Refer to **Section 4.2.3**
(iii) any development control plan, and	Refer to **Section 4.2.2**
(iiia) any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and	No planning agreements have been entered into in relation to the subject land
(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph),	Not applicable
(v) repealed *that apply to the land to which the development application relates,*	-
(b) the likely impacts of that development, including environmental impacts on both the natural and built environment, and social and economic impacts in the locality,	Refer to **Section 5.0**
(c) the suitability of the site for the development,	Refer to **Section 2.0**
(d) any submissions made in accordance with this Act or the regulations,	Not applicable at this time – submissions may occur post-lodgement
(e) the public interest.	Refer to **Section 5.0**

The proposed development also constitutes integrated development as it requires additional approvals defined in section 4.46 of the EP&A Act. A controlled activity approval is required under section 91(2) of the *Water Management Act 2000* (WM Act) for the proposed installation of the surface water flow monitoring structure on waterfront land.

Approval in the form of landowner's consent is also required under the *Crown Land Management Act 2016* as the proposed development would take place on Crown Land.

4.2 Environmental Planning Instruments

4.2.1 Mid-Western Regional Local Environmental Plan 2012

The proposed development is located within the Mid-Western Regional Local Government Area (LGA) and is subject to the *Mid-Western Regional Local Environmental Plan 2012* (LEP). The proposed development meets the LEP definition of a ***water storage facility***, being:

a dam, weir or reservoir for the collection and storage of water, and includes associated monitoring or gauging equipment.

While the proposed surface water flow monitoring structure is **not** designed to store water, it includes monitoring or gauging equipment. The subject land is zoned RU1 – Primary Production under the LEP. Within the RU1 zone, a water storage facility is permitted with consent.

The proposed development is consistent with the natural resource enhancement objective of the RU1 – Primary Production zoning through its ultimate aim of providing improved data to guide the informed management of water resources in the local area.

Environmental constraints identified by the LEP mapping, and any associated impacts as a result of the proposed development, are discussed in detail in **Section 5.0**.

4.2.2 Mid-Western Regional Development Control Plan 2013

The *Mid-Western Regional Development Control Plan 2013 (Amendment No. 5)* (DCP) contains detailed guidelines to complement the provisions of the LEP and applies to all land within the LGA.

Section 5.4 of the DCP relates to environmental controls which are discussed in relation to the proposed development in **Section 5.0** of this SEE. Part 6 of the DCP relates to development in rural areas and therefore applies to RU1 zoned land, however the proposed development is not of a type for which any specific additional controls apply.

Part 1.12 of the DCP has been repealed and replaced by the MWRC Community Participation Plan, 2019. The Community Participation Plan sets out minimum exhibition periods and requirements for development applications.

4.2.3 Regional Plans

The Draft Central West and Orana Regional Plan 2041 has recently been publicly exhibited by the DPE, with a final plan to be released in late 2022. The Draft Regional Plan recognises the continuing contribution of mining to the regional economy while also highlighting the importance of water management for future regional growth.

The data to be provided by the proposed development would ensure that any impacts to regional water resources as a result of current or future coal mining by UCMPL are able to be managed effectively into the future.

4.2.4 State Environmental Planning Policies (SEPPs)

State Environmental Planning Policy (Biodiversity and Conservation) 2021 Chapter 3 Koala Habitat Protection 2020 applies to land zoned RU1 within the Mid-Western Regional LGA. However, the proposed development would have no impact on koala habitat, as vegetation clearing and tree disturbance are not part of the proposed works, hence no further assessment under this SEPP is required.

5.0 Environmental Impact Assessment

5.1 Land and Soils

The proposed development site is not mapped as an area of salinity or acid sulfate soils.

Soil disturbance for the proposed development, both within the creek bed and on the adjacent creek bank, would be minor and unlikely to result in any erosion or sedimentation issues. The disturbance footprint of the proposed surface water flow monitoring structure would be less than 1 m^2, with a total disturbance area less than 5 m either side. Notwithstanding this, standard erosion and sediment control practices would be employed during installation to avoid any impacts.

5.2 Biodiversity

A site inspection and field survey were undertaken by UCMPL on 28 October 2021 to assess the ecological values of the proposed development area and to determine the potential impact of the proposed development. Results are detailed in the sections below.

5.2.1 Vegetation

The proposed surface water flow monitoring structure is to be positioned within an area of significant historical disturbance in the form of vegetation clearing and agricultural use. Woody vegetation has been historically removed from the creek banks leaving stretches exposed to erosion. Despite natural regeneration occurring since initial clearing, woody vegetation is still absent from sections of the bank (refer to **Photo 5.1**).

Photo 5.1 Site 1 – Wonga Roo, looking south-east

In addition, a number of Priority Weed species listed in the Central Tablelands Regional Strategic Weed Management Plan 2017-2022 were identified in proximity to the proposed development area. These included:

- Blackberry – *Rubus fruticosus agg*
- Opuntoid cacti – *Opuntia* spp.
- Fireweed – *Senecio madagascariensis*
- St John's wort – *Hypericum perforatum*
- Bathurst burr – *Xanthium spinosum.*

The regenerating vegetation has been assigned a best-fit Plant Community Type (PCT) of *PCT281 Rough Barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion*.

PCT281 is associated with the Endangered Ecological Community (EEC) *White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland in the NSW North Coast, New England Tableland, Nandewar, Brigalow Belt South, Sydney Basin, South Eastern Highlands, NSW South Western Slopes, South East Corner and Riverina Bioregions*. However, due to the degraded condition of the vegetation in the vicinity of the proposed development area it is unlikely to conform to the EEC definition. As no vegetation clearing would be undertaken for the proposed development, impacts to any area of potential EEC are unlikely.

5.2.2 Fauna

No fauna species were identified during the site inspection.

As no vegetation clearing would be undertaken for the proposed development, impacts to terrestrial fauna species and/or their habitats are unlikely.

The proposed surface water flow monitoring structure has been designed in accordance with DPI-Fisheries guidelines and the V-notch to be installed in the weir will be no more than 100 mm off the base of the creek, thereby preventing the formation of a barrier to fish and aquatic fauna passage. The waterway type in this section of Cockabutta Creek has been assessed according to Table 1 of the DPI-Fisheries fish passage requirements document[1] and is considered to be either Class 3 (minimal fish habitat) or Class 4 (unlikely fish habitat) based on its ephemeral nature. Impacts to aquatic fauna are therefore considered unlikely and no further aquatic survey is warranted.

5.2.3 Mapped Biodiversity Values

The proposed development location is mapped on the NSW Biodiversity Values Map as riparian land, however as no vegetation clearing would be undertaken and the proposed development is not an activity listed in section 6.1 of the Biodiversity Conservation Regulations 2017, entry to the Biodiversity Offsets Scheme does not apply.

[1] Fairfull, S. and Witheridge, G. (2003) Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings. NSW DPI, Cronulla

The proposed development location is also mapped on the Mid-Western Regional Council Sensitive Biodiversity Map as High, due to its location within a riparian corridor, and hence the provisions of section 6.5 of the LEP apply. However, it is considered that the proposed development has been designed, sited and will be managed to avoid any significant adverse biodiversity impacts.

5.3 Heritage

The proposed development location is not mapped as a Heritage Conservation Area on the LEP Heritage Map, nor does it contain any items of Environmental Heritage listed in Schedule 5 of the LEP.

Under the *National Parks and Wildlife Act 1974* (NPW Act), including the 2010 amendments, it is an offence to harm an Aboriginal object. The proposed development has the potential to impact on heritage items due to soil surface disturbance and sub-soil disturbance. The site of the proposed development has not been previously subject to heritage survey sampling due to its location outside the existing UCMPL project approval area (PA08_184). Therefore, as a method of demonstrating cultural heritage due diligence, the process outlined in Appendix B Section 1.8 of the UCMPL Heritage Management Plan (2019) was undertaken.

The cultural heritage due diligence process concluded that:

- the proposed development location is not within 100 m of an identified AHIMS cultural heritage site, and
- the area has been subject to human activity that has changed the land's surface (through soil ploughing, clearing of vegetation, and substantial grazing involving the construction of rural infrastructure), and
- the proposed development is classed as a ‘low impact activity on disturbed land’.

Therefore, in line with UCMPL Heritage Management Plan protocol, the proposed development can proceed with caution, and no further heritage surveys are recommended.

5.4 Water

5.4.1 Surface Water

Water flow at the proposed development location is ephemeral in nature and the bed of the creek consists of sand and gravels of various sizes. Potential for sedimentation or water quality issues as a result of the proposed development is therefore insignificant.

5.4.2 Groundwater

The proposed development site is located on land classified as Groundwater Vulnerable on the Mid-Western Regional LEP maps. However, based on the nature of the proposed works, impacts to groundwater are considered highly unlikely as the proposal does not include any potential sources of contamination, groundwater extraction, or potential impacts on groundwater-dependent ecosystems.

5.5 Hazards

5.5.1 Bushfire

The Crown Land portion of the proposed development site is classified as a Vegetation Buffer while the portion of Lot 2 DP 1219272 on the north-eastern side of Cockabutta Creek is classified as Vegetation Category 1 on the NSW Bushfire Prone Land Map.

However, the proposed development is not of a type specifically addressed in Planning for Bush Fire Protection (NSW Rural Fire Service, 2019), and the proposed activities would not hinder appropriate access and egress for firefighters nor impact on water supplies for bush fire suppression operations. No further assessment of bushfire risk is therefore required.

5.5.2 Flooding

The proposed development location is not classified as Flood Prone Land on the Mid-Western Regional LEP maps.

5.6 Social and Economic

Coal mining remains a major contributor to the economic base of the Mid-Western Regional LGA and the greater Central West and Orana Region. While there would be no direct social or economic impacts as a result of the proposed development, the surface water flow data to be collected would contribute to positive water management outcomes, and resulting environmental, social and economic benefits of future coal mining projects in the area.

We trust this information meets with your requirements. Please do not hesitate to contact the undersigned on 1300 793 267 should you require clarification or further information.

Yours sincerely