

PEMBROKE

Olive Downs Coking Coal Project

Additional Information to the
Environmental Impact Statement

Section 3

Environmental Authority

3 ENVIRONMENTAL AUTHORITY

1. ***Provide sufficient information to allow the development of a complete set of draft Environmental Authority (EA) conditions for the Olive Downs project. This may require new technical information as well as the cross reference existing information in the draft EIS.***

The draft EA has been updated to include additional information. Tables E1, E2, E3, F1, F2 and F3 have been updated/completed as requested and the revised Proposed EA Conditions are provided in Appendix B.

2. ***Identify proposed groundwater monitoring locations and frequency, triggers and limits to allow the conditioning of Table E1-E3 of the EA.***

The draft EA has been updated to complete Tables E1, E2 and E3 and is provided in Appendix B. This includes specific water quality objectives, release limits and trigger levels.

3. ***Provide background data and analysis to inform site-specific water quality objectives, release limits and trigger levels for surface water to allow the conditioning of Table F2 and F3 of the EA. Nominated proposed surface water monitoring locations and frequency, triggers and limits should be included in any additional information. This is likely to require the preparation of the surface water monitoring program and water management plan during the EIS process.***

As described in Section 4.2.2 of the draft EIS, draft water quality objectives (WQOs) have been developed for the Project for each physical and chemical parameter, based on a review and consideration of:

- the WQO for each relevant environmental value; and
- the available baseline water quality datasets.

Where the available baseline water quality datasets demonstrate clearly that the lowest WQO could not be achieved, an alternative WQO has been derived. Where there remains substantial ambiguity, the lowest WQO has been adopted as the default, until such time as ongoing baseline datasets are available to derive an alternative WQO.

The draft EA has been updated to complete Tables F1, F2 and F3 and is provided in Appendix B. This includes specific water quality objectives, release limits and trigger levels consistent with the discussion in Section 4.2.2 of the draft EIS and the Surface Water Assessment prepared by Hatch (i.e. Appendix E of the draft EIS).

4. ***Provide additional detail in relation to rehabilitation (see Rehabilitation below) to allow development of appropriate conditions for the EA.***

Table H1 of the draft EA has been updated to reflect the information requested in Section 4 and is provided in Appendix B.

5. Provide the results of MEDLI modelling to allow the conditioning of effluent releases to land in the EA.

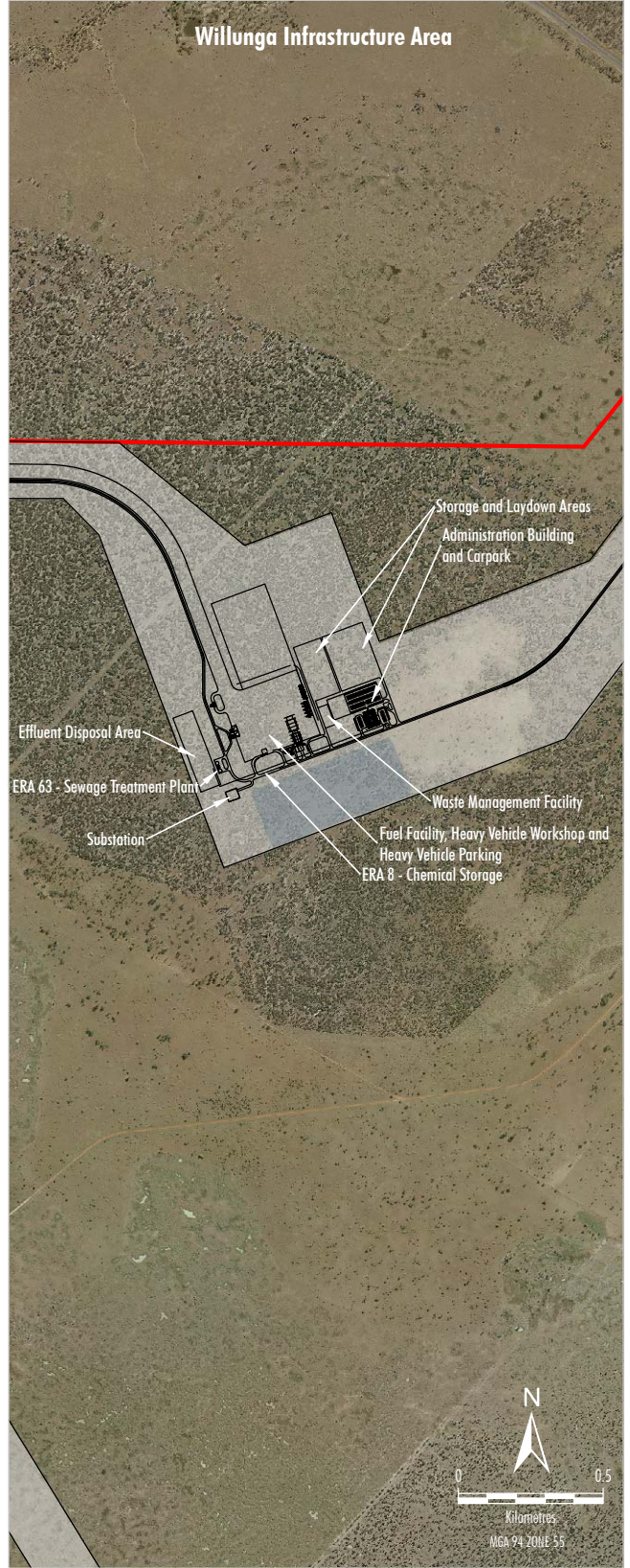
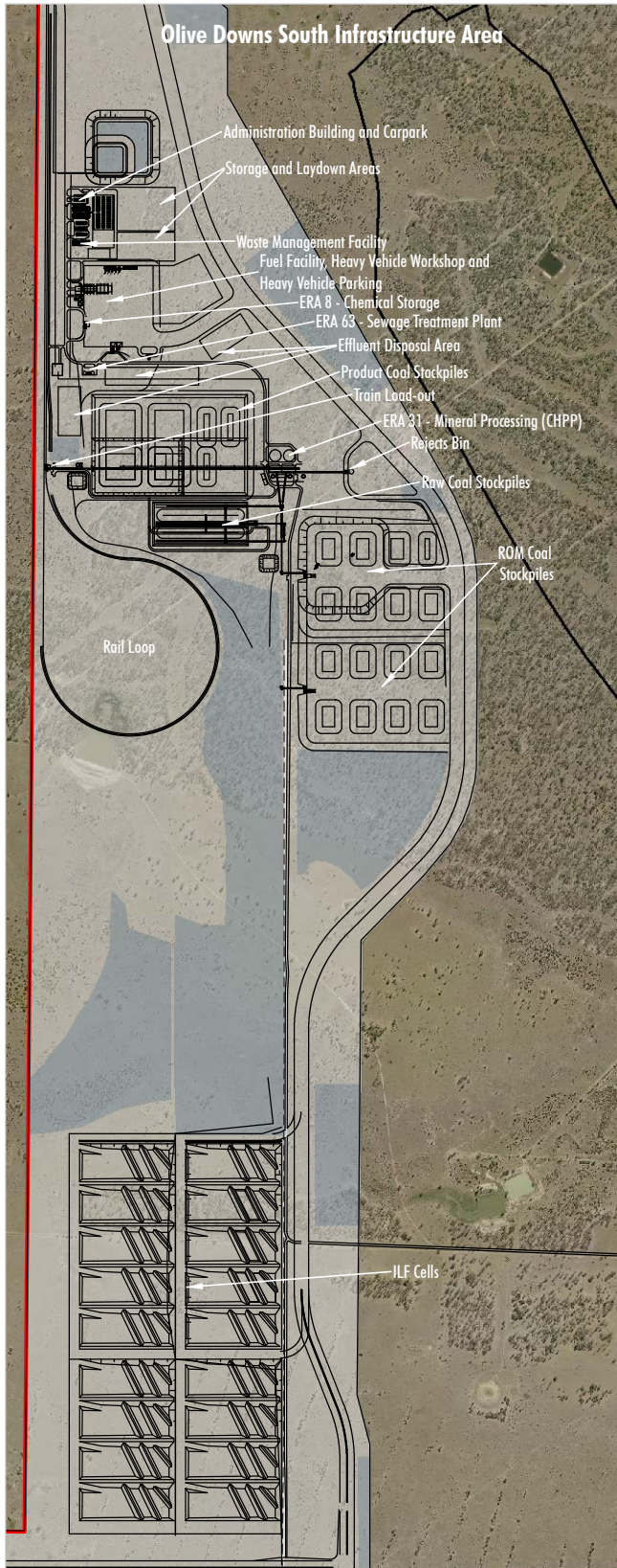
Pembroke has undertaken MEDLI modelling for the Project to determine the site requirements for the proposed irrigation areas. The MEDLI modelling report is provided in Appendix C.

The MEDLI modelling confirms the irrigation areas shown on Figure 2-28 of the draft EIS are required to be increased in size to a total of 5.5 ha between the Olive Downs South and Willunga domains to cater for the maximum expected irrigation volume when the Project workforce reaches its maximum during the 20 Mtpa mining scenario. As such, a revised version of Figure 2-28 from the draft EIS is provided as Figure 3-1 below, showing the larger effluent irrigation areas at Olive Downs South and Willunga domains (i.e. approximately 4 ha at Olive Downs South and approximately 2 ha at Willunga).

A revised EA Condition G8 has been included in the revised draft EA conditions (Appendix B) which requires a minimum area of 5.5 ha of land, excluding any necessary buffer zones, must be utilised for the irrigation and/or beneficial reuse of treated sewage effluent, consistent with the MEDLI modelling outcome.

It is noted that DES's submission on the draft EIS identifies that "*Table G1 – Contaminant Release Limits to Land does not contain a maximum total dissolved salt (TDS) concentration (in mg/L) and electrical conductivity (EC) maximum limit ($\mu\text{S/cm}$)*" and provides a suggested solution "*Provide maximum TDS and EC values using MEDLI modelling for treated sewage wastes that will be irrigated*".

Pembroke prepared the draft Table G1 – Contaminant Release Limits (as presented in the draft EIS) in accordance with the Model Mining Conditions. The Model Mining Conditions do not stipulate TDS and EC as release limits for treated sewage effluent. As such, Pembroke does not propose to include these parameters in Table G1. Notwithstanding, the MEDLI modelling prepared for the Project was prepared with a maximum TDS of 650 mg/L and is provided in Appendix C.



PRM-16-02_EIS-AL_INT_2015B

- LEGEND**
- Mining Lease Application Boundary
 - Infrastructure Area
 - Water Storage
 - Overland Conveyor

Source: Pembroke (2018); Phronis (2018);
 Department of Natural Resources and Mines (2018)
 Orthophotography: Google Image (2016)



OLIVE DOWNS COKING COAL PROJECT
 Indicative Mine Infrastructure Area Layout

Figure 3-1