



Appendix 1

Updated Project Description

(Total No. of pages including blank pages = 6)



This page has intentionally been left blank

Table A1.1
Dubbo Project (MOD 1) – Updated Project Description

Page 1 of 3

Component	Project Description – MOD 1 (this Modification Report)																								
Project Life	<ul style="list-style-type: none"> • Mining operations until December 2045, including: <ul style="list-style-type: none"> – a two to three year construction and site establishment phase; and – a 20 year operational phase (i.e. mining and processing). 																								
Operational Hours	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Activity</th> <th style="width: 20%;">Monday to Friday</th> <th style="width: 20%;">Saturday</th> <th style="width: 25%;">Sunday and Public Holidays</th> </tr> </thead> <tbody> <tr> <td>Mining</td> <td>7:00am – 6:00pm</td> <td>8:00am to 5:00pm</td> <td>nil</td> </tr> <tr> <td>Processing and receipt of reagents</td> <td colspan="3">24-hours per day, 7 days per week</td> </tr> <tr> <td>Construction – linear infrastructure</td> <td>7:00am – 6:00pm</td> <td>8:00am to 1:00pm</td> <td>nil</td> </tr> <tr> <td>Construction – other</td> <td colspan="3">24-hours per day, 7 days per week</td> </tr> <tr> <td>Dispatch of products & receipt of limestone</td> <td>6:00am – 10:00pm</td> <td>8:00am to 5:00pm</td> <td>nil</td> </tr> </tbody> </table>	Activity	Monday to Friday	Saturday	Sunday and Public Holidays	Mining	7:00am – 6:00pm	8:00am to 5:00pm	nil	Processing and receipt of reagents	24-hours per day, 7 days per week			Construction – linear infrastructure	7:00am – 6:00pm	8:00am to 1:00pm	nil	Construction – other	24-hours per day, 7 days per week			Dispatch of products & receipt of limestone	6:00am – 10:00pm	8:00am to 5:00pm	nil
Activity	Monday to Friday	Saturday	Sunday and Public Holidays																						
Mining	7:00am – 6:00pm	8:00am to 5:00pm	nil																						
Processing and receipt of reagents	24-hours per day, 7 days per week																								
Construction – linear infrastructure	7:00am – 6:00pm	8:00am to 1:00pm	nil																						
Construction – other	24-hours per day, 7 days per week																								
Dispatch of products & receipt of limestone	6:00am – 10:00pm	8:00am to 5:00pm	nil																						
Site Layout and Disturbance	<ul style="list-style-type: none"> • Schedule of land as per Figure A1.1 and Table A1.2. • Project Site as per: <ul style="list-style-type: none"> – Figure 5 (Biodiversity Offset Area) of this Modification Report; – Figure 7 (Modified Project Site Layout) of this Modification Report; and – Figure 8 (Modified Processing Plant and Administration Area) of this Modification Report. • Disturbance footprint of approximately 780.75ha (including Approved Disturbance Areas Retained for Future Use). • Clearing of approximately 415.3ha of native vegetation (including Approved Disturbance Areas Retained for Future Use). 																								
Mining	<ul style="list-style-type: none"> • Development of a single Open Cut to a maximum depth of 360m AHD. • Extraction and processing of up to 1 million tonnes of ore per calendar year. • Standard drill, blast and haul methods. 																								
Waste Rock Management	<ul style="list-style-type: none"> • Construction of a single Waste Rock Emplacement to a maximum height of 42m above existing ground level. 																								
Processing Operations	<ul style="list-style-type: none"> • Ore stockpiling at the ROM Pad. • Crushing and grinding circuit. • Sulphuric acid production. • Roasting circuit. • Solvent extraction circuit. 																								



Table A1.1 (Cont'd)
Dubbo Project (MOD 1) – Updated Project Description

Component	Project Description – MOD 1 (this Modification Report)
Processing Operations (Cont'd)	<ul style="list-style-type: none"> • Limited refining. • Construction and operation of a Chlor-alkali Plant for the production of hydrochloric acid and sodium hydroxide. • Construction and operation of a brine concentrator.
Solid Residue Management	<ul style="list-style-type: none"> • Construction of a Solid Residue Storage Facility to a maximum height of 368.5m AHD or up to 35m above the natural surface (plus approximately 2m of capping material to be applied during rehabilitation). • Solid residue as slurry (neutral pH) pumped to the Solid Residue Storage Facility for drying and consolidation. • 22.3Mm³ of solid residue waste generated over the life of the Project.
Liquid Residue & Salt Management	<ul style="list-style-type: none"> • One Liquid Residue Storage Facility and Salt Encapsulation Cells. • Liquid residue processed using the brine concentrator to produce crystallised salt. • Residual liquid residue pumped to Liquid Residue Storage Facility for evaporation. • Crystallised salts conveyed and/or trucked to the Salt Encapsulation Cells. • Between 6Mt and 7Mt of salt waste generated over the life of the Project.
Water Management	<ul style="list-style-type: none"> • Use of up to 2GLpa of water sourced from licenced sources within the Macquarie River and the Upper Macquarie Alluvial Aquifer. • Construction and operation of the Macquarie River Water Supply Pipeline and licenced groundwater bores. • Re-use of water from the proposed Brine Concentrator.
Transportation Operations	<ul style="list-style-type: none"> • Site access via Toongi Road. • Combination of rail and road transportation operations. • Road – up to 75 laden truck movements per day or 16 per hour. • Rail – up to 3 trains per week.
Linear Infrastructure	<ul style="list-style-type: none"> • Construction and use of a water pipeline from the Macquarie River and approved “Sweet Water” supply bore to the Project Site. • Upgrading of a 27km section of the disused Dubbo-Molong Rail Line. • Upgrading of selected sections of Obley and Toongi Roads between the Newell Highway and the Project Site and construction of the site entrance and access road. • Implementation of noise mitigation measures, in consultation with the Taronga Western Plains Zoo, to achieve a road noise reduction in the vicinity of Taronga Western Plains Zoo equivalent to that provided by a road noise barrier (i.e. 5dB to 10dB). • Construction and use of a gas pipeline with the rail corridor for the Dubbo – Molong Railway is no longer proposed, with separate approval to be sought for a new alignment.



Table A1.1 (Cont'd)
Dubbo Project (MOD 1) – Updated Project Description

Page 3 of 3

Component	Project Description – MOD 1 (this Modification Report)
Employment	<ul style="list-style-type: none"> • Employment: <ul style="list-style-type: none"> – Construction and site establishment phase: average of 625 positions, with a peak of up to 1 000 positions. – Operational phase: 274 positions.
Final Landform and Land Use	<ul style="list-style-type: none"> • Final landform as per Figure 15 of this Modification Report. • Final land uses as per Figure 17 of this Modification Report, including the following. <ul style="list-style-type: none"> – Vegetation and habitat conservation and enhancement (managed as part of the Biodiversity Offset Site). – Agricultural land uses. – Biodiversity conservation. – Potential future industrial land uses (subject to separate approval).

Table A1.2
Dubbo Project (MOD 1) – Schedule of Lands

Project Site		Macquarie River Water Pipeline	Toongi–Dubbo Rail
Part Lot 311 DP595631	Lot 271 DP593668	Lot 311 DP595631	Toongi – Dubbo Rail Reserve
Part Lot 35 DP753220	Part Lot 1 DP133581	Lot 27 DP753220	Purvis Lane Reserve
Part Lot 18 DP753252	Lot A & B DP439352	Lot 62-63 DP753220	Public Road Network
Lot 19 DP 753252	Lot A DP391069	Lot 1, 2, 3, 5 and Lot 30 DP753220	Toongi Road Reserve
Lot 55 DP 753252	Lot B DP 391069	Lots 1 to 4 DP753226	Obley Road Reserve
		Lot 43 DP754331	
Lots 1-8 DP1201149	Lot 50 DP 753252	Road Reserves of:	
Lot 7300 DP1149010	Lot X DP 405495	<ul style="list-style-type: none"> • Toongi Road (as it traverses Lot 311 DP595631); and • Benolong Road (between Lot 63 and 30 DP753220). 	
Part Lot 3 DP 841752	Lot 1 DP818802	Unformed crown road reserves:	
Part Lot 5223 DP1242581		<ul style="list-style-type: none"> • between Lots 27 and 62 of DP753220; • between Lots 1 and 30 of DP753320; and • between Lots 3 and 5 of DP753320. 	
Road Reserve of Eulandool Road			



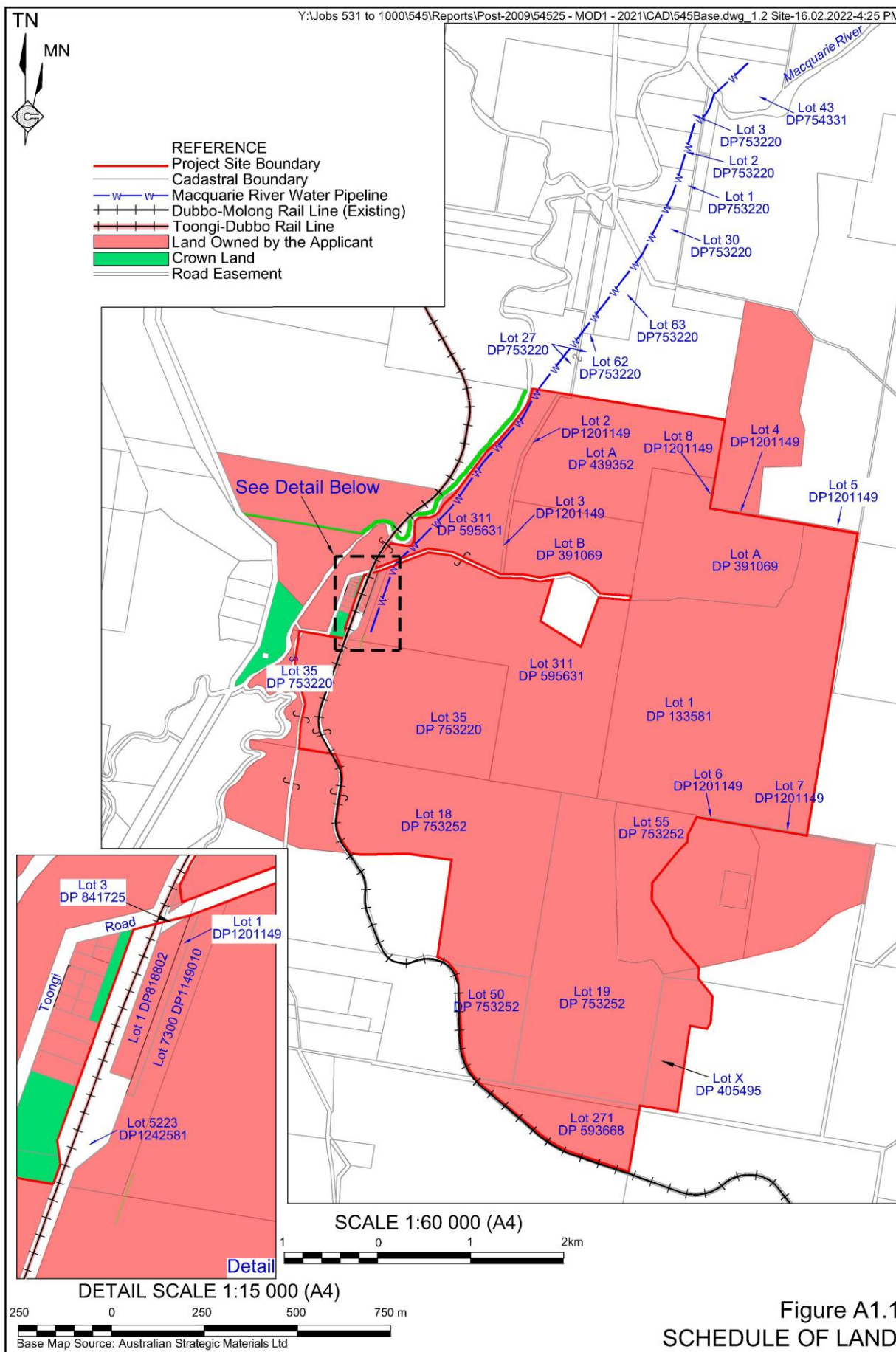


Figure A1.1
SCHEDULE OF LAND