INTEGRATED ENVIRONMENTAL MANAGEMENT AUSTRALIA

Rehabilitation and Closure Assessment Report

SSD-97711727 Bulk Earthworks, Rehabilitation & Quarrying

Prepared for:

Goodman Property Services (Aust) Pty Ltd

IEMA Ref: GDM00-001
Version No: v4.0
20 March 2026

DOCUMENT VERIFICATION

Project Title:	SSD-97711727 Bulk Earthworks, Rehabilitation & Quarrying – Rehabilitation and Closure Assessment Report
Project Number:	GDM00-001
Project File Name:	Rehab SEARs Report March 2026

Version	Comment	Date	Prepared	Authorised
V0.1	Initial Draft	13/03/2026	David Price (IEMA) and Maddie Stojcevski	Chris Jones (IEMA)
V0.2	Finalise – Issue for DA	16/03/2026	Maddie Stojcevski (IEMA)	Chris Jones (IEMA)

Integrated Environmental Management Australia Pty LTD

ABN 32 622 237 870
PO Box 3161, Merewether
NSW 2291 Australia

E: admin@iema.com.au
T: 0409 288 909
W: www.iema.com.au

CONTENTS

Tables

Figures

Appendices

1 INTRODUCTION

Integrated Environmental Management Australia (**IEMA**) has been engaged by Goodman Property Services (Australia) Pty Ltd (**Goodman**) to prepare a *Rehabilitation and Closure Assessment Report* to guide the preparation of an Environmental Impact Statement (**EIS**) for a State Significant Development Application (**SSDA**) (SSD-97711727) at 225-245 Martin Road, Bradfield, NSW 2556 (**the Site**). Goodman is seeking consent for remediation, quarrying and bulk earthworks of the Site and proposes to replace the existing Project Approval (MP10_0014) quarrying consent.

This SSDA will be for Site preparation works only (i.e. no buildings, retaining walls or other infrastructure works). This will include the rehabilitation of areas disturbed by historic mining and brick-making operations, as well as remediation and bulk earthworks across other areas of the Site to make the Site suitable for intended future land use. The Site has historically been used for quarrying, authorised by the project approval MP 10_0014. As part of the approved mining operations, rehabilitation strategies have been established to ensure that the Site is readily available for future uses once the mining activity cease. It is proposed that these rehabilitation strategies will be updated under this application.

This SSDA seeks approval for:

- Site preparation works only (i.e. no buildings, retaining walls or other infrastructure works);
- Rehabilitation of areas disturbed by historic mining and brick-making;
- Bulk earthworks to the Site to align with the Connecting to Country and Precinct Plan principles including both the disturbed and undisturbed portions to capture the following proposed works:
  - Remediation of Pits 1 and 2 using predominantly on-site fill (engineered fill import required); and
  - Preparation of the remaining site area to Bulk Earthwork Levels (**BEL**) (not including detailed trimming) for the proposed industrial development as considered under '*Scoping Report No. 01 – State Significant Development Application – Internal Works*' as submitted to the Department of Planning, Housing and Infrastructure (**DPHI**).
- Quarrying and export of Bringelly Shale and Clay from select areas of Pit 1 and 2 to rectify the previous approved pit designs to ensure they are geotechnically stable to suit the proposed industrial masterplan;
- Vegetation removal of 6.97ha over land that is not certified under the Growth Centre SEPP
  - Species being cleared involve species protected under both the BC Act and EPBC Act.
  - EPBC Act Referral completed on a precautionary measure given small amount of EPBC listed communities.
- Demolition of any remaining structures on the Site;
- Rehabilitation of identified and unidentified contamination and, if required, the construction of a containment cell in the proposed northeastern corner of the Site (currently identified as Lot 55 of DP 3050). The containment cell is proposed to trigger Designated Development threshold due to the proposed upper limit storage volume of 100,000m^3.
- Relocation of the Jemena Gas main predominantly burdening Lot 3 of DP127878.0; and
- If required through an Aboriginal Cultural Heritage Assessment Report (**ACHAR**), relocation and reburial of artefacts.

Additionally, this SSDA application seeks to rely on already existing authority approvals issued under MP10_0014 (subject to any applicable modifications). These are as follows:

- Mining Lease 1771;
- Environment Protection Licence 684;
- Ground Water Access Licence WAL24346; and
- Ground Water Supply Works Approval No. 10WA109463.

It is important to note that several of the proposed activities being sought for approval under this SSDA have previously been assessed and approved under MP10_0014. The existing DA relates to approximately 70ha of Net Developable Area (NDA), with the new portion of site approximately 36ha NDA. Cumulatively the area is approximately 116ha NDA. This report further outlines this in **Section 5** and **Section 6**.

Goodman notes that quarrying and rehabilitation works under MP10_0014 (as modified) will continue to be undertaken in accordance with the approved consent until such time the works under this SSDA is approved, after which a staged transition to the SSD framework will occur—supported by agency engagement and updated management plans—leading to the eventual surrender of MP10_0014 .

An aerial image of the Site in its local setting is provided at **Figure 1**.

Figure 1: Aerial Photograph (Source: Project Maverick - 225-245 Martin Road, Bradfield Scoping report No.03 – State Significant Development Application – Rehabilitation, Quarrying and Bulk Earthworks (Urbis, October 2025))

2 EXISTING ENVIRONMENT

2.1 Site and Consent History

The Site has historically been used for quarrying, including clay and shale extraction to obtain the raw materials for on-site and off-site brick making operations. These operations have been ongoing since 1976 and is authorised by MP 10_0014 (latest project approval for the continued and expanded quarrying and brickmaking activities) as well as a concept plan, MP 10_0033 which approved the brickmaking use on the Site. The concept plan approval was required to overcome inconsistencies with the permitted land use, which at the time prohibited brickmaking activities under the zoning. This consent has since been surrendered.

Key elements of the established quarrying and brickmaking consents include the following:

- Multiple mining pits, identified as Pits 1, 2 and 3 which have been used for quarrying activities;
- Stockpiles, including for raw materials as well as overburdened / unusable material stockpiles;
- Sediment basins, including basins located to the north of the Site to contain runoff from the Site: This excludes basins on the existing farmland which are excluded under Harvestable Rights calculations; and
- Brick making facilities and other ancillary developments, including car parking, administrative buildings, internal road network as well as truck wash and diesel fuel points.

Further to the project approval, the Site operations have been ongoing in accordance with the Mining Lease 1771 authorising clay/shale extraction, expiring 27 September 2031, as well as an established Groundwater Water Access Licence (WAL 24346) authorising groundwater seepage into pits, and an Environmental Protection Licence (EPL 684) for scheduled activities of ceramic works, extractive activities and mining.

Pit 1 water has been removed in accordance with the approved *Soil and Water Management Plan* (**SWMP**) approved under MP10_0014.

As part of the approved quarrying operations, strategies have been established to allow for the progressive stabilisation and rehabilitation of stockpiles, as well as the dewatering and backfilling of pit voids to create a final landform which would be generally compatible with future uses. These have been established to ensure that once the quarrying activity cease at the Site, it is readily available for future uses. A series of modification applications have been lodged and approved for the ongoing operations under the project approval. Specifically, as it relates to Site rehabilitation:

- MOD 3 and 4 to MP10_0014 facilitated the dewatering / transfer of water from Pits 2 and 3 into Pit 1 (establishing Pit 1 as the sole transfer point for off-site discharges) with Pit 1 to be subsequently dewatered and allow all three (3) pits to be backfilled with Virgin Excavated Natural Material (**VENM**) import in addition to overburdened stockpiles;
- MOD 5 to MP10_0014 permitted the importation of Excavated Natural Material (**ENM**), in addition to VENM to be backfill material to improve flexibility ensure the appropriate volumes of sourced, clean fill material would be available in a timely manner; and
- MOD 6 to MP10_0014 updated the defined terms of ‘fill’ material, to be imported for pit backfilling, to include soils in the form of tunnel spoil (that meet the relevant EPA criteria) in addition to VENM and ENM. All such materials would be measured/controlled in accordance with the established fill management plan (under Condition 39A of the project approval).

Further to the above, the existing quarry and brickmaking facilities have been approved and conditioned to be rehabilitated in accordance with the plans in **Figure 2** below. Rehabilitation will also be done in accordance with the conditions imposed on the Mining Lease 1771.

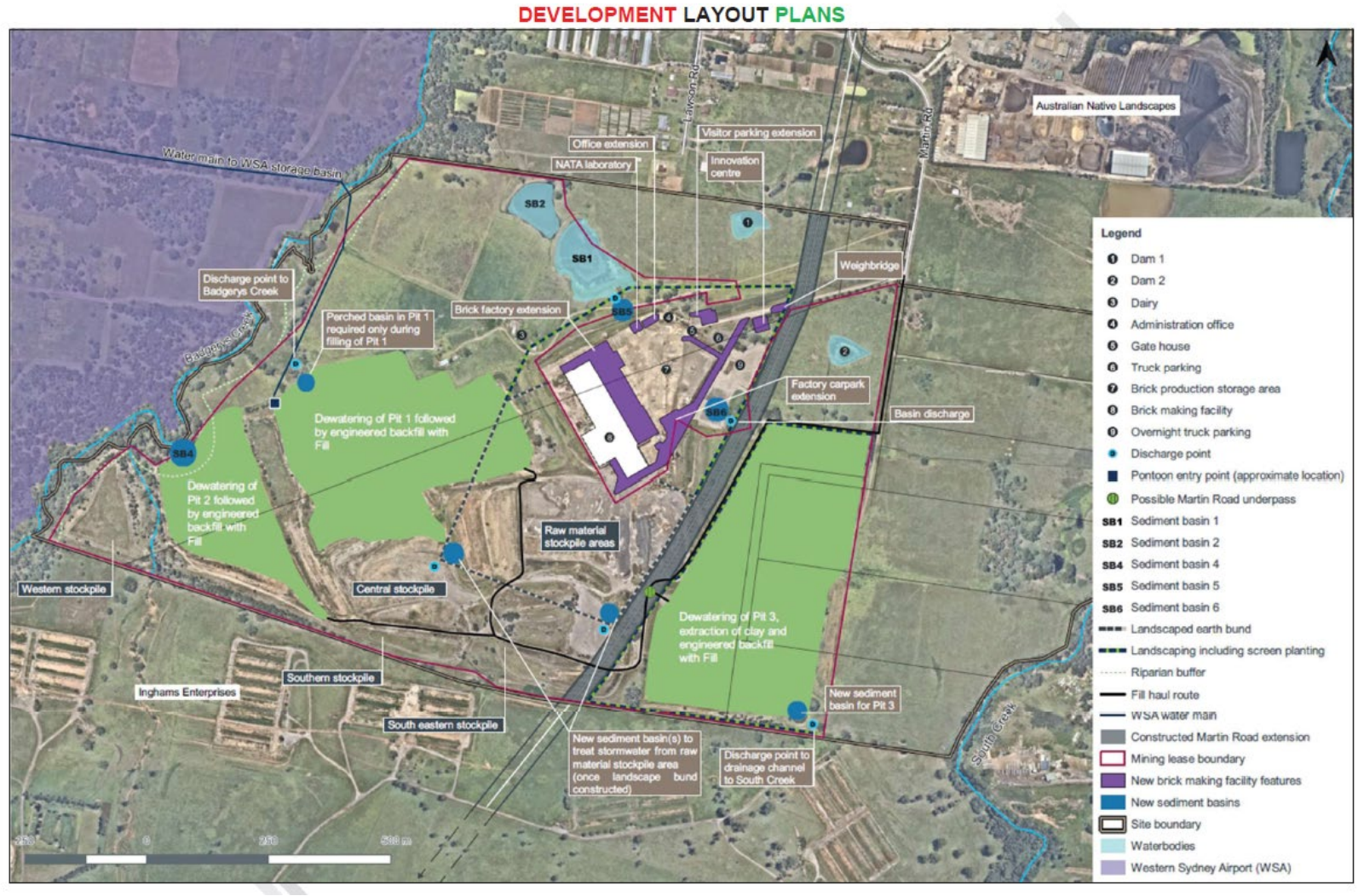

Figure 2: Current Approved Rehabilitation Area ***(Source: MP10_0014 MOD 6 Consolidated Consent, Appendix 3, Figure 5: Phase 4 Development Layout).***

2.2 Key Features of Site and Surrounds

The key features of the Site which have the potential to impact or be impacted by the proposed development are described within the *Project Maverick – 225-245 Martin Road, Bradfield Scoping Report No.3 – State Significant Development Application – Rehabilitation, Quarrying and Bulk Earthworks (Urbis, October 2025)*

3 SUMMARY OF SEARS

This *Rehabilitation Assessment and Closure Report* has been prepared to address the Secretary's Environmental Assessment Requirements (**SEARs**) issued by DPHI on 26 November 2025. **Table 1** outlines how the SEARs have been addressed.

Table 1: Rehabilitation and Final Landform SEARs

Key Issue	Aspect	Where Addressed
Rehabilitation and Final Landform	Geotechnical studies to establish appropriate rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria.	Geotechnical – **Section 5** Rehabilitation Objectives – **Section 8** Methodology – **Section 7** Monitoring Programs – **Section 9** Performance Standards – **Section 8.2** Proposed Completion Criteria – **Section 8.2** and **Appendix A**
	Nominated final land use with supporting diagrams and design plans, having regard to any relevant strategic land use planning or resource management plans or policies.	**Section 6**
	The potential for integrating this strategy with any other strategies in the region	**Section 4.4**

4 STATUTORY REQUIREMENTS FOR REHABILITATION AND CLOSURE

4.1 Statutory Requirements

Key legislation and guidelines for rehabilitation and closure requirements relevant for the project include:

- Legislation;
- Planning Instruments; and
- Guidelines.

Statutory requirements are further summarised below.

4.1.1 Legislation

***Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act)**

Under the *Environmental Planning and Assessment Act 1979* (NSW) (**EP&A Act**)**,** rehabilitation and closure are assessed as part of the merits assessment of the quarry expansion and are secured through the EIS (prepared to meet the SEARs) and ultimately the conditions of development consent**.** For this specialist *Rehabilitation and Closure Assessment Report*, the EP&A Act sets the expectation that the EIS demonstrate a feasible final landform and post-extraction land use**,** and that potential closure-related risks are managed.

***Protection of the Environment Operations Act 1997* (POEO Act)**

The *Protection of the Environment Operations Act 1997* (**POEO Act**) establishes NSW's environmental regulatory framework for preventing pollution and environmental harm and provides licensing requirements for certain activities. The site operates under EPL 684. During the rehabilitation and closure phase, the POEO Act aims to protect, restore and enhance the environment, and reduce risks to human health and prevent degradation to the environment.

Mining Act 1992 (NSW)

Where extractive activities are carried out under a Mining Lease issued under the *Mining Act 1992,* rehabilitation obligations are implemented through:

- Conditions on the mining lease (including environmental performance / rehabilitation conditions); and
- Associated compliance, reporting, and enforcement mechanisms administered by the NSW Resources Regulator.

There is an existing Mining Lease over the site (ML 1771). Goodman will liaise with the NSWRR to seek the necessary update/variation to ML 1771 to align with the Development Application (**DA**), including extending lease coverage to the additional area proposed under the DA.

Mining Regulation 2016

The *Mining Regulation 2016* provides an established framework for managing large-scale land disturbance, rehabilitation and closure outcomes. This regulation emphasises that disturbed land must be rehabilitated to a condition that is safe, stable and non-polluting. It also provides a basis for defining measurable completion criteria to demonstrate rehabilitation success. Rehabilitation objectives and closure criteria have been developed for the project and are further discussed in **Section 8**.

4.1.2 Planning Instruments

Western Sydney Aerotropolis State Environmental Planning Policy

The Site is located within the Western Sydney Aerotropolis and is subject to the *State Environmental Planning Policy (Precincts – Western Parkland City) 2021 (WPC SEPP)* which provide the primary statutory planning framework for the Site and establish the zoning, land use permissibility, development controls and strategic objectives that apply to rehabilitation, quarrying and bulk earthworks. The rehabilitation and closure strategy has been prepared having regard to these controls, with the objective of delivering a safe, stable and non-polluting final landform that is compatible with the intended future land use and consistent with the contemporary Aerotropolis planning context.

Liverpool Local Environmental Plan 2008

The *Liverpool Local Environmental Plan (**LEP**) 2008* provides historical context for the Site, noting that quarrying and brick-making activities were previously approved when the land was zoned RU1. Land use zoning and development standards are now governed by the WPC SEPP and the Western Sydney Aerotropolis Precinct Plan. Accordingly, the Liverpool LEP has been considered for background and transitional context only.

Western Sydney Aerotropolis Precinct Plan

The *Western Sydney Aerotropolis Precinct Plan* provides a strategic planning framework that informs the rehabilitation and closure strategy by establishing long-term precinct outcomes for land use, infrastructure, environmental management and staging within the Aerotropolis area. Rehabilitation in alignment with plan ensures rehabilitation is compatible with future precinct development and will not constrain delivery of planned transport, utilities or development parcels.

4.1.3 Guidelines

The following guidelines are considered applicable to the project:

- *Mine Rehabilitation – Leading Practice Sustainable Development Program (Commonwealth);*
- *Mine Closure and Completion – Leading Practice Sustainable Development Program (Commonwealth); and*
- *Strategic Framework for Mine Closure (ANZMEC-MCA).*

These guidelines have been considered as guiding best-practice reference for the development of a rehabilitation and closure strategy. These guidelines provide a robust and widely accepted framework for managing large-scale disturbance, progressive rehabilitation and establishment of clear rehabilitation objectives and closure criteria.

4.2 Mining lease security deposit (financial assurance for rehabilitation)

Mining leases in NSW require provision of a security deposit that is intended to cover the full rehabilitation costs. There is an existing mining lease security deposit that has been prepared to be consistent with the Rehabilitation and Cost Estimate (**RCE**) Guidelines. This RCE would be updated following granting of an approval.

4.3 Standard mining lease rehabilitation conditions

The NSWRR has introduced standard rehabilitation and reporting conditions on mining leases aimed at ensuring rehabilitation is planned and delivered through the life of the mine, including progressive rehab, risk assessment, annual reporting and detailed rehabilitation management planning.

The Site is currently managed under the Badgerys Creek Quarry RMP and is subject to ongoing rehabilitation planning and reporting obligations, including the Annual Rehabilitation Report and Forward Program (ARRFP) prepared for the NSWRR. Following determination of the DA, Goodman will review and amend the RMP and associated ARRFP documentation, as required, to reflect the approved expansion footprint, staging, rehabilitation objectives and completion criteria, and any relevant conditions of consent and mining lease requirements.

4.4 Integrating Strategy with Other Strategies in the Region

As the Site is proposed to be transitioned to an industrial land use rather than rehabilitated to a natural or environmental end state, there is limited opportunity to integrate the proposed works with broader regional initiatives. While opportunities with coordinated rehabilitation are limited, the proposed strategy ensures the Site will be fit for purpose within the Western Sydney Aerotropolis and remains consistent with the broader planning framework that enables industrial development.

5 GEOTECHNICAL SUMMARY

This section has been prepared based on a SEARs requirement. A geotechnical investigation was undertaken by Douglas Partners (2025) to characterise subsurface conditions and assess geotechnical risks for future industrial development. Fieldwork included test pits, boreholes and Cone Penetration Tests (**CPTs**), supported by laboratory testing of selected soil samples. Subsurface conditions generally consist of a thin layer of topsoil (0.2–0.38 m) overlying natural alluvial and residual clays of medium to high plasticity extending to depths of approximately 2.5–3.0 m, with extremely weathered Bringelly Shale encountered beneath. Localised shallow fill was recorded in some northern areas. CPTs confirmed compacted clay fill within former quarry pits, with inferred bedrock between approximately 7 m and 17 m depth depending on location.

Laboratory testing identified predominantly high-plasticity clays with liquid limits of 47–67% and plasticity indices of 32–45% (highly reactive), with low California Bearing Ration (**CBR**) values (2–6%) and modest swell potential (1–3.5%). Shrink–swell results indicate moderate reactivity (Shrink Swell Index ≈ 3.7). All tested samples returned Emerson Class 2, indicating a high potential for slaking and a slight–moderate risk of dispersion, consistent with Bringelly Shale soil profiles. Sodicity testing found soils ranging from sodic to highly sodic (Exchangeable Sodium Percentage 11–28%), reinforcing erosion susceptibility and limiting use of site-won clays as liner materials.

Chemical testing showed mildly to moderately saline soils in some areas, requiring salinity management during earthworks and construction. This may necessitate higher strength concrete, buried service protection measures, trench lining and careful control of excavation and soil reuse sequencing. Soil aggressivity was assessed as non-aggressive to mildly aggressive to concrete and moderately aggressive to buried steel due to acidic pH and elevated conductivity.

Groundwater was generally not encountered in shallow excavations, with isolated seepage occurring at depths beyond 2.5 m in some pits. Excavation characteristics varied from soft/firm wet clays in upper horizons to refusal on extremely weathered shale or ironstone bands between 1.6 m and 3.9 m depending on test location.

Key geotechnical implications include:

- **Earthworks:** Site-won clays may require conditioning; high plasticity and low CBR values limit reuse without treatment. Controlled fill will be required for building platforms, and quarry backfill must comply with engineered fill specifications.
- **Foundations:** Reactive clay profiles necessitate careful footing design (depth, stiffness, and moisture control).
- **Pavements:** Low-strength subgrades (CBR 2–6%) demand thicker pavement systems or stabilisation.
- **Erosion and salinity management:** Essential due to dispersive/sodic soils and elevated salinity risks.
- **Excavations:** Shallow excavations feasible in clay, with potential refusal on ironstone/shale and variable groundwater.

The report highlights typical Bringelly Shale–derived geotechnical risks—reactive clays, soil aggressivity, localised fill, erosion susceptibility and variability in rock weathering—and provides design considerations for industrial development. Limitations emphasise that findings represent only conditions at test locations and may not reflect broader subsurface variability.

6 FINAL LAND USE

6.1 Final Land Use Domains

Final land use domains are defined as land management units characterised by similar post mining land use objectives. The final land use domains for the Site are detailed in **Table 2**. The final landform design has been a key consideration in the design of the Site, with the objective of achieving a safe, stable and non-polluting landform suitable for redevelopment. The final landform features and final land use domains are presented in **Figure 3.**

Table 2: Final Land Use Domains

Final Land Use Domain	Description
Domain E Industrial	The majority of the site will be progressively backfilled to form a stable platform suitable for industrial development consistent with the site's 'Enterprise' zoning. Rehabilitation will focus on engineered stability, erosion control, and drainage to create a development-ready landform. Objectives for this domain are included in **Section 8** of this report.
Domain G Water Storage (Excluding Final Void)	A Treatment Dam has been constructed north of Pit 1, and several sediment dams exist across the Site which collect rainfall runoff from former stockpile and overburden areas. The number and location of sediment dams will change as backfilling progresses.
Domain I Infrastructure	A smaller portion of the site is allocated to supporting infrastructure, including the constructed Martin Road extension and associated water management features. These areas are required to provide access and serviceability to the broader site and to integrate with the surrounding transport and drainage networks.

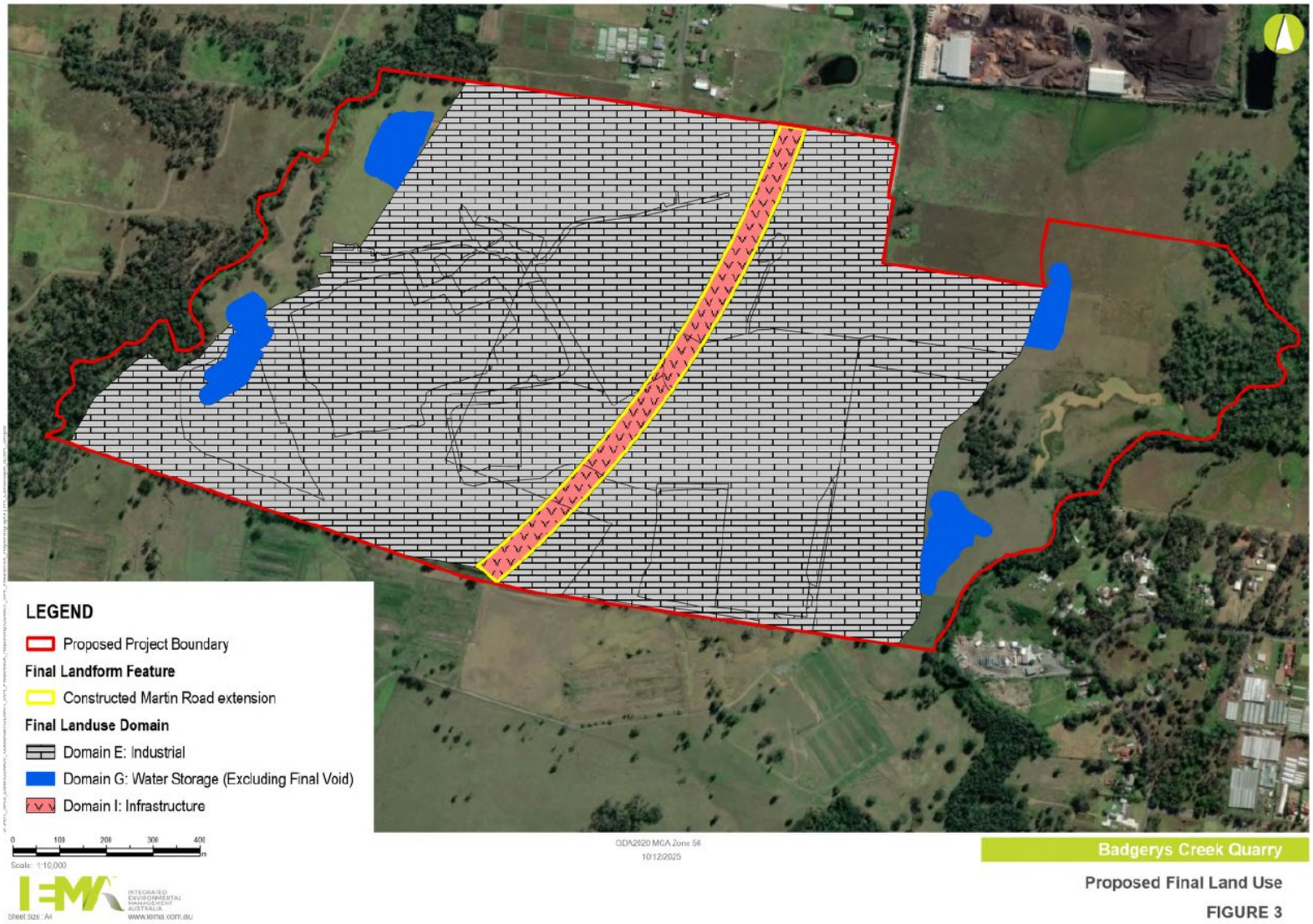

Figure 3: Proposed Final Land Use

7 REHABILITATION AND CLOSURE METHODOLOGY

The proposed rehabilitation methodologies have been developed based on the current Site conditions and consider the rehabilitation risks identified in the 2025 Risk Assessment. There have been rehabilitation activities onsite currently. The current Rehabilitation Management Plan (requirement of the current Project Approval and Mining Act) will be updated if the Bulk Earthworks SSDA is approved.

7.1 Active Quarrying and Additional Disturbance Phase

Additional areas will need to be disturbed as part of the expansion to the site. During the active quarrying and additional disturbance, soils will be managed through controlled stripping, stockpiling and testing, with neutral to slightly acidic topsoils and groundwater requiring minimal amelioration; vegetation impacts are limited due to the site's disturbed condition, with weed control, fauna-safe tree removal protocols, and riparian rehabilitation implemented as offsets.

Fauna habitat within the quarry footprint is low-value, and mitigation includes speed limits, fencing and feral animal management. Overburden and interburden materials are reused onsite for bunds and landform shaping, supported by a *Fill Management Plan* and *Unexpected Finds Protocol* to ensure all materials are classified and suitable for reuse.

No materials are present that pose risks of spontaneous combustion, acid mine drainage, beneficiation waste or mine subsidence. Geological conditions consist of Bringelly Shale units, and erosion, sediment and water management follow the approved SWMP. Rehabilitation uses tested topsoil, possible VENM imports, and certified seed mixes, with cultural heritage considerations managed under the *Aboriginal Cultural Heritage Management Plan*. No further exploration activities are proposed.

All key operational environmental management plans would be updated following DA approval.

7.2 Decommissioning

Decommissioning activities are associated with the removal of infrastructure (unless otherwise agreed), and removal and remediation of contaminated and hazardous materials at the Site. Decommissioning activities will likely include:

- Demolition and disposal of any infrastructure. Structures such as former offices and amenities may be retained. Water management features on the mine lease may be retained to facilitate construction of future industrial areas; and
- Assessing stockpiles of coal fines previously stored on the Site for use in brickmaking for spontaneous combustion risk, and if required, removed from Site.

The brick making facility infrastructure was demolished in early 2022 and the area currently consists of a flat pad which has some storage of infrastructure and bricks.

There are no hazardous materials stored on the Site. During quarrying, hauling and rehabilitation activities, contractors may bring fuel or oils onto the Site via mobile equipment. Mobile vehicles will be required to carry spill kits, and a spill kit is located at the Site office.

Site management processes will periodically review conformance with these controls and standards.

7.3 Landform Establishment

7.3.1 Pit Dewatering

All quarry pits have now been dewatered under an Enforceable Undertaking with the Natural Resources Access Regulator (**NRAR**). Any future dewatering requirements will be managed in accordance with the SWMP**,** which sets out water quality criteria and discharge controls.

7.3.2 Final landform construction

Backfilling of the voids will be in accordance with the *Fill Management Plan*.

Generally, the voids will be backfilled with VENM and ENM to approximately original ground level and compacted to a criteria that is suitable for the future industrial uses. The backfilled voids will be geotechnically and hydraulically stable when the required compaction criteria are met. Visual and acoustic bunds will be constructed with slope batters of no greater than 3H:1V to maintain geotechnical and hydraulic stability.

The final landform will be stable, non-polluting and drain to re-established catchments, integrating with surrounding macro- and micro-relief. Over-excavation/bench keying and controlled placement/compaction follow the Earthworks Specification (Douglas Partners 2025). See Error! Reference source not found..

7.4 Growth Medium Development

As the Site is an industrial final land use, polymer sprays may be used for stabilisation rather than topsoiling and seeding. Slopes reduced to approved final landform and inactive stabilised areas will be treated within 30 days with environmentally friendly polymer.

7.5 Ecosystem and Land Use Establishment

The site will become a commercial estate, hence polymer sprays may be used for stabilisation rather than topsoiling and traditional seeding. The final landform design has been a key consideration in the design of the Site, with the objective of achieving a safe, stable and non-polluting landform suitable for redevelopment.

7.6 Ecosystem and Land Use Development

This phase is not applicable to this Site as it will become an industrial landform.

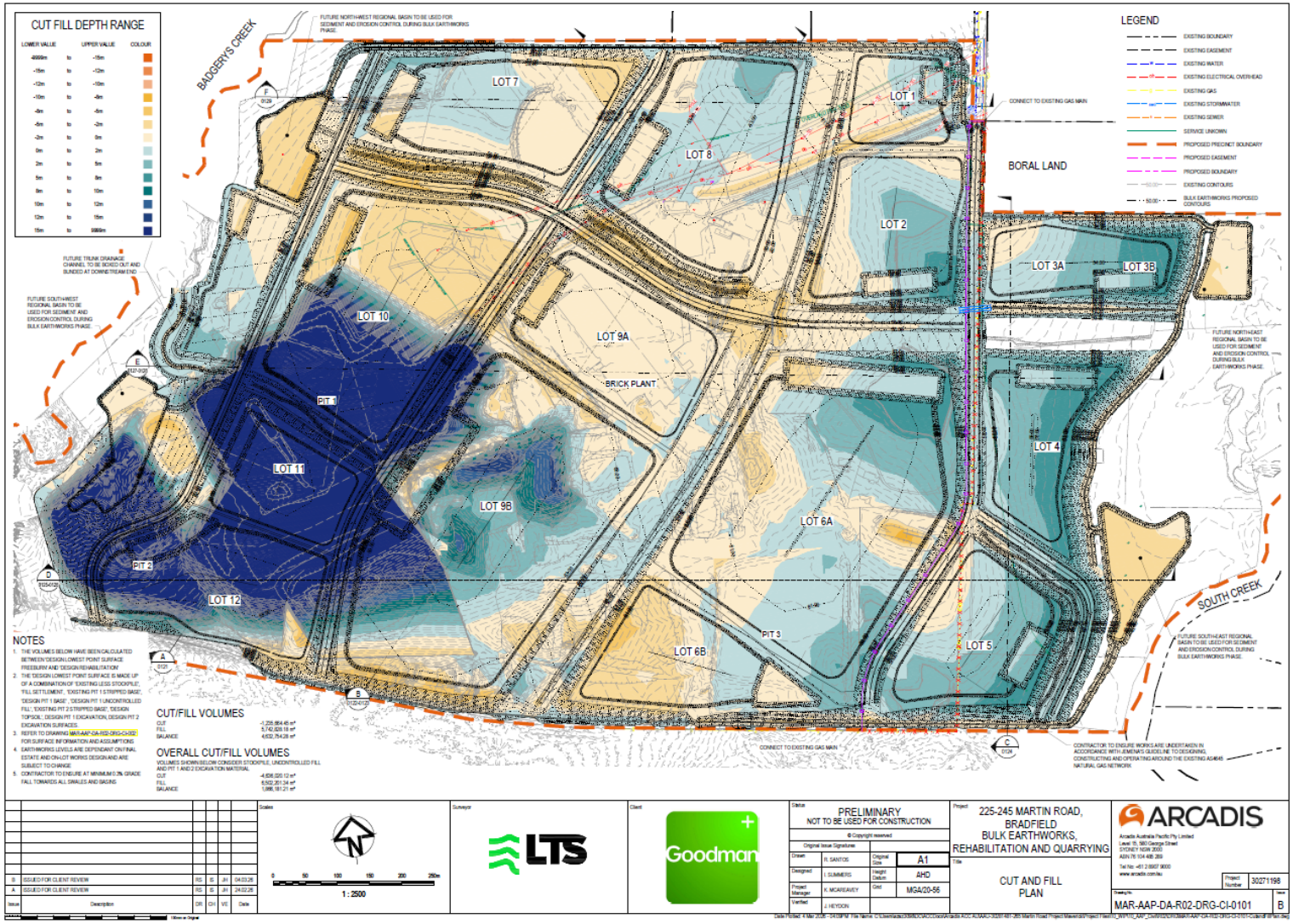

Figure 4: Cut and Fill Plan (Source: Arcadis MAR-AAP-DA-R02-DRG-CI-0001)

8 REHABILITATION OBJECTIVES AND REHABILITATION COMPLETION CRITERIA

8.1 MP10_0014 Rehabilitation Objectives

Overarching rehabilitation objectives are set out in Schedule 3, Condition 34 of MP10_0014 and are provided in **Table 3**. These objectives establish the required rehabilitation outcomes for the land within the consent boundary, defining what rehabilitation must ultimately achieve. We believe these objectives are still practical under a new DA.

Table 3: MP10_0014 Rehabilitation Objectives

Feature	Objective
All areas of the site affected by the development	• Safe • Hydraulically and geotechnically stable • Non-polluting • Fit for the intended final land use(s) • Final landform integrated with surrounding natural landforms as far as is reasonable and feasible, and minimising visual impacts when viewed from surrounding land
Surface infrastructure	• Decommissioned and removed, unless otherwise agreed by the Secretary
Landscaping bunds	• Hydraulically and geotechnically stable • Vegetated
Pits 1, 2 and 3	• Backfilled to a landform that is consistent with natural ground level and is geotechnically stable • Free draining

8.2 Current Rehabilitation Objectives and Draft Completion Criteria

Rehabilitation objectives have been established within the *Badgerys Creek Quarry RMP* as a requirement of *Mining Regulation 2016*. These rehabilitation objectives were approved by the NSWRR on 1 November 2023 (ROBJ0001295).

Completion criteria provide the measurable benchmarks used to demonstrate the rehabilitation objectives have been successfully met. Draft completion criteria have been developed to align with the approved objectives and are provided in **Appendix A.** Final completion criteria will be refined in consultation with the NSWRR and submitted for approval. The focus will remain on delivering a safe, stable and non-polluting landform suitable for industrial development.

Rehabilitation objectives and completion criteria would likely be updated following the Bulk Earthworks EIS and will be submitted the NSWRR for approval as required under the Rehabilitation Management Plan process.

.

9 REHABILITATION MONITORING PROGRAM

The rehabilitation monitoring program will be reviewed once the DA is approved and the Rehabilitation Management Plan updated. The monitoring program will focus on seeing if the site is tracking towards the goal of a safe, stable and non-polluting landform that is suitable for industrial development.

10 REFERENCES LIST

AECOM Australia (AECOM), Environmental Assessment - Appendix D: Rehabilitation Plan, May 2010.

ANZMECC and Minerals Council of Australia, Strategic Framework for Mine Closure, 2000.

Department of Planning and Environment, Western Sydney Aerotropolis Land Use and Infrastructure Implementation Plan, 10/11/2020

Department of Planning and Environment, WSA Precinct Plan, 17/12/2021

Department of Planning, Housing and Infrastructure, Planning Secretary's Environmental Assessment Requirements, 26/11/2025.

Douglas Partners, Earthworks Specification – Project 234411.00, Revision 0, 18/07/25

Douglas Partners, Report on Due Diligence Geotechnical Investigation, 19/06/2025

IEMA, Due Diligence Report, version 2.0, 24/06/2025

Natural Resources Access Regulator, Enforceable Undertaking – Discharge Agreement with AeroWest JV, 15/01/2023

NSW Department of Planning, Development Consent MP10_0014 – Consolidated Consent and Modifications, 2023

NSW Department of Regional NSW, Mining Act 1992 – Guidance and Lease Relinquishment Pathway, 03/07/2022

NSW EPA, Blue Book: Managing Urban Stormwater – Soils and Construction, 4th Edition

NSW EPA, Environment Protection Licence (EPL) 684 – Badgerys Creek, version 01/07/2023

NSWRR, Form and Way: Rehabilitation Management Plan for Large Mines, 2025

NSWRR, Guideline: Rehabilitation Risk Assessment, 2021

NSWRR, Mining Lease ML 1771 – Instrument and Conditions, 27/09/2016

Office of Environment and Heritage, Managing Urban Stormwater: Soils and Construction – Volume 2E (the 'Blue Book'), 01/06/2008

URBIS, Project Maverick – 225-245 Martin Road, Bradfield, Scoping report No.3 – State Significant Development Application – Rehabilitation, Quarrying and Bulk Earthworks, October 2025.

VGT Environmental Compliance Solutions Pty Ltd, RMP for Badgerys Creek Clay / Shale Mine ML1771 (Act 1992), version: 12412_BC_RMP_2022_F1, November 2022.

INTEGRATED ENVIRONMENTAL MANAGEMENT AUSTRALIA

APPENDIX A – REHABILITATION OBJECTIVES AND COMPLETION CRITERIA

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
Land Contamination	There is no residual soil contamination on site that is incompatible with the final land use or that poses a threat of environmental harm.	Waste material and/or visible contamination areas on site surface.	There are no visible signs of contamination following the removal of plant, equipment and materials. All rubbish/ waste materials removed from site.	Statement provided and before/after photos.
		Soil testing for contaminants of concern as listed by Health Investigation Level of the National Environment Protection (Assessment of Site Contamination) Measure (1999) (amended 2013) applicable to land use type.	Contamination will be appropriately remediated so that appropriate guidelines for land use are met, e.g. Health Investigation Level of the National Environment Protection (Assessment of Site Contamination) Measure (1999) (amended 2013). Excess sludge/material has been removed from surface water dams.	Contamination Remediation Report prepared by Land Contamination Consultant Site Contamination Audit Report and Site Audit Statement prepared by EPA Accredited Auditor (where required).
Landform Stability	The final landform is stable for the long-term and does not present a risk of environmental harm downstream / downslope of the site or a safety risk to the public/stock/native fauna.	Visual - indicators of erosion and land instability. Visual - indicators that surface water management structure are functioning as designed. Measured - Survey of rehabilitated landform to verify final landform construction in accordance with Final Landform and Rehabilitation Plan. Measured - survey of rehabilitated landform to specifically monitor settlement and/or material loss via erosion.	Visual- minimal erosion that would not require moderate to significant ongoing management and maintenance works. Visual – no signs of land instability such as mass movement. Visual - no areas of active gully erosion. Visual - no evidence of tunnel erosion. Visual – no evidence of active scour likely to compromise surface water management structure. Survey verifies final landform complies with final landform construction in accordance with Final Landform and Rehabilitation Plan. Survey verifies that settlement and/or material loss is within predicted limits	Before and after photos, rehabilitation monitoring reports, as-constructed surveys, erosion surveys, independent geotechnical reports (where required) and or erosion modelling reports (where required) that indicate long-term stability of rehabilitated landform.

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
			and will not compromise final landform drainage via differential settlement.	
Management of waste and process materials	Residual waste materials stored on site (e.g. tailings, coarse rejects and other wastes) will be appropriately contained / encapsulated so it does not pose any hazards or constraints for intended final land use.	Visual –capping material placement, type across emplacement Visual – indication of capping performance on final landform – vegetation health Visual – emplacement seepage and other indicators of groundwater issues – wet spots etc. Measured - survey of emplacement capping to verify construction and to monitor settlement. Quality assurance records for the construction of the emplacement material. Measured- surface and groundwater levels to verify water balance modeling and capping function Measured – contamination levels in surface and	Visual – verification that capping, type and placement consistent with design Visual – no areas of unexpected seepage Survey verifies that capping placement consistent with design and settlement and/or material loss is within predicted limits and will not compromise final landform drainage via differential settlement.	Photos, rehabilitation monitoring reports, as-constructed surveys, quality assurance records for construction, erosion surveys, independent geotechnical reports (where required), groundwater/surface water monitoring reports.

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
		groundwater surrounding emplacement for contaminants of concern associated with waste material emplaced.		
Removal of infrastructure	All infrastructure that is not to be used as part of the final land use is removed to ensure the site is safe and free of hazardous materials.	Removal of all services (power, water, communications) that have been connected on the site as part of the operation.	All utility infrastructure removed.	Statement provided, utility service disconnection record / notification.
		Heritage obligations (e.g. development consent under the Environmental Planning and Assessment Act 1979, approvals under the Heritage Act 1977, etc.) have been met (e.g. archival recording, building retention or building demolition with footings preserved).	Permits and approval documents issued. All archival reports required are complete and submitted.	Copy of any relevant approval documentation and archival reports/records.
		Removal of all plant, equipment and associated infrastructure including processing facilities, stockpile areas, rail infrastructure and loading facilities, underground hydrocarbon storage tanks, office complex, portable offices, exploration core samples, camp facilities, storage racks, samples.	Infrastructure removed.	As-constructed final landform plan, photos, decommissioning reports etc.
		All footings removed to a depth as far as reasonably practicable	Footings removed and or removed to specified depths to avoid exposure	Surveyed and marked on the as-constructed final landform plan.

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
		to avoid exposure pathways to subsequent final land use	pathways to subsequent final land use.	
		Removal of all water management infrastructure (including pumps, pipes and power).	Infrastructure removed.	Statement provided and before/after photos.
		All drill cores have been removed and taken either to an authorised storage or a disposal location.	Cores removed and relocated.	Statement provided, receipt records from storage or disposal location.
		Surveying and sealing of all drill holes, boreholes and gas wells in accordance with departmental guidelines (MDG6001 Permanent filling and capping of surface entries) and relevant standards.	Sealing completed and verified.	Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods etc.
		Surveying and sealing of all underground mine entries in accordance with departmental guidelines (MDG6001 Permanent filling and capping of surface entries) and relevant standards.	Sealing completed and verified by suitably qualified engineer.	Engineering report/statement, plug and abandonment log, photos, as-constructed drawings, records of fill materials and concrete plugs, filling methods etc.
Retention of infrastructure	All infrastructure that is to remain as part of the final land use is safe, does not	Potential hazards (e.g. electrical, mechanical) have been effectively isolated and secured.	Hazards isolated and secured.	Statement provided by suitably qualified engineer.

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
	pose any hazard to the community. All infrastructure that is to remain as part of the final land use benefits from the relevant approvals (e.g. development consent and / or licence/lease/binding agreement, etc).	Damage to access tracks has been repaired and stabilised.	Repairs complete.	As-constructed final landform plan, photos etc.
		Where applicable, necessary approvals are in place (e.g. development consent under the Environmental Planning and Assessment Act 1979) where buildings and infrastructure are to be retained as part of final land use.	Permits and approval documents issued.	Copy of any relevant approvals.
		Heritage obligations as required under the Environmental Planning and Assessment Act 1979, Heritage Act 1977, etc. have been met (e.g. archival recording, building retention and restoration).	Permits and approval documents issued; archival reports (where required) complete and submitted.	Copy of any relevant approvals.
		The structural integrity of the infrastructure is suitable and safe for use as part of the intended final land use.	The structural integrity of the infrastructure has been inspected by a suitably qualified engineer and determined to be suitable and safe as part of the intended final land use.	Engineering report/statement, photos, risk assessment verifying modes of failure are adequately addressed to minimise risks to public safety or the environment.
		Infrastructure is in a condition (e.g. structural, electrical, other hazards) that is suitable for the intended final land use.	Formal acceptance from the subsequent landowner that infrastructure is in a condition that is suitable for the intended final land use in accordance with formal agreement.	Formal acceptance from landowner.
		If any underground pipelines or other infrastructure are to remain in situ, they do not pose	Remnant in-situ pipelines are below X depth as determined to be suitable for intended final land use.	Surveyed and marked on the as-constructed final landform plan. Copy of notification to local Council and Dial

Rehabilitation Objective Category	Rehabilitation Objective	Draft Indicator	Draft Rehabilitation Completion Criteria	Draft Justification/Validation Methods
		a hazard for the intended final land use.	The location of the infrastructure has been marked on a plan and registered with the relevant local authority (e.g. local Council) and Dial Before You Dig. Formal acceptance from the subsequent landowner that underground infrastructure has been left in a condition that is suitable for the intended final land use in accordance with formal agreement. All potential hazards associated with the retention of pipelines (i.e. residual gas) have been removed.	Before You Dig Formal acceptance from landowner. Identified on an appropriate legal instrument associated with the land title. Hazards associated with in-situ pipelines have been validated by a suitably qualified person as being effectively removed.