





APPENDIX L –
FINAL LAND USE REPORT





Luddenham Quarry Modification Report

DA 315-7-2003 MOD5

Final Land Use Report

Prepared for Coombes Property Group & KLF Holdings Pty Ltd
August 2020





Servicing projects throughout Australia and internationally

SYDNEY

Ground Floor, 20 Chandos Street
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE

Level 3, 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE

Level 1, 87 Wickham Terrace
Spring Hill QLD 4000
T 07 3648 1200

ADELAIDE

Level 1, 70 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE

Ground Floor, 188 Normanby Road
Southbank VIC 3006
T 03 9993 1905

PERTH

Suite 9.02, Level 9, 109 St Georges Terrace
Perth WA 6000
T 02 9339 3184

CANBERRA

Level 8, 121 Marcus Street
Canberra ACT 2600

Luddenham Quarry

Final Land Use Report

Report Number

J190749 RP#26

Client

Coombes Property Group and KLF Holdings Pty Ltd

Date

6 August 2020

Version

v2 Final

Prepared by



Michael Frankcombe
National Technical Leader – Land, Water and Rehabilitation
6 August 2020

Approved by



Phil Towler
Associate Director
6 August 2020

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

© Reproduction of this report for educational or other non-commercial purposes is authorised without prior written permission from EMM provided the source is fully acknowledged. Reproduction of this report for resale or other commercial purposes is prohibited without EMM's prior written permission.

Executive Summary

CFT No 13 Pty Ltd, a member of Coombes Property Group (CPG), has recently acquired the property at 275 Adams Road, Luddenham NSW (Lot 3 in DP 623799, 'the site') within the Liverpool City Council municipality. The site is host to an existing shale/clay quarry.

CPG owns, develops, and manages a national portfolio of office, retail, entertainment, land, and other assets. The company's business model is to retain long-term ownership and control of all its assets. CPG has the following staged vision to the long-term development of the site:

- **Stage 1** Quarry reactivation: **Solving a problem.** CPG intends to responsibly avoid the sterilisation of the remaining natural resource by completing the extraction of shale which is important to the local construction industry as raw material used by brick manufacturers in Western Sydney. This is the first step to preparing the quarry site for rehabilitation.
- **Stage 2** Next Gen Resource Recovery Centre and Quarry Rehabilitation: **A smart way to fill the void:** CPG in partnership with KLF Holdings Pty Ltd (KLF) and in collaboration between the circular economy industry and the material science research sector, intends to establish a technology-led approach to resource recovery, management, and reuse of Western Sydney's construction waste, and repurposing those materials that cannot be recovered for use to rehabilitate the void. This will provide a sustainable and economically viable method of rehabilitating the void for development.
- **Stage 3** High Value Employment Generating Development: **Transform the land to deliver high value agribusiness jobs.** CPG intends to develop the rehabilitated site into a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution, whilst continuing to invest in the resource recovery R&D initiatives. This will deliver the vision of a technology-led agribusiness precinct as part of the Aerotropolis that balances its valuable assets including proximity to the future Western Sydney Airport (WSA) and Outer Sydney Orbital.

This report has been prepared for the Quarry Modification 5 application relating to the delivery of stage 1 above and to meet Schedule 4, Condition 36 of the development consent (DA No. 315-7-2003) which requires that the Applicant submit a report to the Department of Planning, Industry and Environment (DPIE) identifying the final land use of the site and method of treatment for the final void.

Ministerial approval and Development Consent (DA No. 315-7-2003) were granted in 2004 under the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) following approval of the Environmental Impact Statement (EIS) for the site (Douglas Nicolaisen and Associates 2003).

Existing post quarrying land use objectives and statutory obligations pertaining to the site are contained with three principle documents:

- *Environmental Impact Statement (EIS): Proposed Clay/Shale Extraction Operation. Lot 3 – 275 Adams Rd, Luddenham NSW* (Douglas Nicolaisen and Associates 2003);
- *Site Rehabilitation Plan: Clay/Shale Quarry, Adams Road Luddenham* (Connacher Environmental Group 2009); and
- *Vegetation Management Plan for a Clay Shale Quarry, Adams Road, Luddenham* (UBM Ecological Consultants 2009).

Douglas Nicolaisen and Associates (2003) and Connacher Environmental Group (2009) identified the post quarrying land use as pastoral/grazing and stated that the final void would either be reshaped, topsoiled and revegetated or backfilled with 'Class 2 inert waste' from existing industrial demolition work conducted by the owners, and virgin excavated natural material (VENM) sourced from various government or private civil construction works such as road tunnels, rail excavations and the like, acknowledging that a separate project approval will be required.

Douglas Nicolaisen and Associates (2003) and UBM Ecological Consultants (2009) proposed a biodiversity land use in the riparian zone along Oaky Creek.

CPG in partnership with KLF propose to reactivate quarrying operations in the short term through a modification of existing consent SSD DA 317-7-2003 (the proposed modification).

In addition to the quarry reactivation, CPG and KLF are currently preparing a separate development application for a new, advanced resource recovery centre facility to be co-located on site. Core to this application is the proposal to:

- Utilise non-hazardous unrecyclable '*General solid waste (non-putrescible)*' (EPA 2014) generated by the facility, that cannot be sold or beneficially reused, to backfill the quarry void.
- Use existing overburden resources (stockpiled subsoils and topsoils) and other imported media as necessary to cap and cover the fill material.
- Produce a safe, stable and non-polluting final landform suitable for commercial/industrial final land use.

The above proposal is generally consistent with the original 2003 EIS commitments for the site (Douglas Nicolaisen & Associates 2003), with the exception of the changed final land use for the site (other than Oaky Creek) from pastoral/rural (RU1 Primary Production) to commercial/industrial.

The changed final land use acknowledges that the pre-quarrying land use (pasture for cattle grazing and horse agistment) is no longer appropriate on account of:

- the unfavourable land and soil capability (LSC) class of the site, reflected in its original degraded condition (EMM 2020; MineSoils 2020; Douglas Nicolaisen and Associates 2003); and
- that commercial/industrial land use better compliments the proposed Western Sydney Airport and strategic objectives of the draft Western Sydney Aerotropolis Plan.

There will be no change to the biodiversity land use for the Oaky Creek riparian zone as prescribed in Condition 34 of the existing consent.

Table of Contents

Executive Summary	ES.1
1 Introduction	1
1.1 Background	1
1.2 Purpose and scope	1
1.3 Site overview and approvals history	2
2 Post quarrying land-use strategy	2
2.1 Historical land-use objectives	2
2.1.1 2003 Environmental Impact Statement	2
2.1.2 2009 Site Rehabilitation Plan	2
2.1.3 2009 Vegetation Management Plan	3
2.2 2020 proposed final land uses	4
2.2.1 Final land use objectives	7
2.2.2 Void backfilling	7
2.2.3 Landform design	8
2.3 Summary of changes to final land use strategy	10
3 Conclusion	11
References	12
Tables	
Table 2.1 Summary of changes to final land use strategy	10
Figures	
Figure 1.1 Site location and current zoning	1
Figure 2.1 Proposed final land uses	5
Figure 2.2 Indicative commercial concept masterplan	6
Figure 2.3 Indicative final slopes	9

1 Introduction

1.1 Background

CFT No 13 Pty Ltd, a member of Coombes Property Group (CPG), has recently acquired the property at 275 Adams Road, Luddenham NSW (Lot 3 in DP 623799, 'the site') within the Liverpool City Council municipality. The site is host to an existing shale/clay quarry approved under DA 315-7-2003 as modified (the consent). The quarry is currently inactive. CPG in partnership with KLF Holdings Pty Ltd (KLF) propose to reactivate quarrying operations in the short term through a modification of existing consent SSD DA 317-7-2003 (the proposed modification). CPG/KLF have no relationship to the previous site owners/operators. CPG owns, develops, and manages a national portfolio of office, retail, entertainment, land, and other assets. The company's business model is to retain long-term ownership and control of all its assets. CPG has the following staged vision to the long-term development of the site:

- **Stage 1** Quarry Reactivation: **Solving a problem.** CPG intends to responsibly avoid the sterilisation of the remaining natural resource by completing the extraction of shale which is important to the local construction industry as raw material used by brick manufacturers in Western Sydney. Following the completion of approved extraction activities, the void will be prepared for rehabilitation.
- **Stage 2** Advanced Resource Recovery Centre and Quarry Rehabilitation: **A smart way to fill the void:** CPG in partnership with KLF Holdings Pty Ltd (KLF) and in collaboration between the circular economy industry and the material science research sector, intends to establish a technology-led approach to resource recovery, management, and reuse of Western Sydney's construction waste, and repurposing those materials that cannot be recovered for use to rehabilitate the void. This will provide a sustainable and economically viable method of rehabilitating the void for development.
- **Stage 3** High Value Employment Generating Development: **Transform the land to deliver high value agribusiness jobs.** CPG intends to develop the rehabilitated site into a sustainable and high-tech agribusiness hub supporting food production, processing, freight transport, warehousing, and distribution, whilst continuing to invest in the resource recovery R&D initiatives. This will deliver the vision of a technology-led agribusiness precinct as part of the Aerotropolis that balances its valuable assets including proximity to the future Western Sydney Airport (WSA) and Outer Sydney Orbital.

This report relates to a modification application relating to the delivery of stage 1 above.

1.2 Purpose and scope

This final land use report ('the report') presents an update on the planned final land use for the quarry.

This report satisfies Condition 36 of the original development consent (DA No. 315-7-2003) which requires that the Applicant submit a report to the Department of Planning, Industry and Environment (DPIE) identifying the final land use of the site and method of treatment for the final void.

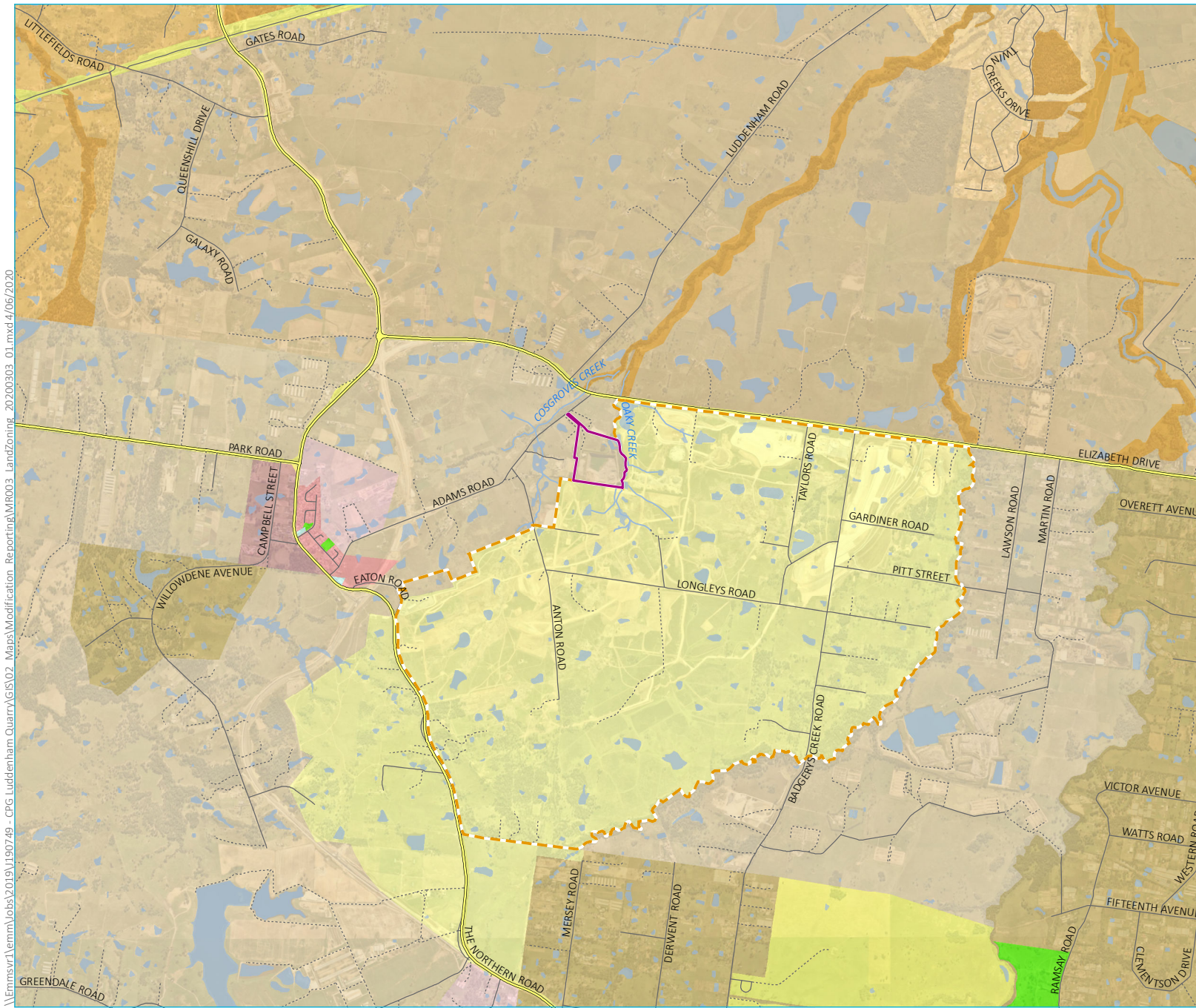
Specifically, this report is presented as a high-level, conceptual report focussed on the treatment and alternative (non-agricultural or pastoral) final land uses for all site components including the final void.

1.3 Site overview and approvals history

The site is located at 275 Adams Road, Luddenham NSW (described as Lot 3 in DP 623799) in Liverpool City Council local government area. The site is approximately 19 hectares (ha) and is currently zoned RU1 Primary Production under the Liverpool Local Environmental Plan 2008 (Liverpool LEP) (Figure 1.1).

The Development Consent (DA No. 315-7-2003) for the project as described in the *Environmental Impact Statement* (EIS) (Douglas Nicolaisen and Associates Pty Ltd 2003) was granted on 23 May 2004. The project is State significant development (SSD).

The original consent was subsequently modified three times (MOD 1–3), with the fourth modification (MOD 4) withdrawn. The quarry has approval to extract and transport up to 300,000 tonnes per annum (tpa) of clay and shale product up to 31 December 2024. The quarry has been inactive for approximately 2 years.



- KEY**
- Study area
 - Western Sydney airport
 - Waterbody
 - Major road
 - Minor road
 - Vehicular track
 - Watercourse
- Land zoning**
- B1 Neighbourhood Centre
 - E2 Environmental Conservation
 - E3 Environmental Management
 - E4 Environmental Living
 - R2 Low Density Residential
 - R5 Large Lot Residential
 - RE1 Public Recreation
 - RU1 Primary Production
 - RU2 Rural Landscape
 - RU4 Primary Production Small Lots
 - RU5 Village
 - SP1 Special Activities
 - SP2 Infrastructure

Site location and land zoning

Luddenham Quarry - Modification 5
 Final Land Use Report
 Figure 1.1



\\Emsvr1\emmm\Jobs\2019\190749 - CPG Luddenham Quarry\GIS\02 Maps\Modification Reporting\WR003 Landzoning_20200303 01.mxd 4/06/2020

Source: EMM (2020); DFSI (2017); GA (2011); Nearmap (2019)



2 Post quarrying land-use strategy

2.1 Historical land-use objectives

Existing post quarrying land use objectives and statutory obligations pertaining to the site focus on the final void and are contained with three principle documents:

- *Environmental Impact Statement (EIS): Proposed Clay/Shale Extraction Operation. Lot 3 – 275 Adams Rd, Luddenham NSW* (Douglas Nicolaisen and Associates 2003);
- *Site Rehabilitation Plan: Clay/Shale Quarry, Adams Road Luddenham* (Connacher Environmental Group 2009); and
- *Vegetation Management Plan for a Clay Shale Quarry, Adams Road, Luddenham* (UBM Ecological Consultants 2009).

These three documents contain different final land use objectives for the site. Accordingly, relevant content from the documents is summarised below and the relevance (or otherwise) to the future strategy is assessed in Section 2.2.

2.1.1 2003 Environmental Impact Statement

Previous objectives for land-use of the final void in the original site EIS (Douglas Nicolaisen & Associates 2003) are summarised below:

- The riparian zone around Oakey Creek will be revegetated using seedlings and grasses that are native and suitable to the area as specified in the landscaping plan.
- The final excavated void will be backfilled with selected inert material including material meeting the criteria for Inert Waste Class/Type 2, as specified by the NSW EPA, and virgin excavated natural material (VENM).
- The final contours of the rehabilitated landform will be returned to those existing prior to development of the quarry.
- Completion of rehabilitation: a minimum of 300 mm of topsoil and pasture establishment such that the previous activities can be re-established.
- The land will be returned to its original pastoral use (eg grazing and horse agistment).

2.1.2 2009 Site Rehabilitation Plan

Previous post quarrying land use objectives for the site are detailed in the existing Site Rehabilitation Plan (SRP) (Connacher Environmental Group 2009) prepared in accordance with Condition 33 of the existing consent. These objectives are summarised below:

- Rehabilitation of the quarry extraction area will be undertaken as one stage due to the requirement to use material within the haul roads and noise bunds as backfill material and topsoil material for revegetation.
- The principal objectives of site rehabilitation will be to:

- remove fill material (soil, rock and road base) from around the site and use this material to recontour the void created by clay/shale extraction;
 - recontour the excavated batters within the clay/shale extraction pit to achieve regularly shaped slopes which are structurally stable;
 - revegetate disturbed land surfaces to create a grassed, stable soil surface to prevent soil erosion; and
 - rehabilitate the disturbed land surfaces in a manner with the final determined land use.
- It was noted that the steeper slopes within the reshaped quarry pit may require seeding by the hydro seeding technique where the revegetation mix is sprayed onto the soil surface by a hydro-seeder and covered with a protective surface mulch.
 - The final land use was expected to be rural activities permissible within the zoning of the land. Final land use of the rehabilitated quarry pit area will be dependent on the final contours of the rehabilitated pit.

In summary, the SRP objectives were distinctly different from those in the 2003 EIS and contemplated the quarry pit being left as open void at closure with treatment limited to re-contouring and stabilising the void batters. The SRP also inferred the potential for alternate end land uses other than the rural/pastoral final land use 'base case'.

2.1.3 2009 Vegetation Management Plan

The requirements for the rehabilitation and protection of Oaky Creek as a riparian zone (biodiversity end land use) are prescribed in Condition 34 of the existing consent, which required that a vegetation management plan (VMP) be developed to address:

- the revegetation of the riparian zone of Oaky Creek;
- the protection, establishment, and maintenance of this riparian zone (including protection of remnant native vegetation); and
- the restoration of any areas within this riparian zone disturbed by the development.

A VMP satisfying Condition 34 was prepared by UBM Ecological Consultants (2009). Key commitments in this VMP regarding the extent of and biodiversity objectives for the Okay Creek riparian zone are as follows:

- The proposed extension of the Oaky Creek riparian zone (as required by the consent conditions) will extend for approximately 40 m from the top of bank into the adjoining paddock, which comprises a raised fill soil platform previously used for equine training.
- The soils are highly compacted and very dry, so that this area will be restored as Shale Plains Woodland rather than Cumberland River-flat Forest. The proposed rehabilitation strategy involved a staged planting program using indigenous vegetation to be undertaken over a minimum two-year period.

It is noted that the rehabilitation of the Oaky Creek riparian zone was completed by the previous site operators and no further rehabilitation activities (ie tree planting) are required or proposed. The VMP will be updated to reflect this rehabilitation status and to indicate that future works will be limited to maintenance programs only.

2.2 2020 proposed final land uses

The proposed final land use for the site presented herein is generally consistent with the original objectives in the 2003 EIS, with the key difference being a change in proposed final land use from rural/pastoral to commercial/industrial for all disturbed areas apart from the riparian zone along Oakey Creek which will continue to have a biodiversity land-use (Figure 2.1).

An indicative commercial concept masterplan for the site is presented in Figure 2.2.

The change from rural/pastoral to commercial/industrial final land use (other than Oakey Creek) acknowledges that the pre-quarrying land use (pasture for cattle grazing and horse agistment) is no longer considered an appropriate final land use on account of:

- the unfavourable land and soil capability (LSC) class of the site, reflected in its original degraded condition (EMM 2020; MineSoils 2020; Douglas Nicolaisen and Associates Pty Ltd 2003); and
- that commercial/industrial land use better compliments the proposed Western Sydney Airport and strategic objectives of the NSW Government *Western Sydney Aerotropolis Plan Draft for Public Comment* (NSW Government 2019).

\\Emmsvr1\emmm\jobs\2019\190749 - CPG Luddenham Quarry\GIS\02_Maps\Modification_Reporting\Final_Land_Use\FI001_FinalLandUse_20200522_01.mxd 4/06/2020



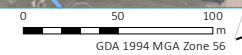
- KEY**
- Study area
 - Cadastral boundary
 - Watercourse
- Proposed final land use
- Domain 1 (Commercial/Industrial)
 - Domain 2 (Biodiversity)

Planned final land uses

Luddenham Quarry - Modification 5
Final Land Use Report
Figure 2.1



Source: EMM (2020); DFSI (2017); GA (2011); Nearmap (2020)



\\Emmsvr1\emmm\jobs\2019\190749 - CPG Luddenham Quarry\GIS\02_Maps\Modification_Reporting\Final_Land_Use\F1002_Masterplan_20200603_01.mxd 4/06/2020

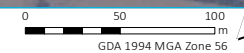


KEY
 Study area

Indicative commercial
concept masterplan

Luddenham Quarry - Modification 5
Final Land Use Report
Figure 2.2

Source: EMM (2020); DFSI (2017); CPG (2020)



2.2.1 Final land use objectives

Indicative final land use objectives to support commercial/industrial end land use are as follows:

- Create a landform that is safe, stable from both erosion and geotechnical perspectives, and non-polluting and can support the proposed commercial/industrial land use(s).
- The elevation and contours of the rehabilitated landform will be generally consistent with the original landform contours which existed prior to development but would reflect the master plan for the commercial/industrial development of the site.

2.2.2 Void backfilling

A fundamental component of achieving the commercial/industrial final land use requires backfilling on the final void consistent with Douglas Nicolaisen and Associated (2003). The site's currently approved access road is located through Western Sydney Airport land and can no longer be used by the quarry or backfilling operations. It is acknowledged that development consent is required to permit a new site access route and to import materials to the site. These activities are subject to current (and potential future) modification/new development applications. This report assumes that the necessary consents can be obtained to permit material to be brought on the site.

Regarding the backfilling methodology described herein, it is noted that CPG intend to own and control the site through the quarrying, infilling and industrial warehousing development/ ownership phases. Accordingly, CPG has an inherent interest in ensuring that these steps are undertaken properly, professionally and in a coordinated manner to ensure that the final land use objectives are achieved.

i Material types and source

The reinstatement of the void will be achieved principally through backfilling with appropriate fill material in accordance with a fill design prepared by, and under the supervision of, a suitably experienced and qualified geotechnical and environmental engineer.

The original EIS (Douglas Nicolaisen & Associates 2003) stated that only materials that satisfied the criteria for *Class 2 inert waste* in accordance with the criteria in the *NSW EPA Environmental Guideline: Assessment, Classification and Management of Liquid and Non-Liquid Wastes 1996* (EPA 1996a) would be used.

The original EIS also stated that rehabilitation (backfill) material will be inert waste sourced from existing industrial demolition work conducted by the owners (ie construction and demolition waste), and virgin excavated natural material (VENM) sourced from various government or private civil construction works such as road tunnels, rail excavations and the like. Noting that "some building excavation sites may also yield suitable material that complies with EPA criteria".

'Inert waste' is defined as waste which does not undergo environmentally significant physical, chemical, or biological transformations and has no potentially hazardous content once landfilled. Examples include building and demolition waste including bricks, concrete, glass, plastics, metal and timber (Environmental Guidelines: Solid Waste Landfills NSW EPA 1996 (EPA 1996b)).

'Class 2 inert wastes' include all inert wastes except stabilised asbestos cement or physically, chemically, or biologically fixed, treated or processed waste (EPA 1996b).

NSW wastes are now classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste NSW* (EPA 2014). The former '*Class 2 inert wastes*' now fall under the category of '*General solid waste (non-putrescible)*'.

The fill material is proposed to be sourced from a new, advanced resource recovery facility co-located on site, which is subject to a separate development application. The fill material would be the unrecyclable non-hazardous material left over from screening, sorting and recycling that cannot be sold or otherwise beneficially reused.

ii Placement method

The void would be dewatered to the existing Water Management Dam and designed and operated in accordance with the *Environmental Guidelines Solid Waste Landfills* (EPA 2016). Material will be placed in the void and then spread and compacted using a landfill compactor or other appropriate surface mobile equipment. Geotechnical advice will be sought on the maximum depth of waste that can be placed in the void and the void will be filled to that level in successive compacted layers.

Filling may be undertaken in completed areas of the void concurrently with quarrying operations.

At the completion of backfilling activities, it may be necessary for the compacted fill to be allowed to consolidate for a period to account for any differential settlement that may impact the proposed final landform or proposed final land use. The final grading of the fill will include a slight gradient such that the surface of the fill drains to a collection sump allowing any accumulated water to be pumped to the Water Management Dam.

During backfilling, the surface of the fill material will be stabilised with temporary grasses, soil stabilising polymer or some other appropriate means to minimise water ingress into the fill or dust generation.

iii Final capping materials and method

The completed fill will be capped with a suitable material layer to provide sufficient sub-grade geotechnical stability to support the proposed commercial/industrial final land use. This is expected to be sourced from subsoil in the existing noise/safety bunds and if necessary, imported material.

2.2.3 Landform design

i Elevation

The void will be backfilled to be generally consistent with the original landform contours which existed prior to the commencement of quarry operations.

ii Slope

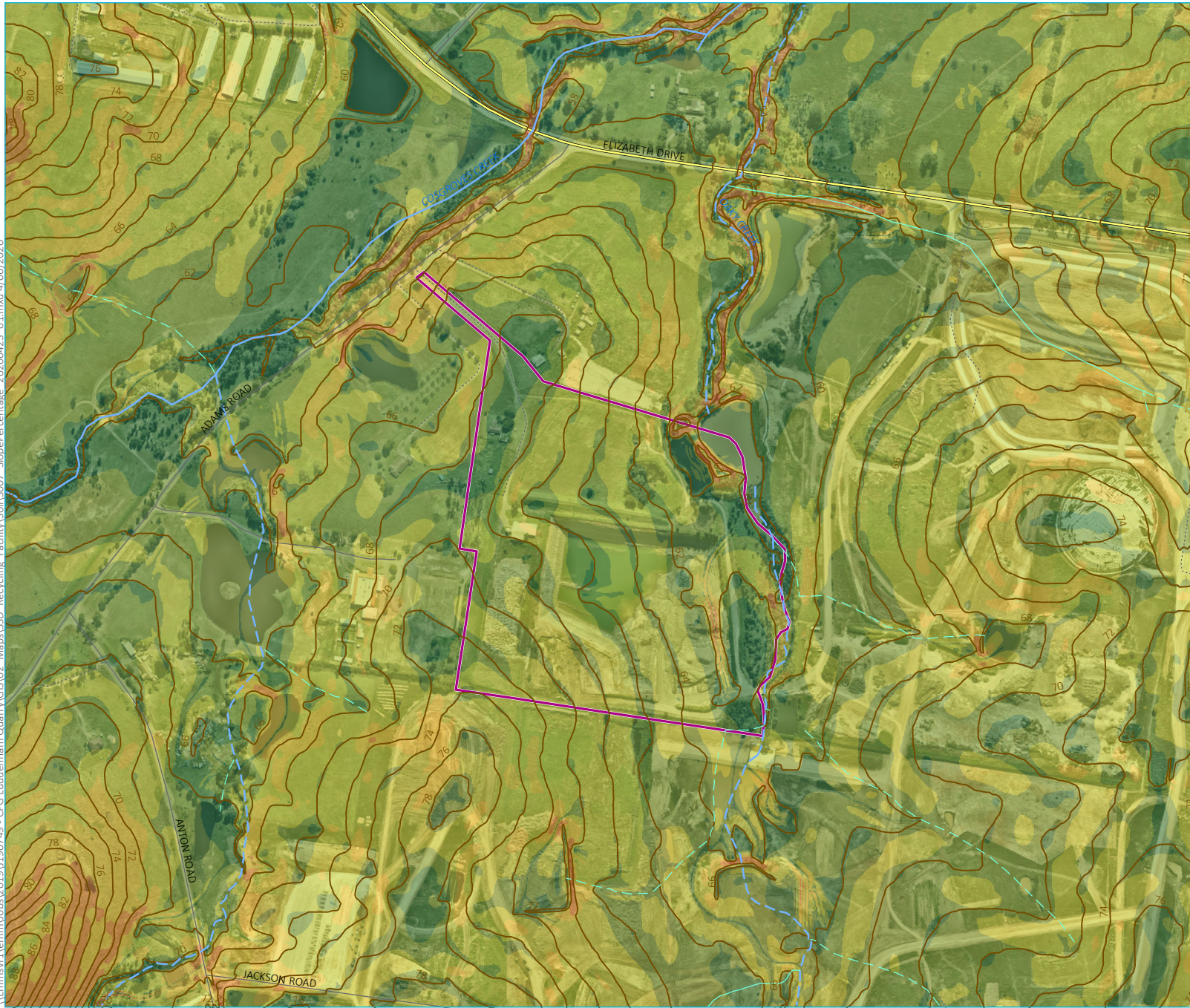
Prior to quarrying the site had gentle cross drainage from the south-west to north-east of approximately 3 to 4% (Figure 2.3). The finished landform will have a similar gradient although will include discrete levelling and terracing to enable the delivery of the proposed commercial/industrial final land-use.

iii Drainage

During filling operations, a gentle gradient will be maintained for drainage toward a sump or low point to facilitate dewatering. Once the fill has been capped and the elevation is level with the natural landform and can free drain, sheet flow drainage conditions will be maintained to minimise erosion of the cap. Temporary drainage will be installed to divert any potential turbid runoff to sediment basin(s).

The surface will be stabilised with soil stabilising polymers, temporary grasses, or some other suitable means until the site is developed in accordance with the planned commercial/industrial land use.

\\Emmsvr1\emms\Jobs\2019\190749 - CPG Luddenhams Quarry\GIS\02 Maps\SSD Recycling Facility\Soil\5007 SlopePercentage_20200423_01.mxd 4/06/2020

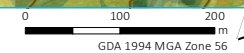


- KEY**
- Study area
 - Major road
 - Minor road
 - Vehicular track
 - Contour (2 m)
- Strahler stream order
- 1st order
 - 2nd order
 - 3rd order
 - 4th order
- Slope percentage
- < 2 %
 - 2 - 5 %
 - 5 - 10 %
 - 10 - 20 %
 - 20 - 50 %
 - > 50 %

Indicative final slopes

Luddenhams Quarry - Modification 5
Final Land Use Report
Figure 2.3

Source: EMM (2020); DFSI (2017); Nearmap (2020)



2.3 Summary of changes to final land use strategy

A summary of the changes in rehabilitation and closure objectives, and final land uses, for the Luddenham Quarry site are presented in Table 2.1.

Table 2.1 Summary of changes to final land use strategy

Aspect/objective	2003 EIS	2009 SRP	2009 VMP	Updated strategy (this Report)
Proposed final land use	<ul style="list-style-type: none"> Rural/pasture; and Biodiversity (Oak Creek only) 	<ul style="list-style-type: none"> Rural/pasture; and Biodiversity (Oak Creek only) 	<ul style="list-style-type: none"> Biodiversity (Oak Creek only) 	<ul style="list-style-type: none"> Commercial/industrial; and Biodiversity (Oak Creek only)
Void treatment	<ul style="list-style-type: none"> Backfill with inert material (Inert Waste Class 2) 	<ul style="list-style-type: none"> Leave as void (including re-contouring and stabilisation of void batters) 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Backfill with inert 'General Solid Waste (non-putrescible)' and cap with subsoil sourced from overburden stockpiles and the existing safety/noise bunds (or imported as necessary).
Overburden stockpiles	<ul style="list-style-type: none"> Use in void backfill (final capping of deposited backfill material) 	<ul style="list-style-type: none"> Use to re-contour void batters 	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Use in void backfill (final capping of deposited backfill material)
Noise bunds	<ul style="list-style-type: none"> Fate of noise bunds not stated in EIS 	<ul style="list-style-type: none"> Fate of noise bunds not specifically defined in 2009 SRP other than re-use as "backfill material and topsoil material for revegetation". 	<ul style="list-style-type: none"> Grassed – no further action 	<ul style="list-style-type: none"> Use in void backfill (final capping of deposited backfill material). Topsoil layer on noise bunds to be reclaimed and used as final surface cover on backfilled void (if/where this material can be reclaimed and is suitable for rehabilitation re-use).

3 Conclusion

GPG has recently purchased 275 Adams Road, Luddenham, NSW (the site) hosts an existing, inactive clay/shale quarry approved under DA 315-7-2003 as modified (the consent). CPG in partnership with KLF propose to reactivate quarrying operations in the short term through a modification of existing consent SSD DA 317-7-2003 (the proposed modification).

In addition to the quarry reactivation, CPG and KLF are currently preparing a separate development application for a new, advanced resource recovery centre facility to be co-located on site. Core to this application is the proposal to:

- Utilise non-hazardous unrecyclable '*General solid waste (non-putrescible)*' (EPA 2014) generated by the facility, that cannot be sold or beneficially reused, to backfill the quarry void.
- Use existing overburden resources (stockpiled subsoils and topsoils) and other imported media as necessary to cap and cover the fill material.
- Produce a safe, stable and non-polluting final landform suitable for commercial/industrial final land use.

The above proposal is generally consistent with the original 2003 EIS commitments for the site (Douglas Nicolaisen & Associates 2003), with the exception of the changed final land use for the site (other than Oaky Creek) from pastoral/rural (RU1 Primary Production) to commercial/industrial.

The changed final land use acknowledges that the pre-quarrying land use (pasture for cattle grazing and horse agistment) is no longer appropriate on account of:

- the unfavourable land and soil capability (LSC) class of the site, reflected in its original degraded condition (EMM 2020; MineSoils 2020; Douglas Nicolaisen and Associates 2003); and
- that commercial/industrial land use better compliments the proposed Western Sydney Airport and strategic objectives of the draft Western Sydney Aerotropolis Plan.

There will be no change to the biodiversity land use for the Oaky Creek riparian zone as prescribed in Condition 34 of the existing consent.

References

Connacher Environmental Group 2009, *Site Rehabilitation Plan: Clay/Shale Quarry, Adams Road Luddenham*, prepared for Blue Sky Mining Pty Ltd by Connacher Environmental Group.

Douglas Nicolaisen & Associates 2003, *Environmental Impact Statement: Proposed Clay/Shale Extraction Operation, Lot 3 – 275 Adams Rd Luddenham NSW*. Prepared for Badger Mining Company Pty Ltd by Douglas Nicolaisen & Associates Pty Ltd.

EMM 2020, *Luddenham Resources Recovery Centre: Land, Soil and Erosion Assessment Report* (draft in progress). Prepared for Coombes Property Group by EMM Consulting Pty Ltd.

EPA 1996a, *Environmental Guideline: Assessment, Classification and Management of Liquid and Non-Liquid Wastes*, NSW Environment Protection Authority.

EPA 1996b, *Environmental Guidelines: Solid Waste Landfills*, NSW Environment Protection Authority, Sydney.

EPA 2014, *Waste Classification Guidelines Part 1: Classifying waste*, NSW Environment Protection Authority, Sydney.

EPA 2016, *Environmental Guidelines: Solid Waste Landfills*, 2nd Edition, NSW Environment Protection Authority, Sydney.

Minesoils 2020, *Luddenham Quarry Mod 5 Biophysical Strategic Agricultural Land (BSAL) Site Verification Report*, prepared for EMM Consulting Pty Ltd by Minesoils Pty Ltd.

NSW Government 2019, *Western Sydney Aerotropolis Plan Draft for public comment*, NSW Government.

UBM Ecological Consultants 2009, *Vegetation Management Plan for a Clay Shale Quarry, Adams Road, Luddenham*. Prepared for Blue Sky Mining Pty Ltd by UBM Ecological Consultants Pty Ltd.



