

Albion Park Quarry

Historic Heritage Management Plan

Version 5 | Revision 3

Issued – April 2025





ACKNOWLEDGEMENT

Cleary Bros acknowledge and pay our respects to the Traditional Custodians of the lands in NSW and Australia on which our projects are located. We value the knowledge, advice and involvement of the Elders and extended Aboriginal community that contribute to our Projects and extend our respect to all Aboriginal and Torres Strait Islander peoples.

Contents

1.	Introduction.....	6
1.1	SCOPE.....	6
1.2	THE STUDY AREA	6
1.3	OBJECTIVES AND OUTCOMES.....	12
1.4	CONSULTATION	12
1.5	HERITAGE MANAGEMENT TRAINING AND RESPONSIBILITIES.....	14
1.6	DOCUMENT PREPARATION	15
2.	Environmental Management Context	16
2.1	LEGAL AND OTHER REQUIREMENTS	16
2.2	EXISTING ENVIRONMENT.....	19
3.	Approved Activities.....	28
4.	Potential Risks Performance Indicators and Criteria.....	30
5.	Management Measures	31
5.1	HERITAGE INTERPRETATION PLAN.....	32
5.2	BUILT HERITAGE MANAGEMENT	35
5.3	RELOCATION AND RECONSTRUCTION OF DRY STONE WALLS	47
5.4	UNEXPECTED FINDS.....	48
5.5	MINIMISING IMPACTS TO THE HILL COMPLEX.....	49
6.	Monitoring.....	52
6.1	ARCHAEOLOGICAL MONITORING	52
6.2	ARCHIVAL RECORDING.....	52
6.3	POST EXCAVATION REPORT	53
7.	Management of Compliance	55
7.1	INCIDENT AND NON-COMPLIANCE MANAGEMENT	55
7.2	ANNUAL REVIEW, REPORTING AND PUBLISHING	56
8.	Plan Review and Continual Improvement.....	57
8.1	INDEPENDENT ENVIRONMENTAL AUDIT	57
8.1	PLAN REVIEW.....	57
9.	References	58
	Appendix 1 – Archaeological Research Design.....	60

Figures

Figure 1: Locality Plan (Source: Cleary Bros 2020)	7
Figure 2: Aerial image of Albion Park Quarry with ‘Belmont’ homestead identified in red (Source: SixMaps 2023).....	8
Figure 3: Shellharbour LEP heritage map aerial image of Albion Park Quarry with ‘Belmont’ homestead, I209 curtilage identified in red (Source: Artefact, 2023).....	9
Figure 4: Study area map (Black circle indicates approximate 1km buffer around Belmont study area) (Source: EIS Section 6 – Assessment of Impacts page 95, 2023).....	10
Figure 5: Key Environmental Management Documents (Source: Cleary Bros, 2023)	11

Figure 6: Large Timber Beams in the roof (Source: Design 5, Dilapidation Survey 2018).....	25
Figure 7: Large Timber Beams in the roof (Source: Design 5, Dilapidation Survey 2018).....	25
Figure 8: Timber 4-panelled internal doors (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	26
Figure 9: Timber window frame Source: Cleary Bros. 3D Model – The ‘Belmont’)	26
Figure 10: Timber skirting boards (Source: Cleary Bros. 3D Model – The ‘Belmont’)	26
Figure 11: Early light switch (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	26
Figure 12: Wall vent (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	27
Figure 13: Wardrobe (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	27
Figure 14: Metal fireplace (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	27
Figure 15: Laundry sink (Source: Cleary Bros. 3D Model – The ‘Belmont’).....	27
Figure 16: Dry Stone walls, relocated to ‘Belmont’ property entrance, outside of development area in 2010 (Source: HMP 2017).....	27
Figure 17: Approved Quarry Site Layout	29
Figure 18: Development of digital twin exterior as part of the Heritage Interpretation Plan	34
Figure 19: Assessment of Archaeological Potential (Source: adaption from Biosis Historic Heritage Assessment 2021).....	45
Figure 20: Current dry stone walls and proposed location for relocated dry stone wall.....	47
Figure 21: Planting Plan for the vegetation screens.....	51
Figure 22: Upper bench rehabilitation schematic	51

Tables

Table 1: Objectives and Key Performance Outcomes	12
Table 2: Summary of Consultation – Historic Heritage Management Plan.....	12
Table 3: Roles and Responsibilities.....	14
Table 4: Development Consent Conditions (SSD 10369) – Heritage.....	16
Table 5: Statement of Commitments – Historic Heritage	18
Table 6: Assessment of Archaeological Potential (excerpt from RW Corkery & Co, 2022. Section 6 Assessment of Issues).....	21
Table 7: Significance Assessment of Archaeological Potential (excerpt from RW Corkery & Co, 2022. Section 6 Assessment of Issues)	22
Table 8: Summary of Heritage listings within, and within the vicinity of Albion Park Quarry study area	23
Table 9: Grading of Significant Fabric.....	24
Table 10: Table of significant Fabric	24
Table 11: Performance Indicators and Criteria	30
Table 12 Schedule of recommended salvageable items within ‘Belmont’ homestead	37

Table 13: Impacts and Mitigation measures 46

Table 14: Summary of Consultation – Archival Recording 52

Document Control

Version	Date	Reason	Reviewed	Approved
Version 1	10/11/2023	Initial draft for CB review	MH	
Version 2	7/12/2023	2nd draft for CB review	MH	
Version 3	25/1/2024	3 rd draft for CB review	MH	
Version 4	6/2/2024	Issued for stakeholder consultation	MH	
Version 5	5/3/2024	Submission for approval following stakeholder consultation	MH	
Version 5 Revision 2	15/3/2024	Revision following receipt of DPE comments	MH	DPHI
Version 5 Revision 3	3/4/2025	Revision following Independent Environmental Audit and updates to align with current status of heritage measures	MH	

1. Introduction

1.1 Scope

Cleary Bros (Bombo) Pty Ltd (Cleary Bros) received State Significant Development consent (SSD) 10369 on 29 September 2023 to extend the current hard rock extraction area within the Albion Park Quarry (the Quarry) into the Stage 7 area. The Quarry is located in the local suburb of Croom, approximately 20km south-southwest of Wollongong and approximately 4km west of Shellharbour ([Figure 1](#)). Three other operational quarries are present in this area, as shown in [Figure 1](#).

The Quarry involves extraction of latite and agglomerate for the production of a range of high quality aggregates, armour rock, and pavement products for use in the Illawarra-Shoalhaven and Greater Sydney Regions. The approved Quarry operations are fully described in the publicly available documents on Cleary Bros website (www.clearybros.com.au/albion-park/).

This *Historic Heritage Management Plan* (the Plan) has been prepared by Artefact Heritage and Environment (Artefact) on behalf of Cleary Bros in satisfaction of Condition B54 of SSD 10369. This Plan has been prepared with reference to the *Statement of best practice for conservation management plans* (Heritage Council of NSW 2021), and describes the following objectives and outcomes related to management of historic heritage on Cleary Bros land surrounding the Extraction Area:

- Identification and evaluation of the heritage listed item 'Belmont' within the study area.
- Consultation undertaken during preparation of this Plan.
- Training requirements and roles and responsibilities of key Cleary Bros personnel.
- Legal and other statutory requirements and commitments that apply to the Quarry.
- A description of the existing historic heritage of the local area.
- A description of the activities approved under SSD 10369.
- Impacts and risks related to historic heritage.
- Measures to be implemented to capture and retain historic heritage values.
- Monitoring and further investigations of historic heritage values during the Project.
- Contingency measures to manage unpredicted impacts to heritage values.

This Plan does not address the following aspects of the Quarry:

- Aspects of the operation not relevant to historic heritage including Aboriginal heritage.

Quarrying activities will not commence until this Plan has been submitted to the Planning Secretary for approval. There will be no impact to the dry stone walls or structures listed in heritage item I209 (including 'Belmont' Homestead) until this Plan has been approved by the Planning Secretary, and the Plan will subsequently be implemented as approved.

[Figure 5](#) illustrates the strategic relationship, and inter-relationship, of this Plan to the Environmental Management Strategy (EMS) and other key environmental management documents.

1.2 The Study Area

Albion Park Quarry is located at Lot 1 DP 858245 and Lot 23 DP 1039967, 207 Dunsters Lane, Croom. The study area is located within the Shellharbour Local Government Area (LGA), Parish of Terragong, County of Camden.

'Belmont' homestead is located within the boundaries of Lot 1 DP 858245 and approximately 100 metres from the lots eastern boundary line ([Figure 2](#)).

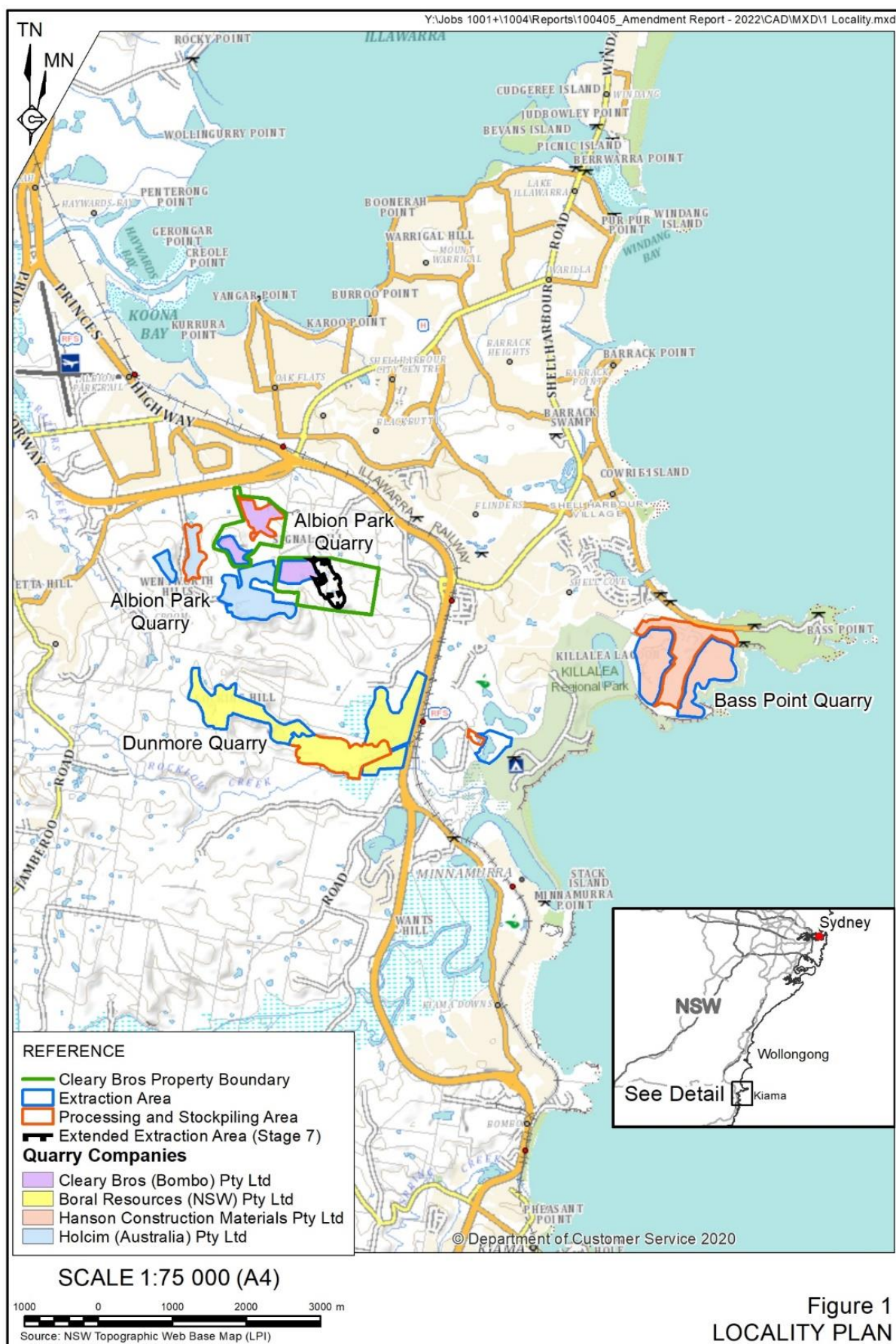




Figure 2: Aerial image of Albion Park Quarry with 'Belmont' homestead identified in red (Source: SixMaps 2023)

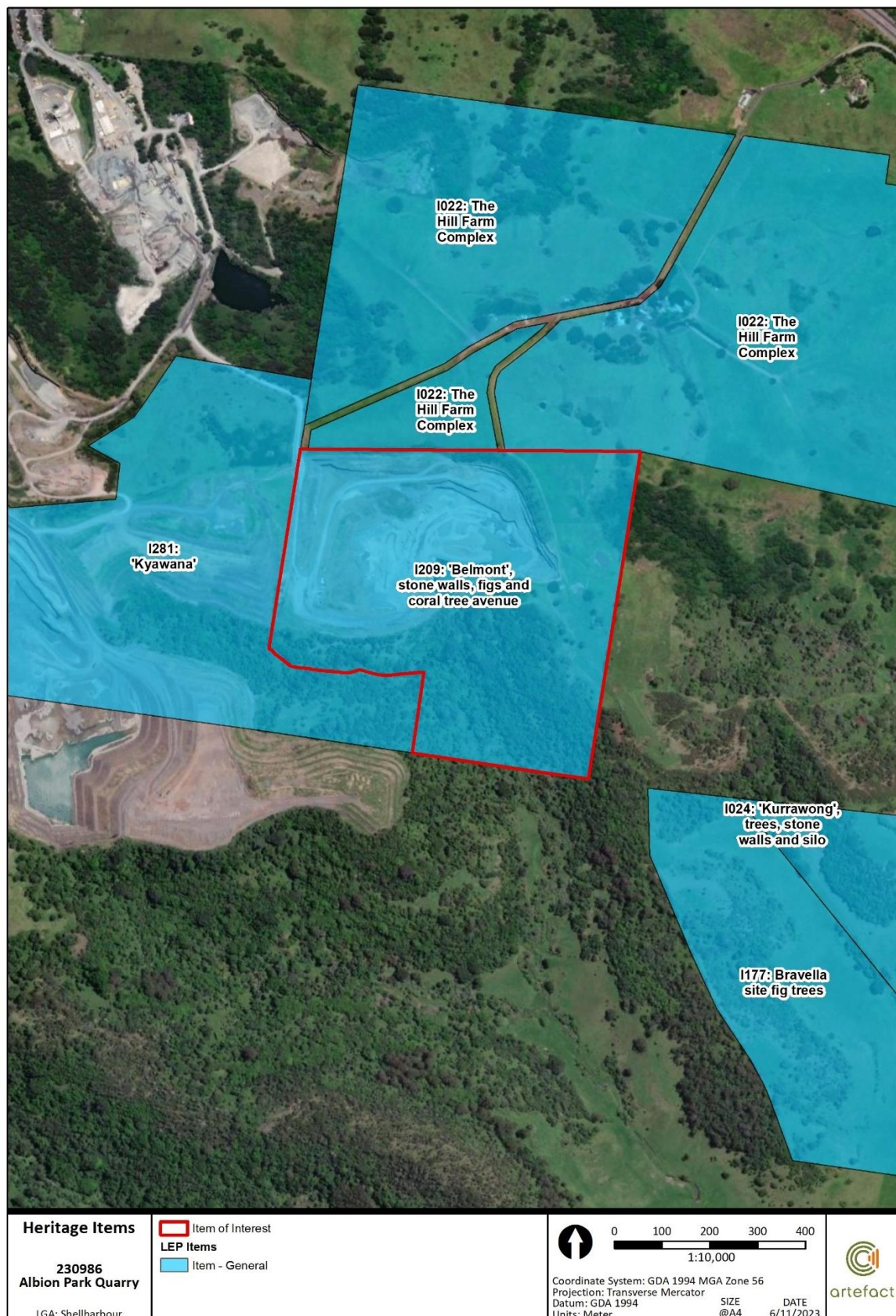


Figure 3: Shellharbour LEP heritage map aerial image of Albion Park Quarry with ‘Belmont’ homestead, 1209 curtilage identified in red (Source: Artefact, 2023)

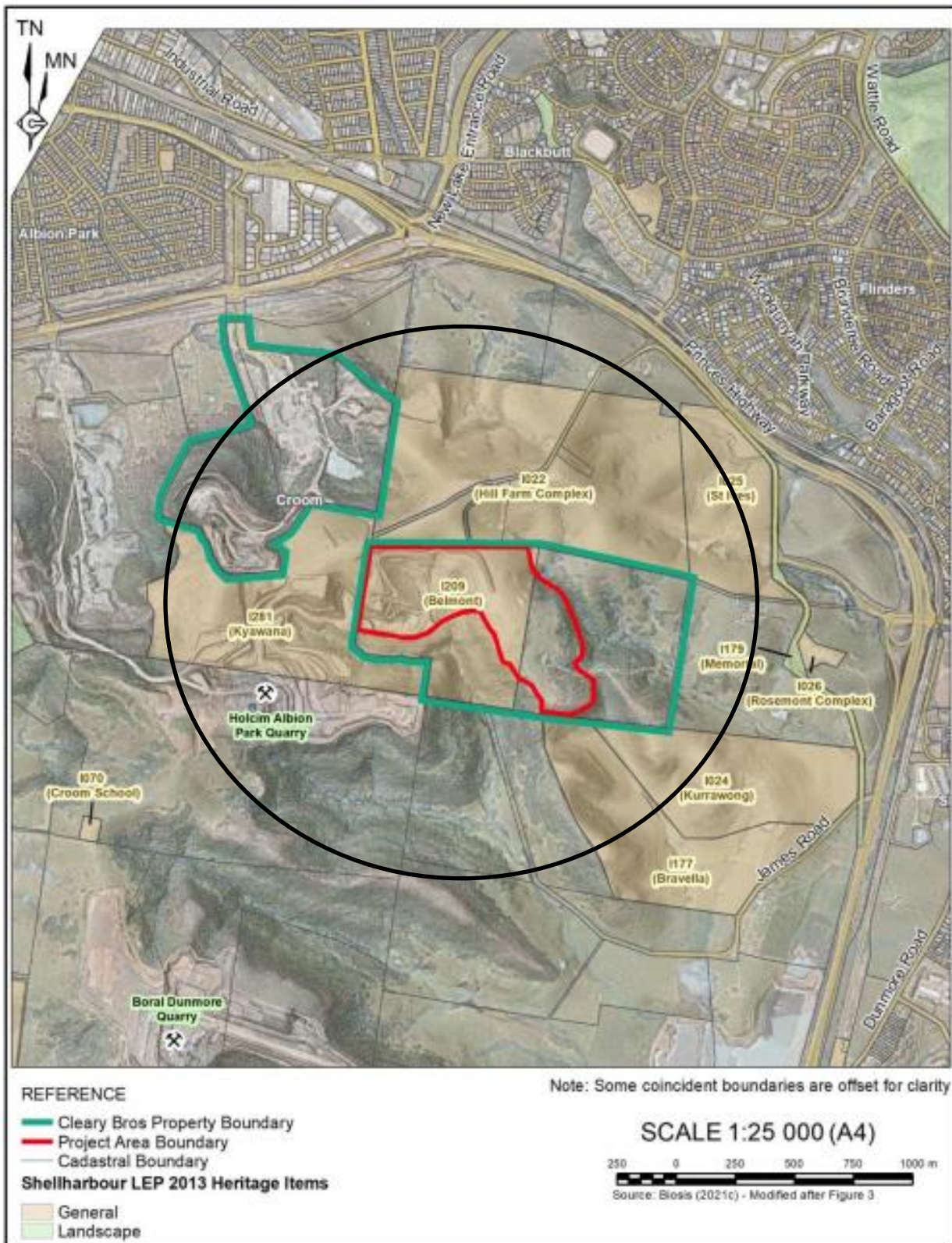


Figure 4: Study area map (Black circle indicates approximate 1km buffer around Belmont study area)
(Source: EIS Section 6 – Assessment of Impacts page 95, 2023)

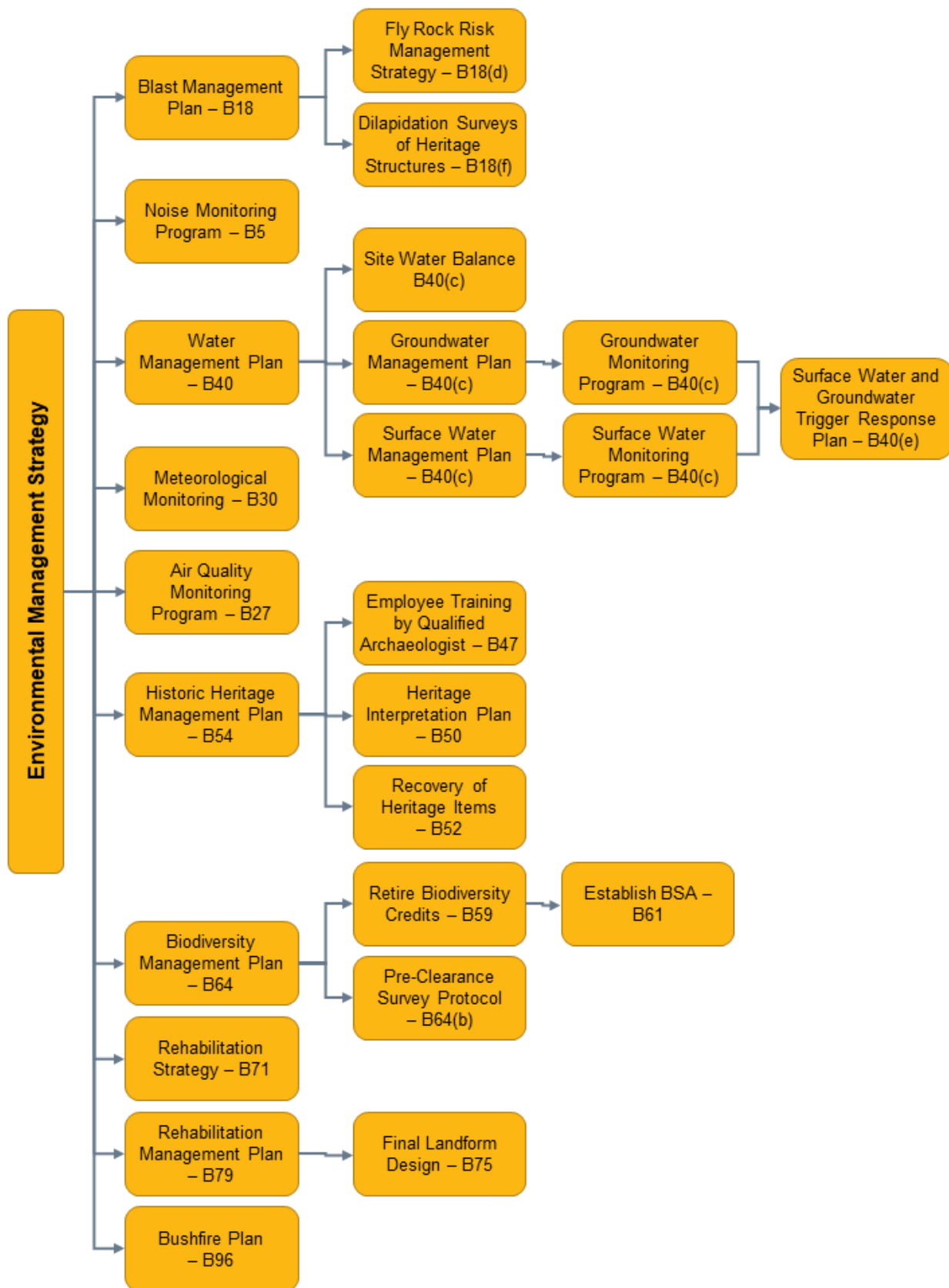


Figure 5: Key Environmental Management Documents (Source: Cleary Bros, 2023)

1.3 Objectives and Outcomes

[Table 1](#) presents the objectives and key performance outcomes for historic heritage at the Quarry.

Table 1: Objectives and Key Performance Outcomes

Objectives	Key Performance Outcomes
To ensure compliance with all relevant conditions of SSD 10369, stated commitments related to historic heritage management and reasonable community expectations	Compliance with all relevant criteria and reasonable community expectations, as determined in consultation with relevant government agencies.
To measure and manage the known impact to historic heritage resulting from the proposed works	Actively record the historic heritage of the study area prior to the project works and assess the extent of impacts.
To minimise the further impact to historic heritage resulting from the proposed works	Manage the known losses of heritage associated with the project works and ensure no unnecessary/further losses of historic heritage beyond the scope of the project works.
To salvage heritage significant fabric associated with: - 'Belmont' homestead and - the dry stone walls (for relocation within the approved disturbance area)	Conduct deconstruction and salvage of the nominated heritage fabric, and deconstruction and relocation of the dry stone walls within the study area.
To monitor and manage potential blast and visual impacts	Actively manage the ongoing risks associated with blasting activities of the quarry operations and minimise the visual impacts of the Quarry on the heritage values of surrounding properties.
To manage the historic heritage with consideration of the Biodiversity, Conservation Division and Shellharbour City council	Actively record and report on the historic heritage of the study area through communication and cooperation with Shellharbour City Council, the Community Consultative Committee, and community groups with a vested interest in the project.

1.4 Consultation

Schedule B Condition B54 (b) requires the Historic Heritage Management Plan to be prepared in consultation with Council and relevant landowners, refer to [Table 4](#) for the consent conditions. Cleary Bros considers the following landowners are relevant in the context of this Historic Heritage Management Plan, and have been consulted with as part of preparation of the plan:

- All fence line neighbours adjoining to the Project Area; and
- All landowners of heritage listed properties in the Wentworth Hills and Dunmore Valley Dairy Farming Landscape.

[Table 2](#) presents a summary of consultation undertaken with relevant stakeholders regarding preparation of this Plan.

Table 2: Summary of Consultation – Historic Heritage Management Plan

Stakeholder	Date	Comments	Where Addressed in the Plan
Shellharbour City Council	30/10/2023	Council provided additional requirements for inclusion in the Archival Report. Other comments include:	Noted. Refer to Section 6.2 Artefact Heritage have been

Stakeholder	Date	Comments	Where Addressed in the Plan
		<i>Council recommends that an experienced and qualified heritage consultancy team are used to prepare the Management Plan and the details of the condition are followed. No specific requirements beyond this.</i> <i>Council has no additional points for the process of preparing the archival process beyond what is outlined in conditions B48 and B49.</i> <i>Council does not have any specific comments relating to the recovery of heritage items and recommends that the advice of the heritage consultant is followed.</i> <i>Council recommends that a qualified archaeologist prepares the research design according to industry standards. Professional consultants should be engaged to prepare reports that are recognised in their fields and be guided by their advice.</i>	commissioned to prepare the Plan. Refer Section 1.6 Noted Noted Noted. Refer to Section 5.2.4 Noted. This HHMP has been prepared by Artefact Heritage and Environment
	5/3/2024	Council provided with a copy of the draft plan and responded as follows: <i>The Historic Heritage Management Plan satisfactorily addresses the heritage management of the heritage item 'Belmont' stone walls, figs and coral tree avenue Item # 1209 in the future Stage 7 works to Albion Park Quarry.</i>	Noted.
Owner Lot 4&5 DP3709	5/2/2024 26/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. Provided hard copy of draft plan following request. Suggested via phone call on 26/2/24 that additional information related to the 'Belmont' and linkages to the surrounding properties could be collected through further discussions with past owners and occupiers of the 'Belmont'.	Noted. Section 5.1 updated to include specific opportunity for past owners and occupiers to directly contribute to HIP.
Owner Lot 50 DP1013688	5/2/2024 27/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. Followed up on 28/2/24 via phone call, advised had not received letter, and so hand delivered a copy on the same day. Further phone conversation on 4/3/24. No feedback or comments received.	N/A

Stakeholder	Date	Comments	Where Addressed in the Plan
Owner Lot 1 DP430361	5/2/2024 28/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. Followed up on 27/2/24 via phone call. Stakeholder noted the poor condition of the house and did not provide any feedback on plan.	N/A
Owner Lot 100 DP717430	5/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. No feedback or comments received.	N/A
Owner Lot 2 DP 607560	5/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. No feedback or comments received.	N/A
Owner Lot 1 DP17175; Lot 1 DP236168; Lot 2 DP585245	8/2/2024	Advised by email that they have no feedback on draft Plan.	N/A
Owner Lot 71 DP 837462	5/2/2024 27/2/2024	Provided with a link to an electronic copy of the draft plan on 5/2/24 inviting feedback or other comments. Followed up on 27/2/24 via phone call. Stakeholder expressed interest in opportunity to recover items from Belmont, and was happy with the model being prepared. No further comment on the draft plan.	N/A

1.5 Heritage Management Training and Responsibilities

All Cleary Bros personnel, contractors and their employees shall undergo heritage awareness training as part of the site induction and re-induction program, commensurate with their responsibilities and area of work. The following areas shall be covered in the site induction process and information shall be available to all personnel, such as signs and regularly updated operational maps, procedures, company guidelines and fact sheets.

- Potential for artefacts of heritage significance to be found on the project site.
- What to do in the event of an unexpected find of a potential artefact.
- How to avoid unplanned harm to heritage values.

Site management including supervisory personnel will receive additional training in the following areas:

- Heritage outcomes to be achieved.
- Awareness of the 'Belmont' homestead study area to be cleared for operational activities and procedures required to be implemented prior to disturbing heritage.

[Table 3](#) presents the roles and responsibilities of personnel with reference to historic heritage management.

Table 3: Roles and Responsibilities

Roles	Responsibilities
Chief Operations Officer	• Provide strategic direction regarding environmental policy • Independently review indicators of environmental performance, review compliance with environmental objectives and approvals.

Roles	Responsibilities
General Manager Quarries	• Provide adequate resources for implementation of this Plan. • Accountable for the overall performance of the Quarry, including the outcomes of the Plan. • Independently review indicators of environmental performance, confirm compliance with environmental objectives and approvals. • Ensure adequate resources are available to enable implementation of the Plan. • Ensure employees are competent through training and awareness programs.
Environmental Officer	• Ensure the implementation of this Plan, including reporting of non-compliances with the trigger values, and subsequent implementation of the relevant action plan. • Ensure monitoring is undertaken in accordance with the Plan. • Ensure all internal and external reporting requirements are met. • Respond to all incidents and complaints. • Update the Plan as required. • Undertake/organise, review and analyse all monitoring data.
Operational Staff and Contractors	• Undertake all training and awareness induction as directed. • Follow directions provided by the Environmental Officer, Supervisors and Quarry management. • Show due care not to cause unplanned harm to heritage values. • Notify Supervisor of any non-compliance.

1.6 Document Preparation

This Plan has been prepared by Jordan Wilson-Aarsen (BSc, Ba, Ma (hons) (Artefact- Heritage Consultant) and Scott MacArthur (Ba Arch, MBBS) (Artefact - Principal).

Mr Wilson-Aarsen's and Mr MacArthur's appointments as authors of this document was endorsed by the Planning Secretary on 14 November 2023.

Mark Hammond (BEnvSc (hons)), Quality and Environment Manager with Cleary Bros provided a range of information presented in this document, as well as reviewing the draft and approving the final version for release, and subsequent minor updates to ensure continuous improvement.

2. Environmental Management Context

2.1 Legal and Other Requirements

2.1.1 Development Consent

[Table 4](#) identifies the conditional requirements of SSD 10369 relevant to this Plan and where they are addressed.

Table 4: Development Consent Conditions (SSD 10369) – Heritage

Cond No.	Requirement	Plan Section
Archival recording of the ‘Belmont’ Homestead		
B48	The Applicant must prepare an archival recording of the Belmont Homestead. The archival recording must: (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with Council; (c) be prepared in accordance with the NSW Heritage Office heritage information series How to prepare archival records of heritage items 1998 and Photographic recording of heritage items using film or digital capture 2006; (d) include: (i) photographic recording; (ii) three-dimensional virtual model required by Condition B50 (c) (iii) recording during work on the Belmont Homestead; and (iv) catalogue or inventory of significant items	Section 6.2
B49	The Applicant must: (a) prepare the archival recording prior to removing, during and on completion of the removal of the Belmont Homestead to capture the condition and appearance of the place prior to, during and after impact; (b) publish the archival recording on the website required by Condition D15; and (c) provide the archival recording to Council	Section 6.2
Heritage Interpretation Plan		
B50	Prior to the commencement of demolition of the Belmont Homestead or surrounds, the Applicant must prepare a Historic Heritage Interpretation Plan for the Belmont Homestead and the Wentworth Hills and Dunmore Valley Dairy Farming Landscape. The plan must: (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with Council, relevant landowners, and local community; (c) include a three-dimensional virtual model of the Belmont Homestead, to capture and share the site with the community; (d) include an animated re-creation of the Wentworth Hills and Dunmore Valley Dairy Farming Landscape, assisted by drone photogrammetry to support communication of the heritage values to the public; and (e) be available to the community via the Cleary Bros website required by Condition D15	Sections 3 & 5.1

Cond No.	Requirement	Plan Section
B51	Prior to the commencement of demolition of the Belmont Homestead or surrounds, the Applicant must provide a copy of the Heritage Interpretation Plan to Council	Section 5.1
Recovery of heritage items		
B52	Prior to the commencement of the demolition of the Belmont Homestead, the Applicant must facilitate the recovery of items of interest from the Belmont Homestead. The Applicant must: (a) provide relevant stakeholder(s), organisations, or neighbour landholders with at least two reasonable opportunities to retrieve items of interest; (b) provide notification of the dates and times available for retrieving items of interest to relevant stakeholders, organisations, and neighbouring landholders six weeks in advance of the first opportunity to retrieve items of interest; and (c) support the recovery of items of interest from the Belmont Homestead under the supervision of a suitably qualified archaeologist	Section 5.2.3
Archaeological investigation		
B53	During the demolition and removal of the Belmont Homestead, the Applicant must undertake an archaeological investigation at the Belmont Homestead. The archaeological investigation must: (a) be undertaken by a suitably qualified archaeologist who meets the NSW Heritage Council's Excavation Director criteria; (b) be supported by the archaeological assessment included in the EIS and an archaeological research design (ARD) prepared in consultation with Council	Section 5.2.4
Historic Heritage Management Plan		
B54	The Applicant must prepare a Historic Heritage Management Plan for the development, in respect of all non-Aboriginal cultural heritage items. The plan must: (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with Council and relevant landowners and in accordance with the relevant Heritage NSW guidelines; (c) include a comprehensive description of the process for the preparation of the Historic Heritage Interpretation Plan required by Condition B50; (d) include a detailed plan for recovering items of interest from the Belmont Homestead and property as required by Condition B52; (e) include a comprehensive plan for the deconstruction and removal of the Belmont Homestead including archaeological works to be carried out in accordance with Condition B53; (f) include a plan for the relocation and reconstruction of dry stone walls within the approved disturbance area. The plan must: (i) identify the dry stone walls planned for salvage and a new location that is publicly accessible; (ii) identify an experienced dry stone waller certified by the Dry Stone Wall Association of Australia; (iii) describe any maintenance and monitoring of the dry stone walls for the life of the quarry; (g) summarise the monitoring and management of potential blast and visual amenity impacts on The Hill Complex with reference to the blast management plan and rehabilitation management plan;	Section 1.6 Section 1.4 Section 5.1 Section 5.2.3 Section 5.2.4 Section 5.3 Section 5.5

Cond No.	Requirement	Plan Section
	(h) a contingency plan to manage unpredicted impacts on heritage values and their consequences and to ensure that ongoing impacts reduce to levels below the predictions of the documents listed in condition A2(c) and the requirements of this consent	Sections 4 & 5.5
B55	Prior to the commencement of quarrying operations in Stage 7a extraction area, the Application must submit the Historic Heritage Management Plan to the Planning Secretary for approval	Noted
B56	The Applicant must not commence any activities associated with the removal of dry stone walls, the demolition of the Belmont Homestead and or any associated structures until the Historic Heritage Management Plan is approved by the Planning Secretary	Noted
B57	The Applicant must implement the Historic Heritage Management Plan as approved by the Planning Secretary	Noted

2.1.2 Statement of Commitments

Table 5 identifies Cleary Bros commitments relevant to this Plan and where they are addressed. In accordance with Condition A4 of SSD 10369, the conditions of the consent prevail over Cleary Bros' prior commitments. As a result, where the commitments presented in **Table 5** have been amended to ensure consistency with SSD 10369, the amended text is presented as underlined text.

Table 5: Statement of Commitments – Historic Heritage

Desired Outcome	Measure	Timing	Document Reference
3D model available to community	6.1 Prepare an interactive three-dimensional virtual model of the "Belmont" and surrounds, to capture and share the heritage values of the site with the community into perpetuity (as per Action Item 1 in Biosis (2023))	<u>Prior to the demolition of the Belmont</u>	Section 5.1
Assess the suitability of relocating the Belmont	6.2 Engage a structural engineer to assess the feasibility of relocating the "Belmont". Where relocation is deemed feasible, Cleary Bros will invite expressions of interest from the community for the relocation of the "Belmont" (as per Action Item 2 in Biosis (2023)). Cleary Bros would pay the relocation costs of the building to a location within the Shellharbour Local Government Area in the event a suitable location is identified through the expressions of interest process	Completed. Belmont determined to be not suitable for relocation.	N/A
Recovery of items from the Belmont	6.3 Where relocation is not feasible, Cleary Bros will invite expressions of interest from the community for recovering artefacts and other features of the "Belmont" during its removal (as per Action Item 3 in Biosis (2023)). Where suitable expressions of interest are registered, Cleary Bros would arrange for these relevant items/materials to be removed from the "Belmont" under the supervision of an Archaeologist and provided to the stakeholder	<u>Prior to the demolition of the Belmont</u>	Section 5.2.3

Desired Outcome	Measure	Timing	Document Reference
Update Archival Report	6.4 Following the completion of the above (as applicable), any remaining structure(s) would be deconstructed and removed under the supervision of an archaeologist, including archival recording of the structure in accordance with relevant guidelines or standards applicable at the time (as per Action Item 4 in Biosis (2023))	<u>Prior to the removing, during and on completion of removal of the Belmont</u>	Sections 5.2.4 & 6.2
Identify and record archaeological relics during removal of the Belmont	6.5 Undertake further archaeological investigations, including monitoring for the presence of archaeological deposits or remains during removal and ground disturbance works in the immediate vicinity of the heritage items. Depending on the nature of the uncovered remains, further excavations may be required. These investigations would: – follow the intent of the Heritage Act; – be conducted by a suitably qualified heritage consultant who meets the NSW Heritage Council’s Excavation Director criteria; and – be supported by an archaeological assessment (i.e. Biosis (2021c)) and an ARD	During demolition and removal of the Belmont	Section 5.2.4
Relocate dry stone walls	6.6 Engage an experienced dry stone waller to undertake salvage and reconstruction works for dry stone walls C and D	Prior to and during disturbance of dry stone walls	Section 5.3
Update Heritage Management Plan	6.7 Update the current Albion Park Quarry Heritage Management Plan to include the archaeological investigations, removal of “Belmont”, and the salvage and reconstruction of dry stone walls C and D	<u>Prior to the demolition of the Belmont or impact to dry stone walls</u>	This Plan
Source: RWC (2023) – modified after Table A3.1			

2.2 Existing Environment

2.2.1 Background Reports and documents

The existing environment and heritage context of Albion Park Quarry has been assessed in the following reports and documents prepared to support the ongoing Albion Park Quarry extension project Statement:

- Biosis & Cleary Bros, 2017. Albion Park Quarry Heritage Management Plan.
- Cleary Bros, 2018. Belmont Homestead, Croom, Dilapidation Survey.
- Cleary Bros, 2023. Letter response to the Department of Planning and Environment (DPE) (now the Department of Planning, Housing and Infrastructure (DPHI)) RFI8 and RFI9.
- Cleary Bros, 2023. Letter Response to DPEs Request for Information, Noise and Blasting Assessment.
- NSW DPE, 2023. Albion Park Quarry – Stage 7 Extension, State Significant Development Assessment Report (SSD-10369).
- Biosis, 2023. Historic Landscape and Heritage View Impact Analysis. Albion Park Quarry Extraction Area Stage 7 Extension Amendment Report.

- RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension* (Including all relevant Sub-Sections & Appendices submitted for the State Significant Development Determination (SSD) under the EIS primary report heading)

These reports have been referenced to inform this document in regard to existing environment, heritage significance and archaeological potential.

2.2.2 Historical Archaeological Potential

The Environmental Impact Statement Section 6 'Assessment of Issues' sub section 6.7.4.3 Archaeological Assessment and Albion Park Quarry Extract Area Stage 7 Extension Archaeological Report collectively addresses the historical archaeological potential for the 'Belmont' study area and surroundings lands.

The Surveyor-General John Oxley surveyed the Illawarra region in 1816. By 1821, the first five land grants were made to Richards Brooks (Exmouth 1300 acres), George Johnston (Macquarie Gift 1500 acres), Andrew Allen (Waterloo 700 acres), Robert Jenkins (Berkeley 1000 acres), and David Allen (Illawarra Farm 2200 acres). The landlords did not reside on these land grants, they were primarily used for cattle grazing supervised by few stockmen. The general was to become an established dairying landscape, of which the 'Belmont' homestead would form part of¹.

The 'Belmont' homestead dates back to the late 19th or early 20th century when the lands and accompanying buildings changed ownership to local farmer and Shellharbour councillor, Samuel Hercules McDonald.² The dry stone walling, the 'Belmont' homestead and a registered 'milk room' were among the structures known to be present on McDonald's Belmont estate lands. Many of the original structures on the land have since been demolished, however, the study area is likely to contain deposits and potential finds relating to the agricultural and domestic occupation of the Belmont Estate over the past 200 years.³ These archaeological materials associated with the periodic development and construction on the estate may be present within, around or beneath the currently standing structures, including the 'Belmont' homestead. It is likely any archaeological materials found within or beneath the homestead would relate to the former dairy farming industry known to have occupied the land in the early 20th century.⁴

Primary sources of research potential would be associated with the development and land inhabitancy by the Dunster and McDonald families and the agricultural land use taking place on the Belmont estate from the late 19th century through to the late 20th century. These potential archaeological finds would likely contribute to the history and understanding of local dairy and agricultural practices as well as providing comparative data for comparison with regional and national historic dairy and agricultural farming in NSW and Australia from the late 19th and 20th centuries.⁵

The assessment of archaeological potential, shown in [Table 6](#), has been divided into the following three categories:

- High archaeological potential – high degree of certainty that archaeologically significant remains relating to this period, theme or event will occur within the Study Area

¹ RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*, Section 6 Assessment of Issues. P. 92

² RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*, Section 6 Assessment of Issues. P. 92

³ RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*, Section 6 Assessment of Issues. Pp. 92-96.

⁴ RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*, Section 6 Assessment of Issues. Pp. 97.

⁵ RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*, Section 6 Assessment of Issues. Pp. 99.

- Moderate archaeological potential – probable that archaeological significant remains relating to this period, theme or event could be present within the Study Area
- Low archaeological potential – unlikely that archaeological significant remains relating to this period, theme or event will occur within the Study Area

Table 6: Assessment of Archaeological Potential (excerpt from RW Corkery & Co, 2022. Section 6 Assessment of Issues)

Designation	Description	Probable Features	Possible Construction Date	Archaeological Potential
1	'Belmont' Main House	Building footings or foundations, cut and fill deposits, secondary deposits (rubbish pits, cesspits, cisterns, privies), underfloor occupation deposits, yard surfaces, fencing post holes, remains of timber posts and fencing wire	c. 1900	High
2	Stone walls A and B	Wall foundations, associated cut and fill deposits	c. 1912	Nil – removed and reconstructed
3	Farm Building	Building footings or foundations, fencing or structural postholes and associated remnant timber posts, cut and fill deposits, compacted floor surfaces, artefact scatters	Pre-1949	Low – location unknown
4	Silo Pit	Timber and metal structural remains, cut and fill deposits, postholes, organic materials, artefact scatters	Pre-1949	Low – location unknown
5	Garage	Building footings or foundations, fencing or structural postholes and associated remnant timber posts, cut and fill deposits, compacted floor surfaces, artefact scatters, deposits.	Pre-1947	Low
6	Bails and dairy	Building footings or foundations, fencing or structural postholes and associated remnant timber posts, cuts and fill deposits, compacted floor surfaces, artefact scatters, rubbish pits, yard surfaces, fencing post holes, remains of timber posts and fencing wire	Pre-1948	Moderate
7	Feeding Stalls	Building footings or foundations, fencing or structural postholes and associated remnant timber posts, cut and fill deposits, compacted floor surfaces, artefact scatters, rubbish pits, yard surfaces, fencing post holes, remains of timber posts and fencing wire	Pre-1948	Low
8	Engine Room	Building footings or foundations, fencing or structural postholes and associated remnant timber posts, cut and fill deposits, compacted floor surfaces, artefact scatters, rubbish pits, yard surfaces, fencing post holes, remains of timber posts and fencing wire	Pre-1956	Low
9	Dam	Cut and fill deposits.	Pre-1956	Nil

Designation	Description	Probable Features	Possible Construction Date	Archaeological Potential
10	Water Piping	Drainage cut and fill deposits, remnant metal piping	Pre-1956	Low
11	Paddock Fence-lines	Fencing post holes, remains of timber posts and fencing wire	Pre-1956	Low
12	Stone Wall C	Wall foundations, associated cut and fill deposits	Pre-1996	Moderate
13	Stone Walls (outside of study area)	Wall foundations, associated cut and fill deposits	Pre-1996	Moderate
14	Stone Wall D	Wall foundations, associated cut and fill deposits	Pre-1996	Moderate

2.2.3 Significance Assessment

Evaluations and statements of significance were completed for those heritage items identified within the Historic Heritage Study Area which are considered by Biosis (2021c) to hold some archaeological potential. The assessments were made with the assumption that the sites contain intact or partially intact archaeological deposits. As no historical or archaeological information was identified which alters the significance of the 'Belmont', stone walls, figs and coral tree avenue item, it is not necessary to reassess its significance and the statement of significance presented in the Shellharbour Heritage Inventory is still applicable.

"The Victorian Edwardian cusp era weatherboard farm house and adjoining yard complex of Belmont demonstrate how farm homesteads were deliberately sited to have sight lines to Shellharbour port, Kiama, other hilltop homesteads and within the wider cultural landscape. The house, its entry avenue of Coral trees, dry stone walls and isolated fig have local historic, aesthetic, technical and social values.

Belmont, Stone Walls, Figs and Coral tree Avenue is considered to be significant at a local level."

Table 7: Significance Assessment of Archaeological Potential (excerpt from RW Corkery & Co, 2022. Section 6 Assessment of Issues)

Historic Significance Criterion	Bails and Dairy (6)	Garage (5), Feeding Stalls (7), Engine Room (8), Water Piping (10), Paddock Fence-lines (11)
An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area)	No Significance	No Significance
An item has a strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area)	No Significance	No Significance

Historic Significance Criterion	Bails and Dairy (6)	Garage (5), Feeding Stalls (7), Engine Room (8), Water Piping (10), Paddock Fence-lines (11)
An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)	No Significance	No Significance
An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons	No Significance	No Significance
An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area)	Potential for Local Historical Significance	No Significance
An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area)	No Significance	No Significance
An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural or natural places; or cultural or natural environments)	No Significance	No Significance

2.2.4 Built Heritage Items

The proposed works will be taking place within the curtilage of the locally heritage listed 'Belmont' homestead (including: Stone walls, Fig and Coral Tree Avenue) with approved demolition of the 'Belmont' homestead and the other structures removed or relocated. The works are also within an approximate 1 kilometre vicinity of several heritage listed places. A summary of the relevant listings are provided in [Table 8](#), and heritage curtilage mapping in [Figure 3](#) and [Figure 4](#).

Table 8: Summary of Heritage listings within, and within the vicinity of Albion Park Quarry study area

Items within Albion Park Quarry study area (directly affected by project works)			
Listing Name	Listing Register	Listing ID	Significance
Belmont, Stone Walls, Figs and Coral Tree Avenue	Shellharbour LEP 2013	<u>I209</u>	Local
Items within the vicinity of Albion Park Quarry Study area (not directly affected by project works)			
Listing Name	Listing Register	Listing ID	Significance
The Hill Farm Complex	Shellharbour LEP 2013	I022/CR1	Local
Kurrawong, Trees, Dry Stone Walls and Silo	Shellharbour LEP 2013	I024/CR2	Local
St Ives and Fig Trees	Shellharbour LEP 2013	I025	Local
Rosemont Complex Trees and Setting	Shellharbour LEP 2013	I026	Local
Bravella Site Fig Trees	Shellharbour LEP 2013	I177	Local
Memorial, Norfolk Island Pine Trees	Shellharbour LEP 2013	I179	Local
Kyawana	Shellharbour LEP 2013	I281	Local

2.2.5 Belmont Estate Heritage Significant Fabric

Several extant structures from the late 19th century and 20th century Belmont Estate have been evaluated for their heritage significant fabric in the Albion Park Quarry Extraction Area Stage 7 Extension, Historic Heritage Assessment:

- 'Belmont' homestead (main house)
- Garage/storage shed
- Landscape features such as informal outbuildings, fences, dry stone walls and gates

Within the 'Belmont' homestead are several elements considered heritage significant fabric which could be salvaged prior to demolition:

- The large timber beams in the roof
- The timber 4-panelled internal doors
- Timber door frames, timber window frames and servery opening
- Timber skirting boards
- Early light switches
- Wall vents
- Wardrobe
- Metal fireplace
- Bathroom fittings and laundry sink

Table 9: Grading of Significant Fabric

Ranking	Grading	Justification	Status
A	Exception (E)	Recent fabric, which adversely affects the significance of the site	Fulfil criteria for local or state listing
B	High (H)	High degree of original fabric. Demonstrates a key element of the item's significance. Alterations do not detract from significance	Fulfil criteria for local or state listing
C	Moderate (M)	Altered or modified elements. Elements with little heritage value, but which contributes to the overall significance of the item	Fulfil criteria for local or state listing
D	Little (L)	Alterations detract from significance. Difficult to interpret	Does not fulfil criteria for local or state listing
INT	Intrusive (I)	Damaging to the item's heritage significance	Does not fulfil criteria for local or state listing

Table 10: Table of significant Fabric

Ranking	Element Name	Description	Rating
D	Garage/Storage Shed	Dilapidated standing shed with highly corroded metal cladding	Little
B	Dry Stone Walls and Gates	Stone stacked wall constructed without mortar or binding materials	High
B	The large timber beams in the roof	Large structural beams used in the construction of the 'Belmont' homestead internal structure	High
B	The timber 4-panelled internal doors	Timber doors used within the house	High

Ranking	Element Name	Description	Rating
B	Timber door frames, timber window frames and servery opening	Timber door frames and windows built as part of the house structure	High
B	Timber skirting boards	Timber skirting boards built as part of the house structure	High
B	Early light switches	Light switch fixings, potentially original to the early 19 th century	High
C	Wall vents	Gridded wall vents of unknown period	Moderate
C	Wardrobe	Wooden wardrobe built into recessed section of room, potentially original to the homestead's construction	Moderate
C	Metal fireplace	Metal fireplace/hearth fitted to house chimney	Moderate
c	Bathroom fittings and laundry sink	Metal tap fixtures and handles from the bathroom and laundry. Likely stainless steel double sink with integral benchtop	Moderate

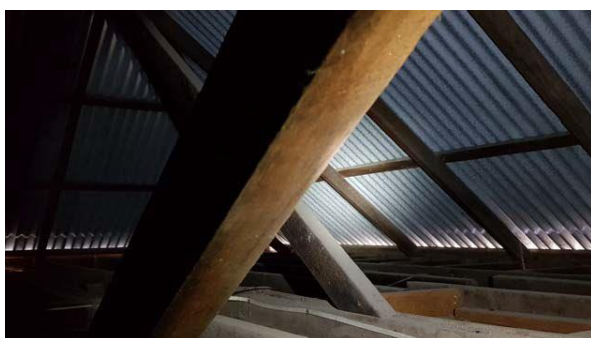


Figure 6: Large Timber Beams in the roof (Source: Design 5, Dilapidation Survey 2018)

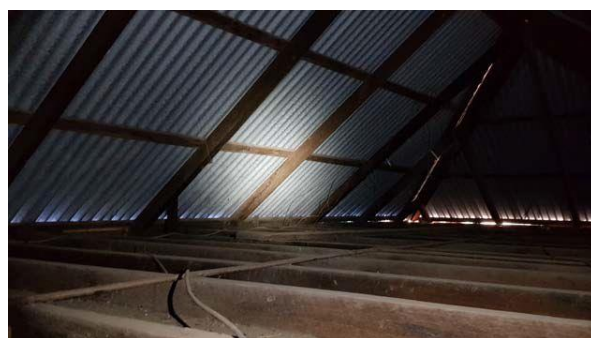


Figure 7: Large Timber Beams in the roof (Source: Design 5, Dilapidation Survey 2018)



Figure 8: Timber 4-panelled internal doors (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 9: Timber window frame Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 10: Timber skirting boards (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 11: Early light switch (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 12: Wall vent (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 13: Wardrobe (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 14: Metal fireplace (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 15: Laundry sink (Source: Cleary Bros. 3D Model – The ‘Belmont’)



Figure 16: Dry Stone walls, relocated to ‘Belmont’ property entrance, outside of development area in 2010 (Source: HMP 2017)

3. Approved Activities

The approved activities include the following ([Figure 17](#)).

- Extension of the current Stage 1 to 6 Extraction Area to include the Stage 7 Extraction Area
- Continued staged extraction of latite, agglomerate and overburden material using free dig and drill and blast extraction methods at a maximum rate of 900,000 tonnes per annum (tpa) of material exported from the Project Area. A total of 21.5Mt of hard rock resource will be extracted over the life of the Quarry
- Continued primary, and on occasion secondary, processing operations within the Project Area.
- Continued transportation of extracted and processed material to Cleary Bros fixed processing plant for further processing
- Continued operation of the Quarry between:
 - 7:00am and 6:00pm Monday to Friday;
 - 7:00am to 1:00pm on Saturdays (to a maximum of 16 Saturdays per calendar year within Stage 7); and
 - at no time on Sundays or Public Holidays
- Operation of the Quarry until 2053
- Rehabilitation of the final landform suitable for agriculture and nature conservation, including establishment and revegetation of:
 - Quarry extraction benches, including reduced height (7m high) faces on the upper western and northern highwalls of the Stage 7 Extraction Area;
 - the floor of the Extraction Area; and
 - two quarry sumps, including a pipeline to ensure the Southern Sump is free draining

Approved activities relevant to this Management Plan include disturbance of the following:

- Demolition of the 'Belmont' homestead and related structures
- Relocation of dry stone walls from within the approved Project Area

In order to retain as far practicable, the heritage values of the 'Belmont', Cleary Bros will undertake the following works prior to, during, and following the demolition of the 'Belmont'

- Prepare a three-dimensional virtual model of the 'Belmont' Homestead, to capture and share the site's heritage values with the community
- Prepare an animated re-creation of the Wentworth Hills and Dunmore Valley Dairy Farming Landscape, assisted by drone photogrammetry to support communication of the heritage values to the public
- Provide relevant stakeholders with opportunities to recover items of interest from the 'Belmont' Homestead
- Undertake an archaeological investigation during the demolition of the 'Belmont' Homestead
- Prepare a comprehensive archival recording of the 'Belmont' Homestead to capture information obtained during the above activities, and share this with Council

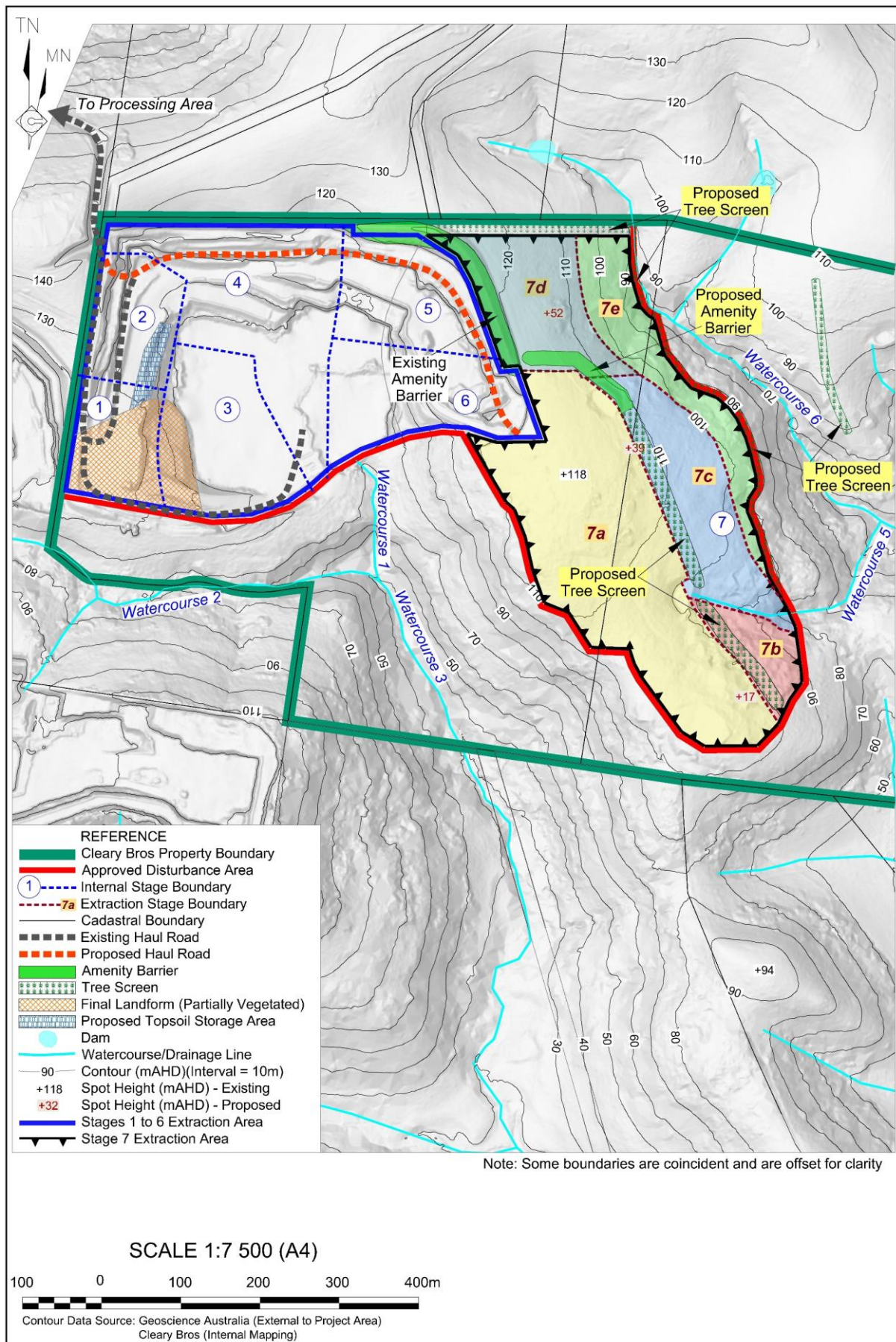


Figure 17: Approved Quarry Site Layout

4. Potential Risks Performance Indicators and Criteria

The following sections of the Historic Heritage Management Plan outlines the procedures, controls and mitigation measures that would be implemented to manage and mitigate historical cultural heritage risks of the project works, and the performance indicators and criteria that will be used for their evaluation. The management measures are based on the mitigation measures compiled from the relevant requirements of the project EIS. The performance indicators and criteria are summarised in [Table 11](#).

Table 11: Performance Indicators and Criteria

Measures	Criteria and Requirements	Plan Section
Historical Archaeological Management	- Investigate the study area and surroundings for potential archaeology - Evaluate the significance of potential archaeology in the study area - Evaluate all SSD conditions regarding Archaeology for the project - Nomination of excavation directors to oversee the initial investigations, demolition works, and any potential unexpected finds during demolition - Produce relevant documentation for any and all unexpected finds during the demolition works for submission with appropriate governing bodies	Sections 5.2 & 5.4
Built Heritage Management	- Evaluation of all SSD conditions regarding the project - Evaluation of the potential and known impacts of the project on the heritage within the study area and within the vicinity of the study area - Evaluate the methodology and planned mitigations of the demolition works against relevant governing and heritage guidelines i.e. SSD conditions and The Burra Charter - Investigate options and interested parties for consideration during the salvage of significant fabrics prior to complete demolition of the 'Belmont' homestead - Identify the conditions for Archival Photographic Records required under the SSD project conditions - Evaluate the components and intention for a Heritage Interpretation Plan to be established prior to the demolition works - Provide a methodology for the planning and pre-demolition works prior to commencement of demolition - Provide a methodology for the demolition works including and evaluation of potential impacts	Section 5.2
Noise, Blast and Vibrational Monitoring	- Identify all noise, blasting and vibrational monitoring limits imposed on the project works in accordance with operational safety under the EIS - Provide a mitigation proposal in the event the noise, blasting or vibrational limits are exceeded during the project works	Section 5.5

5. Management Measures

The project has been approved for the known demolition of the 'Belmont' homestead and all accompanying adjacent structures and landforms situated within the Project Area, under the State Significant Development 10369 and conditions B48-B57 ([Table 4](#)). The historic significance and archaeological potential of the site have been evaluated within the EIS and management plans and measures developed in consultation with the Department of Climate Change, Energy, the Environment and Water (DCCEEW), Shellharbour Council and other stakeholders identified in Section 1.4. These plans would see the management of any finds during demolition in accordance with the Unexpected Finds Procedure and minimise the potential impacts or risks to the nearby heritage.

The Project does pose a known visual impact on the surrounding heritage listed items within the vicinity of the study area. 'The Hill Farm Complex' and 'Figtree Hill' have both been assessed as part of the EIS, Part 3 of the Specialist Consultant Studies Compendium and noted to be at risk of visual impacts as a result of the project works. The demolition and subsequent visual impacts imposed by the project are permissible with the commitment of Cleary Bros to the adoption and implementation of the management and mitigation measures recommended by Biosis in Part 6 of the Specialist Consultant Studies Compendium.

The 'Albion Park Quarry Extraction Area Stage 7 Extension Archaeological Report' and 'Albion Park Quarry Extraction Area Stage 7 Extension, Environmental Impacts Statement, Section 6: 6.7 Historic Heritage' were prepared as part of the EIS for this project.⁶ Based on recommendations from this documentation and the EIS accompanying documentation:

Cleary Bros would implement the following management and mitigation measures in order to avoid any unnecessary adverse impacts on items and sites of historic heritage value:

- 1. Undertake further archaeological investigations, including monitoring for the presence of archaeological deposits or remains during demolition and ground disturbance works in the immediate vicinity of the heritage items. Depending on the nature of the uncovered remains, further excavations may be required. These investigations would:*
 - follow the intent of the Heritage Act;*
 - be conducted by a suitable qualified heritage consultant who meets the NSW Heritage Council's Excavation Director criteria; and*
 - be supported by an archaeological assessment (i.e. Biosis 2021c) and an Archaeological Research Design*
- 2. Engage an experienced dry stone waller to undertake salvage and reconstruction works for dry stone walls C and D*
- 3. Update the current Albion Park Quarry Heritage Management Plan to include the archaeological investigations, archival recording of the Belmont Main House and the salvage and reconstruction method and location of dry stone walls C and D*

⁶ Biosis, 2021. Albion Park Quarry Extract Area Stage 7 Extension: Archaeological Report, Part 5 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd).

5.1 Heritage Interpretation Plan

In accordance with consent requirement B50, prior to the commencement of the demolition of the 'Belmont' homestead and surrounding structures, Cleary Bros prepared a Heritage Interpretation Plan for the 'Belmont' homestead and surrounding farming landscape.

3D Walkabout was commissioned by Cleary Bros to capture and create a digital twin of the existing property on Dunster's Lane, Croom NSW. To best capture the historical values of the property it was proposed to use a variety of technologies to record and capture it, resulting in a complete three dimensional 'digital twin' of it. The key techniques and methods to create the model are described briefly below.

- In the initial phase, on-site data was collected through the use of drone film for exteriors and a 3D scanning camera (Matterport) for interiors. Building a model of the externals required the drone to orbit around the structure in about a 20 - 30 metre radius at an altitude of 20-30m, filming constantly in 3840 x 2160 resolution (4K). This enabled all sides and tops of the subject to be captured. The film was then dissected to create approximately 2000 images which were then processed in photogrammetry software. The photogrammetry allows still images to be turned into a point cloud data file and then reconstructed into a 3D mesh with the image texture applied over the top of the 3D mesh ([Figure 18](#)).
- The interior scan was processed within the Matterport software, with an online virtual tour generated as part of this process. At the same time the scan is made, a 3D model is created from the camera's infrared depth sensors. This model generated using this feature is to scale with the interior photography mapped onto the mesh.
- Information tags and links were added to noteworthy areas to aid interpretation of the heritage values of the property. Cleary Bros engaged an architect with in depth experience of heritage buildings to provide the interpretation to the model, which was then tagged to the relevant feature.
- The interior and exterior models were then combined relative to each other, such that the interior sits inside the exterior, and were brought into the Unreal Engine game engine programs to allow it to be explored by an interested party. The game engine was linked to Bing Aerial maps using an Application Programming Interface (API), with georectification used to ensure the model was correctly aligned and overlaid in the Aerial dataset. Other Open Street Maps (OSM) data was also overlaid such as roadways and train lines.
- Historical aerial imagery for the area was accessed from the NSW Government Spatial Services database. These historical aerial images provide the ability to take the terrain map back in time. This involved making duplicates of the terrain using the OSM data and replacing the image texture of that terrain with the aerial images from 1949, 1963, 1970, 1980, and 1990 ([Figure 18](#)). This has allowed interested parties to observe the changes to the landscape since 1949 through a 3D animated film.
- By combining all this data into a central game engine program, 3D Walkabout were able to create a cinematic film for the surrounding landscape, allowing the user to explore the property at various scales from many kilometres above the earth right down to the property level, while cycling through time to show the evolution of the landscape.

Cleary Bros met with Shellharbour City Council and the Shellharbour Museum representatives (together Council) on 28 November 2023 to demonstrate the preliminary deliverables of the Heritage Interpretation Plan. Cleary Bros sought feedback from Council regarding matters which they would like included in the Plan, as well as enquiring as to how this Plan could best be disseminated amongst the broader community. Council were very supportive of the approach taken, and provided the following feedback to improve the outcome of the Heritage Interpretation Plan.

- Council were supportive of including a link to the model from the Museum website, to support improved integration with the museums resources.

- Including linkages throughout the Plan to relevant content on the Museum website.
- Council suggested to include a Landing Page with instructions on how to use the model, so that novice computer users were able to fully explore the model.
- Include commentary on features outside of the “Belmont” house, including the dry stone walls, fig trees, coral tree avenue, bails/dairy, and the garage/shed.
- Include additional detail and pictures of the outside of the ‘Belmont’ house (note that at the time of the meeting, the exterior model was still in development).

Council also agreed to review the text to be used to support the model, and suggested reaching out to a member of the family who previously owned the property.

Following this meeting, Cleary Bros have updated the model to address each of the comments from Council, and will also develop a brief User Guide to provide instruction on accessing and navigating the model. Cleary Bros have also sent the text to be included in the model to Council for review.

In response to feedback on the draft Historic Heritage Management Plan, Cleary Bros also provided this draft text to the former owners and occupiers of the ‘Belmont’, to improve the depth and accuracy of the captured information. This included the current owners of Figtree Hill who previously occupied the ‘Belmont’, and members of the McDonald and Cody families who previously owned the property. These stakeholders were invited to add to the body of information gathered and presented, commensurate with their level of interest in contributing to the project.

Once the feedback on the text was received, a finalised draft of the Plan was prepared with a link to the Plan on Cleary Bros website. The User Guide was also placed on Cleary Bros website, providing a “Landing Page” for accessing the Plan. Cleary Bros then wrote to the following stakeholders, notifying them of the draft plan on Cleary Bros website, and invited them to provide comments on the Plan:

- Shellharbour City Council;
- Shellharbour Museum;
- All adjoining neighbours;
- The landowner of any listed heritage item within 2km of the Stage 7 area; and
- A member of the former owner of the ‘Belmont’ property.

Following amendments to the Plan as a result of these comments, the model was finalised and placed on the Cleary Bros website (www.clearybros.com.au/belmont) where it is available to the public. Cleary Bros provided Council with a link to the model, which will be hosted on a third-party website. Cleary Bros will ensure that the Plan continues to be available to interested parties for the duration of the Project, and would support the continued access of the Plan beyond this period, noting that it is likely that there will have been significant technological advances in the dissemination of digital information at the time of quarry closure mid-century.

In accordance with consent B51, the Heritage Interpretation Plan was submitted to Council prior to the demolition of the ‘Belmont’ or related structures.

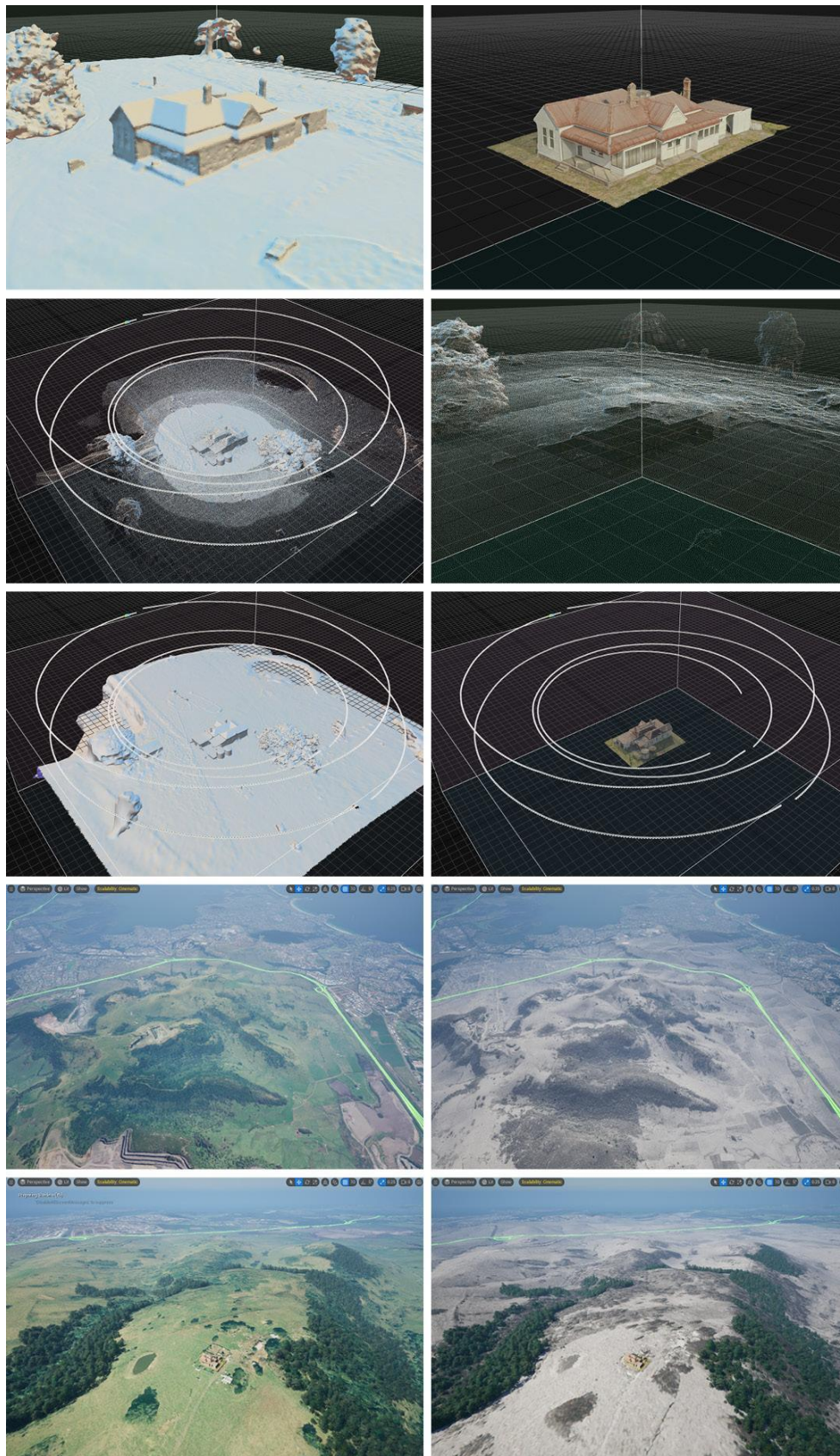


Figure 18: Development of digital twin exterior as part of the Heritage Interpretation Plan

5.2 Built Heritage Management

5.2.1 Methodology for salvage and demolition

The methodologies for the salvage and demolition of the 'Belmont' homestead have been developed and were undertaken, as far as practicable, in accordance with the EIS and all accompanying documentation, and 'Article 3 Cautious approach' of the Burra Charter, which requires "changing as much as necessary but as little as possible". The necessity for demolition of the heritage listed 'Belmont' homestead has been to some degree mitigated by Cleary Bros in accordance with a practical understanding of The Burra Charter and NSW Heritage Office guidelines and the following considerations:

- Initial review and consideration for relocation sites within an appropriate setting
- Heritage reviews and documentation to assess the significance of the 'Belmont' homestead and surrounding lands
- Archival recording and 3D modelling of the entire homestead to virtually record the site prior to demolition
- Hazardous materials assessment prior to any demolition works
- Material salvage opportunity for local heritage site owners/patrons and interested local parties
- Commitment to archaeological monitoring of the site during and after demolition of the 'Belmont' homestead

5.2.2 Planning and pre-demolition works

The major planning and pre-demolition works included:

- Building surveying and cataloguing, including Building Information Modelling (BIM) and any required updates to the Archival Records and 3D model. This informed decision-making and the base for the creation of numbered drawings for the demolition process.
- Investigation of existing timber (i.e. flooring, ceiling, skirting, architraves, windows and roof truss members) and corrugated iron roof sheeting to identify salvageable material and structural integrity of the materials in preparation for salvage where relevant (A register of salvageable materials has been prepared).

5.2.3 Recovery of Heritage Items

In accordance with consent condition B52 from the SSD 10369, Prior to the commencement of the demolition of the 'Belmont' Homestead, Cleary Bros facilitated the recovery of items of interest from the 'Belmont' Homestead. Cleary Bros:

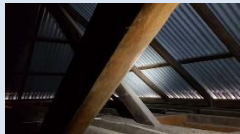
- Provided relevant stakeholders, organisations, and neighbouring landowners with two reasonable opportunities to retrieve items of interest;
- Provided notification of the dates and times available for retrieving items of interest to stakeholders six weeks in advance of the first opportunity to retrieve items of interest; and
- Supported the recovery of items of interest from the 'Belmont' Homestead under the supervision of a suitably qualified Heritage Consultant.

Cleary Bros encouraged stakeholders to recover fabric of 'high' and 'moderate' significance as identified in [Table 10](#) and Table 11. These materials provide historical information about the place, its history and the history of the surrounding area; as such these elements should be salvaged and reused in the surrounding heritage items and/or made available for local historical study and documentation by interested parties. [Table 12](#) provides a schedule of these items prioritised for salvage, including how they were salvaged as part of the demolition of 'Belmont'. These schedules have been informed by an evaluation of the significant items within the building, identified by qualified heritage specialists. Moveable heritage strategy and an assessment

of heritage impacts has also guided the advice given for the items identified for their salvage potential. While these items have been identified for their salvage potential, this salvage schedule was prepared as a guide for the stakeholders only, it is only relevant and actionable if the stakeholders decide to salvage any or all of these items. This schedule is not exhaustive, and some stakeholders chose to salvage items not included on this schedule. Where stakeholders chose to salvage items not listed in the schedule, the qualified tradesperson engaged in the demolition of 'Belmont' took reasonable steps to safely remove and retain the item during the demolition process.

Table 12 Schedule of recommended salvageable items within ‘Belmont’ homestead

(Condition scale: Poor, Fair, Good, Excellent)

Item	Item	Location & Description	Condition	Significance once removed	Potential hazards	Recommendations for salvage methodology
Large Timber Beams in roof		‘Belmont’ homestead, upper roof structure	Good	Little	- Asbestos - Lead paint	- Larger structural beams and any smaller beams in good condition will be available to local interested parties for recovery or display - Materials in poor condition beyond safe repair will be safely discarded - Materials contaminated with asbestos or lead paint will be safely decontaminated if feasible, and if not safely feasible, discarded in accordance with EPA waste guidelines - The items to be recovered will be stored safely on site until the materials can be claimed for recovery by the interested parties
4-panelled internal doors		Throughout the ‘Belmont’ homestead at all doorways	Good	Little	Lead paint	- All relevant doors within the building will be removed in early stages of demolition and be available to local interested parties for recovery or display - Any doors with peeling paint will be handled with care due to the known presence of lead paint - Any doors to be recovered with extensive flaking or powdering paint will be safely decontaminated if possible, or safely discarded in accordance with EPA waste guidelines - The items to be recovered will be stored safely on site until the materials can be claimed for recovery by the interested parties

Item	Item	Location & Description	Condition	Significance once removed	Potential hazards	Recommendations for salvage methodology
Timber window & door frames		Inside 'Belmont' homestead at all window locations	Good	Little	- Asbestos - Lead paint - Broken glass/glass sharding	- All timber window and door frames, and accompanying glass panelling will be available to local interested parties for recovery or display - Any window or door framing with extensive flaking or powdering paint will be safely decontaminated if possible, or safely discarded in accordance with EPA waste guidelines - The items to be recovered will be stored safely on site until the materials can be claimed for recovery by the interested parties
Timber skirting boards		Inside 'Belmont' homestead running the perimeter of the rooms	Good	Little	- Asbestos - Lead paint	- All timber skirting boards will be available to local interested parties for recovery or display - Any skirting boards with extensive flaking or powdering paint will be safely decontaminated if possible or safely discarded in accordance with EPA waste guidelines - The items to be recovered will be stored safely on site until the materials can be claimed for recovery by the interested parties
Early light switches		At varied locations throughout the 'Belmont' homestead	Fair	Moderate	- Asbestos - Lead paint - Loose electrical wires	- All early light switches would be safely removed from the homestead and be available to local interested parties for recovery or display - Any extensively damaged light switches will be safely discarded - The items will be stored safely on site until the materials can be claimed for recovery by the interested parties

Item	Item	Location & Description	Condition	Significance once removed	Potential hazards	Recommendations for salvage methodology
Wall Vents		At varied locations throughout the 'Belmont' homestead	Fair	Little	- Asbestos - Lead paint	- All wall vents will be safely removed from the homestead and be available to local interested parties for recovery or display - Any wall vents with extensive flaking or powdering paint will be safely decontaminated if possible, or safely discarded in accordance with EPA waste guidelines - The items will be stored safely on site until the materials can be claimed for recovery by the interested parties
Wardrobe		Inside 'Belmont' homestead north-eastern bedroom	Fair	Moderate	- Asbestos - Lead paint	- The wooden wardrobe will be assessed by a qualified tradesperson for method of removal during the demolition works - The entire wardrobe will be salvaged with as minimal intervention as possible during the removal to maintain the integrity of the item - The item will be stored safely on site until it can be claimed for recovery by an interested party

Item	Item	Location & Description	Condition	Significance once removed	Potential hazards	Recommendations for salvage methodology
Metal fireplace		Inside 'Belmont' homestead kitchen space	Fair	Little	- Jagged metal - Asbestos - Lead paint	- The metal fireplace will be assessed by a qualified tradesperson to ensure the materials are structurally sound prior to removal - The components of the metal fireplace will be removed in working order where possible to allow for potential reuse - The items will be stored safely on site until the materials can be claimed for recovery by the interested parties
Bathroom fittings and laundry sink		Inside 'Belmont' homestead bathroom and exterior of the house near northern entrance	Fair	Little	- Jagged metal - Asbestos - Lead paint	- The bathroom fittings and laundry sink will be safely removed from the homestead and made available to local interested parties for recovery or display - The items will be stored safely on site until the materials can be claimed for adaptive reuse by the interested parties

The items listed below have been identified by heritage specialists for their salvage potential. This list is not exhaustive. Additional items were identified for salvage by interested stakeholders during the evaluation of the homestead and subject to the same guidance and salvage as the items listed in this Plan. Exceptions included items and materials too hazardous for retention and items or materials too structurally damaged for safe removal and retention by the demolition team (such as those containing asbestos or timbers severely degraded by borers).

Heritage specialist identified items:

- The large timber beams in the roof
- The timber 4-panelled internal doors
- Timber door frames, timber window frames and servery opening
- Timber skirting boards
- Early light switches
- Wall vents
- Wardrobe
- Metal fireplace
- Bathroom fittings and laundry sink

General recommendations for salvaged materials

- a) Salvaged elements identified in this document will be carefully salvaged and stored in a safe and weather-proofed location, in keeping with the requirements of this Plan.
- b) Salvaged elements will be labelled to identify the origin of the element (i.e. room location), or where large volumes of material are salvaged (e.g. roof beams) these will be stored and labelled collectively as components of one larger item from the homestead.
- c) Additionally, a digital register of all salvaged items from the 'Belmont' homestead will be established including accompanying details such as dispersed item locations. This register of salvaged items will be included in the Archival Recording described in Section 6.2.
- d) Salvaged elements in good condition will be stored for a period of 6 months to enable interested stakeholders to claim the items, unless negotiated otherwise.
- e) If an unidentified heritage item or element is identified during demolition, demolition works will stop, and a heritage expert consulted.

Element condition and contamination

A hazardous materials pre-demolition survey was conducted for the 'Belmont' homestead in November 2023 identifying the hazardous materials: Asbestos containing materials, lead containing paint and lead containing dust. In the event these hazardous materials are identified in/on the items for salvage, prior to or during the removal of the item, a contamination expert or hygienist will confirm the nature and extent of any contaminant. For contaminants which can be safely removed under controlled conditions (such as lead paint or bonded asbestos) all reasonable efforts will be made to remove contaminants wherever possible, unless this would be detrimental to the heritage value of the item.

In the event hazardous materials not allow safe handling, or if contaminants cannot be removed from items (such as friable asbestos or lead hydrocarbons which have infiltrated porous materials) then these items will be safely disposed of in accordance with the EPA's Waste Classification Guideline.

Where contaminants cannot be removed without adversely impacting the heritage value of the item, however do not present a significant or immediate risk to persons (such as well bonded lead paint on timber items), it will still be made available for salvage, and the interested party will be required to acknowledge the residual risk when they collect the item.

If elements identified in this report are found to be unsalvageable due to insect damage during removal (e.g. termite, white ant infestation), these items will be disposed of in accordance with the EPA's Waste Classification Guideline.

Identification of Stakeholders

Cleary Bros has identified the following stakeholders who will be invited to participate in the salvage process:

- Shellharbour City Council
- Shellharbour Museum
- The owners of all fence line neighbours adjoining the Project Area (Fig Tree Hill, Porto Santo, Kurrajong, Bravella, Holcim)
- The owners of the "Rosemont" and "St Ives" properties, as non-adjacent landowners of heritage listed properties in the Wentworth Hills – Dunmore Valley heritage landscape.
- Representative of the former owner of 'Belmont'

Cleary Bros also posted a public notice in the local newspaper to inform interested stakeholders of the salvage opportunity, and accepted reasonable unsolicited requests from members of the Shellharbour community who indicated a desire to participate in the salvage process.

Invitation to participate in the Salvage Process

Cleary Bros wrote to each of the identified stakeholders informing them of the opportunity to take part in the salvage process. The notification included two initial inspection opportunities for an escorted visit to the 'Belmont' to identify any items that they may wish to salvage. The notification was sent at least 6 weeks prior to the date of the initial inspection opportunity.

Initial Inspections

Two x 1-hour periods were provided on two different days to allow stakeholders to inspect the 'Belmont' to identify any materials they may wish to salvage. One of the opportunities was during the evening outside of standard business hours to improve accessibility. When on Cleary Bros property, stakeholders were required to follow reasonable directions by Cleary Bros personnel to manage workplace health and safety risks. Stakeholders were asked to nominate in writing those items that they wish to salvage. Nominations must be received no less than a week after the 2nd initial inspection to be considered valid.

Allocating Items with Multiple Requests

Where multiple nominations were received for an item(s), and it would be impractical or detrimental to divide the item(s) between the stakeholder requests, Cleary Bros assigned priority as follows:

1. Current owners of the property.
2. Previous owners of the property.
3. Stakeholders who can demonstrate a clear and continuing connection to the historical development of the property.
4. Shellharbour Council and Shellharbour Museum
5. Owners of heritage-listed properties in the Wentworth Hills – Dunmore Valley Heritage landscape.
6. Other community members.

Limits to Salvage

Cleary Bros reserves the right to limit the salvage of materials under this procedure to small quantities only, providing all stakeholders with the opportunity to retain token items of the building fabric. Cleary Bros will otherwise maximise the reuse and recycling of building materials during demolition in accordance with standard industry practices. Notwithstanding this right, Cleary Bros aimed to maximise the quantity of materials suitable for salvage during the demolition process.

Material Retention

Elements that have been identified by stakeholders for salvage were carefully dismantled, removed, and stored in a safe and weather-proofed location on site, in keeping with the requirements of this report until they are collected by the relevant stakeholders. Salvaged elements were labelled to identify the origin of the element (i.e. room location), or where large volumes of material are salvaged (e.g. roof beams) these were stored and labelled collectively as components of one larger item from the homestead.

Additionally, a digital register of all items salvaged for stakeholders from 'Belmont' homestead was established including accompanying details such as dispersed item locations. This register of salvaged items is included as an appendix to the Archival Recording (refer to Section 6.2).

Salvaged elements in good condition were stored on site until collection by stakeholders.

Material Collection

Following the recovery of all salvaged elements, stakeholders who have nominated an item for retention which could be salvaged were notified and an time for collection of the material agreed.

Unclaimed salvaged materials

All salvageable materials nominated by stakeholders was collected from the site.

5.2.4 Demolition of 'Belmont'

Excavation Director(s)

An Archaeological Research Design (ARD) has been prepared for the project (Biosis 2021c) and is attached as Appendix 1 to this Plan. All archaeological investigations will be undertaken in accordance with the ARD.

Before commencement of archaeological excavation, the Proponent nominated Wendy Thorp, a suitably qualified Excavation Director, who complies with Heritage Council of NSW's Criteria for Assessment of Excavation Director, to oversee and advise on matters associated with historical archaeology for the approval of the Planning Secretary. The Excavation Director was present to oversee excavation where required, advise on archaeological issues, and advise on the duration and extent of oversight required during archaeological excavations consistent with the ARD listed in the 2021 report by Biosis and approved as part of the SEARs.⁷ The Excavation Director would be available in the event of an Unexpected Find being encountered during works. The Excavation Directors would also oversee all archaeological investigations within the approval area.

Archaeological Investigations

In accordance with consent condition B53 from the SSD 10369, demolition works of 'Belmont' was undertaken by an experienced machine excavator or similar equipment up to the floor boards. Once the upper structure has been adequately salvaged (in line with Section 5.2.3) and removed, floor boards were carefully removed by hand, minimising as far as practicable any disturbance to the ground surface below. Following this point in the demolition works, the Excavation Director nominated in Section 5.1 undertook an archaeological investigation of the site (with additional archaeology assistants as may be required). This archaeological excavation was guided by the 2021 Biosis Archaeological Assessment and Research Design provided in Appendix 4 of the 2021 Historic Heritage Assessment.

As per the ARD, the archaeological program involved a combination of monitoring, recording and salvage excavation. The works commenced with monitoring and recording with a possibility of expansion to salvage

⁷ Biosis, 2021. Albion Park Quarry Extract Area Stage 7 Extension: Archaeological Report, Part 5 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.

excavation should more substantial remains be identified. Following the excavation, post excavation analysis was carried out as part of preparation of the final excavation report which has been included with the Archival Report. The report was prepared in accordance with the recommendations of the ARD and current best archaeological practice.

The archaeological investigation consisted of archaeological monitoring of two areas during demolition works, noted as Items 1 and 6 in [Figure 19](#). The following has been quoted from the ARD:

Monitoring Area 1 is located in the area assessed as high potential within the vicinity of Belmont House. Monitoring will consist of the removal by machine excavator of Belmont house up to the floorboards. Once the floorboards have been revealed, a machine excavator will remove these carefully, so the ground surface below is not disturbed.

Monitoring Area 2 is located in the vicinity of the bails and dairy. Monitoring will consist of the removal of material until a sterile layer or archaeological remains are encountered.

Monitoring continued until a sterile layer was encountered. Monitoring was not undertaken for areas of low archaeological potential. These areas will be managed in accordance with the unexpected finds procedure.

The archaeological monitoring identified little subsurface archaeological features, and as such expansion of the excavation areas was not required

All excavation and recording was undertaken in accordance with the procedures set out in the ARD, and best practice guidelines. All archaeological remains were located using detailed survey in GDA2020 and in reference to the established site datum. Survey were reduced to relative levels in AHD. All artefacts were collected on site and subject to post-excavation analysis in accordance with the ARD. Following completion of the post-excavation analysis the artefacts were provided to Shellharbour Museum as described in Section 5.2.3 or disposed of where there was no registration of interest for the item.

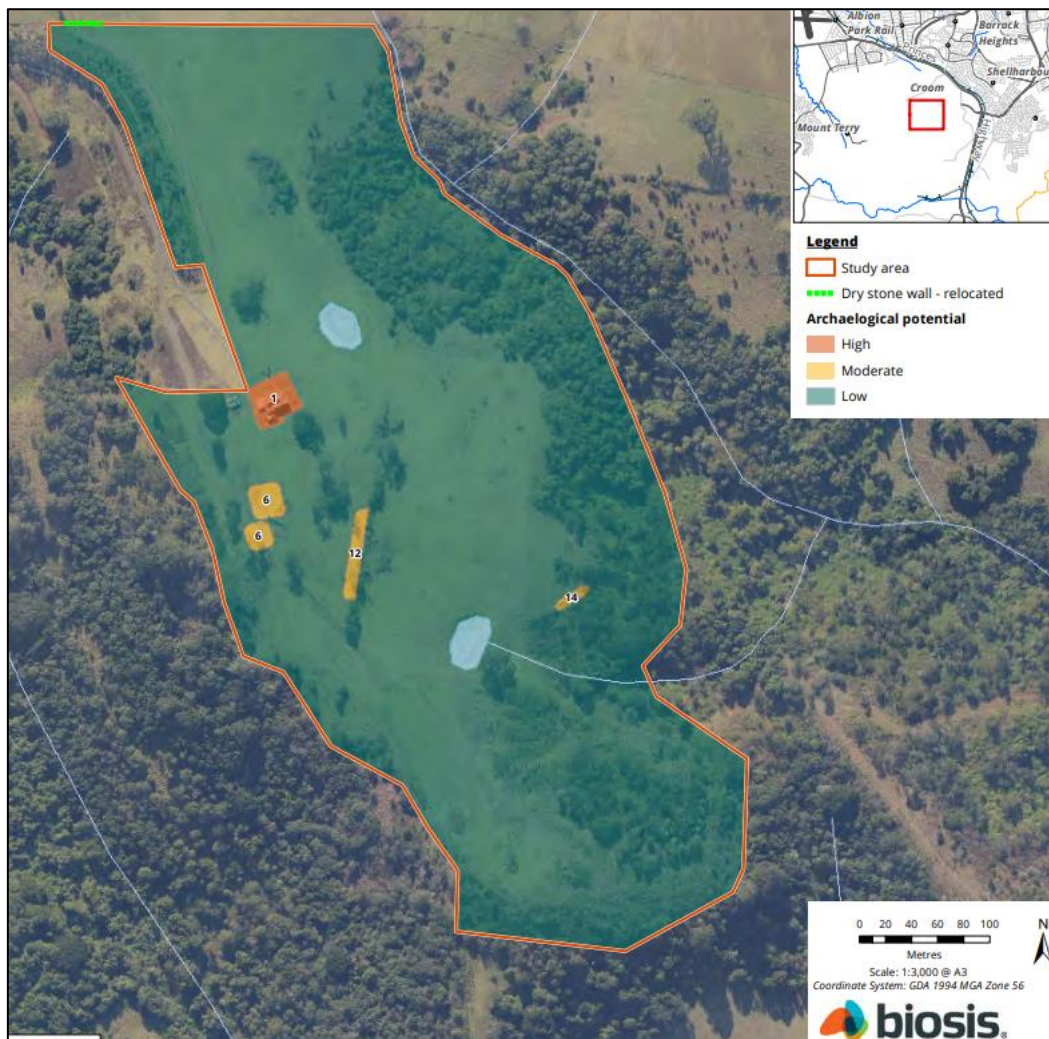


Figure 19: Assessment of Archaeological Potential (Source: adaption from Biosisis Historic Heritage Assessment 2021)

Demolition Process

The major deconstruction works were generally undertaken as follows:

1. Demolition of elements that are identified as being of 'little' significance or 'intrusive'. The demolition of these elements would first separate the structures from any heritage fabric prior to removal by machinery.
2. Install and move scaffolding around the building during the deconstruction works as needed for the salvage of relevant materials.
3. Label and dismantle from the building structure the items identified for salvage and store safely for reuse.
4. Label and carefully dismantle the roof in order to access any structural materials identified for salvage. External scaffolding may need to be erected to safely access the roof and the materials safely stored once removed from the construction site.
5. Ensure all materials of salvage and reuse potential have been removed and safely stored away from the demolition site.
6. Continue with scheduled demolition of the remaining building fabric in accordance with all associated safety and construction procedures.

All recovered timber that is to be retained must be kept dry and should be stored properly after salvage. Larger timber fabric such as roof truss members would be stored off the ground on racks and wrapped. All

timber fabric must be stored in termite proof conditions. Fabric will be tagged with individual identifiers as it is removed from 'Belmont' and is packaged for storage until collection.

The identifiers will be annotated on hard copy plans and/or elevations as fabric is tagged. The annotations will then be recorded in the Archival Record so that hard copy and electronic records are available. The Archival Record will retain all details of recorded fabric in terms of its size and location within 'Belmont', including the unique identifier. Finally, all remaining material not under salvage consideration should be safely demolished and discarded according to the construction industry procedures.

Table 13: Impacts and Mitigation measures

Impact	Cause	Mitigation Measure
Damage to significant fabric during deconstruction	Incorrect deconstruction methodology for masonry leading to cracking, spalling or splitting	Suitably qualified and experienced construction personnel will undertake deconstruction works. The appointed contractor will be briefed on the heritage significance of 'Belmont' prior to the commencement of deconstruction works
	Deviation from deconstruction methodology damaging surrounding significant fabric	Suitably qualified and experienced construction personnel will undertake deconstruction works. Deviations from the deconstruction methodology must be approved by the Project Manager and the Heritage Specialist prior to carrying out any deviation
	Fabric deteriorates due to decay	Investigation works would be undertaken during the pre-construction phase to identify salvageable material and/or suitable replacement materials.
	Improper sequence of deconstruction works	The final sequencing of works will be developed by the appointed contractor with input and approval from the Heritage Specialist, based on the outcomes of the pre-construction work
Damage to significant fabric during salvage (i.e. handling and loading on site)	Incorrect loading onto pallets and/or containers	Suitably qualified and experienced personnel will handle significant fabric and operate equipment Significant fabric would be suitably wrapped to provide protection
	Equipment collides with fabric	Suitably qualified and experienced personnel will operate equipment
	Equipment fails under heavy load	Equipment sized to the weight of pallet with adequate safety factor The maximum number of items assigned to a pallet will be defined
	Note: Transportation off site will be the responsibility of third parties.	
Loss of significant fabric as part of relocation and reconstruction works	Improper methodology of demolition	The demolition methodology will specify structural engineering and architectural requirements (with supporting reports and drawings) for all salvageable material. The methodology will be prepared in accordance with the relevant articles of The Burra Charter and the Heritage NSW guidelines. 'Belmont' will be monitored during deconstruction and demolition in the case of any unexpected finds.
	Fabric deteriorates due to decay	Salvaged fabric will be checked before transportation from salvage storage location, to ensure no fabric is missing or has deteriorated since the previous stocktake. A record and schedule of maintenance procedures is to be prepared and implemented by the building owner

Archaeological Summary Report

Upon completion of the archaeological investigation program a summary report of no more than 500 words was prepared and submitted to Cleary Bros. The summary report would constitute clearance for works to proceed in the area under unexpected finds protocols. A detailed post-excavation report has also been prepared as described in Section 6.3.

The Summary Report will be retained as a record of compliance with the project conditions of consent.

5.3 Relocation and Reconstruction of Dry Stone Walls

There are two dry stone walls (Wall 3 and Wall 4) consisting of a total of three sections within the approved disturbance area, as shown in [Figure 20](#). These sections of dry stone wall will be relocated to extend the existing relocated dry stone wall (Wall 5) at the end of the publicly accessible Dunsters Lane. This will allow the dry stone walls to be viewed by the public on a perpetual basis. The proposed location for the relocated dry stone walls also reduces the impact to the local heritage landscape, by retaining the structure within the landscape.

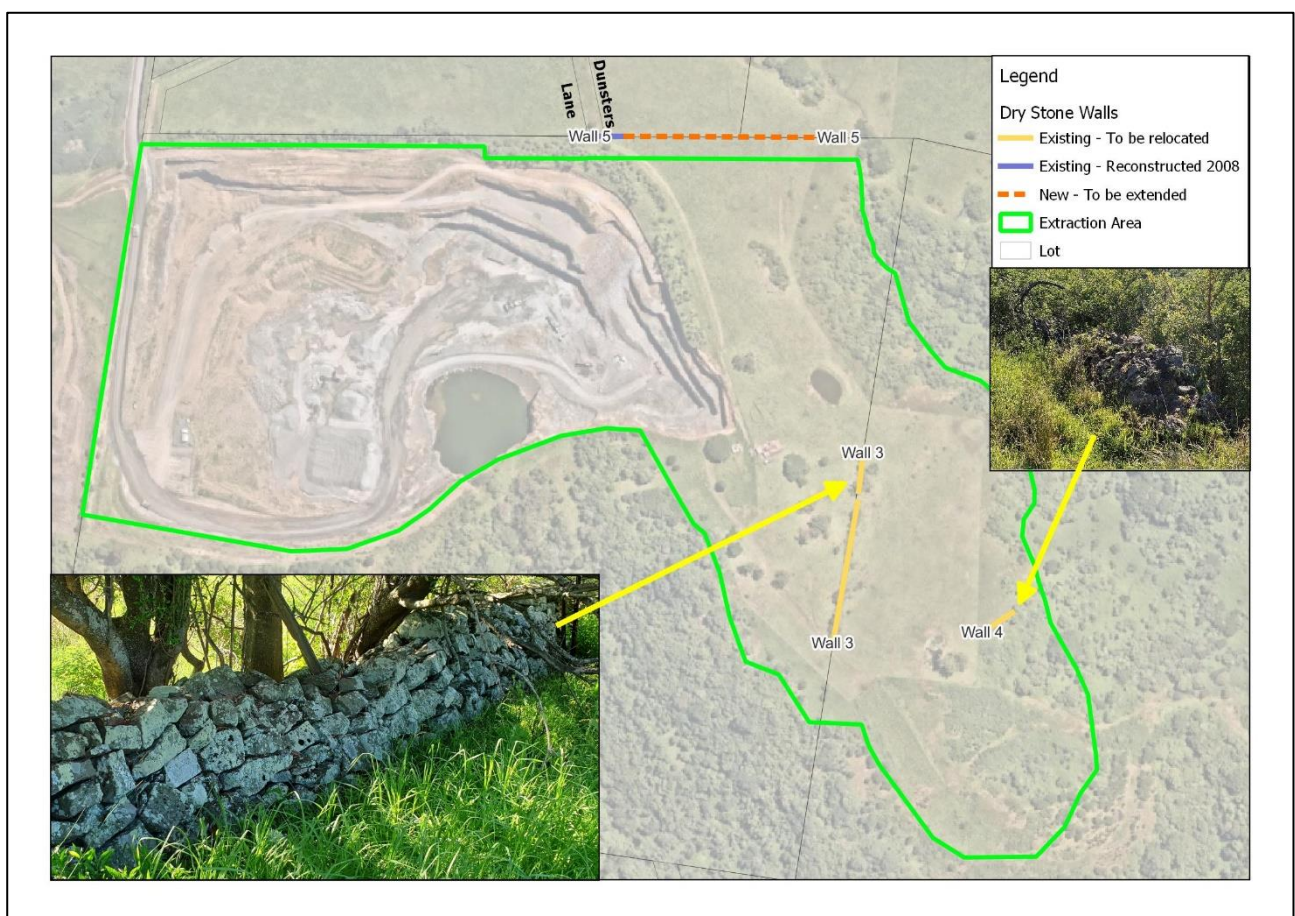


Figure 20: Current dry stone walls and proposed location for relocated dry stone wall.

Prior to the disturbance of any dry stone wall, Cleary Bros will engage an experienced tradesperson who is a member of or certified by the Dry Stone Wall Association of Australia.

The current dry stone walls are shown on [Figure 20](#). The new location for reconstruction of the wall will be an extension of the existing dry stone wall along the boundary with Fig Tree Hill (from the eastern end of this wall).

The dry stone wall tradesperson will oversee the dismantling and transportation of Walls 3 and 4 to the proposed relocation site. The tradesperson will then reconstruct the dry stone wall in line with the local style,

as far as practicable maximising the use of the dismantled materials. Any remaining materials that could not be utilised in the reconstruction will be placed alongside the reconstructed wall in a sympathetic manner.

The reconstructed dry stone wall will be inspected annually by the Quarry Manager or Environmental Officer and a photo included in the Annual Review. This inspection will include an assessment of the current condition of the wall, and propose any maintenance that may be required to maintain the structure of the wall. This may include vegetation maintenance or repair work. Trees and shrubs will be removed as required using herbicide application to prevent root damage to the wall. In the event any part of the wall exhibits structural failure or collapse, Cleary Bros will engage an experienced tradesperson who is a member of or certified by the Dry Stone Wall Association of Australia to undertake the repairs.

The approved dry stone wall builder will also prepare a methodology for the ongoing monitoring and maintenance of the dry stone wall for the life of the Project, to comply with the conditions of consent.

5.4 Unexpected Finds

The conditions of the Development Consent require measures to manage previously unidentified heritage objects. Where additional items are identified, an assessment will need to be made as to the significance of the item. Historical heritage items may include Archaeological 'relics' or other historical items (i.e. works, structures, buildings or movable objects). The Heritage Act defines a relic as:

"...any deposit, artefact, object or material evidence that relates to the settlement of the area that comprises NSW, not being Aboriginal settlement; and is of State or local heritage significance..."

Unexpected relics would include any item of potential heritage significance not identified in the EIS or supplementary Environmental Assessments that may be encountered on site during quarrying activities. This may include any physical objects that relates to the 19th century historic settlement of the site. The following process should be followed with respect to unexpected items:

- Should any suspected historical original items be encountered during works associated with this proposal, works will cease in the vicinity, the DPE notified, a 10m exclusion zone will be erected (temporary fencing/signage) around the find or the outer edge of the find if a larger item, and the find should not be moved until assessed by a qualified archaeologist.
- The archaeologist will investigate and assess the historical item to determine the nature, extent and significance of the find. This will enable recommendations to be provided on how work can proceed and whether any further work is required. The archaeologist should supply written advice to Cleary Bros stating:
 - Determination of whether the find is a historical item.
 - Advice on how the project is to proceed and whether the establishment of any no-go areas is necessary.
 - Recommendation on further works that may be required and timeframe for completion of these works.
- Where the archaeologist identifies the item as a relic of heritage significance, Cleary Bros will notify and provide the archaeologists written advice to the Heritage Council of the find prior to any further disturbance and within 7 days, as per s147 of the *Heritage Act 1977*.
- Where impacts can be avoided, a no-go area will be created around the find based upon the advice of the archaeologist.
- Where the item is determined to be a relic and will be impacted, exclusions under the EP&A Act relating to State Significant Developments negate the requirement for Cleary Bros to obtain a permit

under the Heritage Act. Nevertheless, an assessment will be undertaken in accordance with the NSW Heritage Manual (1996) and its subsequent updates and associated documents.

- The assessment will be provided to the Heritage Council of NSW and the Planning Secretary for review. This will include a statement concerning the find, management measures implemented and notification of any further works arising. Any comments made by the Heritage Council or Secretary will be incorporated into the written advice prior to finalisation and works proceeding.
- In the event that any relic is proposed to be destroyed, Council will be notified and provided with the opportunity to salvage the relic.
- Should any historical item be identified, this will trigger a review of this HMP in accordance with Section 10.
- Work will be able to recommence once further investigations have been completed.
- Where impacts to the site are able to be avoided or mitigated, monitoring of the condition of the site may need to take place.

Following assessment of any unexpected archaeological finds, a written clearance confirmation would be provided by the project archaeologist, alongside compliance with all statutory controls and protections in line with the process described above. Once the written clearance has been received, quarrying would continue under the EMS and Unexpected Finds Procedure.

5.5 Minimising Impacts to The Hill Complex

Condition B54 requires a summary of the potential blast and visual amenity impacts and rehabilitation measures, refer to [Table 4](#) for the consent conditions.

5.5.1 Blasting activities

Section 4 outlines the procedures, controls and mitigation measures that would be implemented to manage and mitigate historical cultural heritage risks of the project works. The Blast Management Plan provides the following statement about minimising impacts to the historical land use and discusses the prevention of damage to heritage structures:

Blast emission data from every blast will be used (via the blast emissions site laws developed from the results of the quarry extension blast monitoring to date) to refine subsequent blast designs in order to control blast emission (ground vibration and airblast overpressure) levels using the near-field site laws, particularly for later blasting in the Stage 7 Extension area when operating closer to residences.

The ground vibration and airblast overpressure criteria for residential receivers nominated in the DC cater for the inherent variation in emission levels from a given blast design by allowing a five percent exceedance of a general criterion up to a (never to be exceeded) maximum. Correspondingly, the “5% exceedance” prediction formulae were generated in the blast emissions site laws. The site laws relating to minimising impacts at receivers are based on providing a statistical 95% confidence that the lower of the levels in the DC will not be exceeded (115dB Linear of airblast and 5mm/s for vibration).

The Maximum Instantaneous Charge (MIC-kg) for blasts will not exceed the mass of explosives given by the then current airblast overpressure site law. Blast design procedures will continue to be implemented with the objective of maintaining the levels of airblast overpressure at the closest residences to below 115dB Linear and protecting people and cattle at all external property boundaries.

The MIC (kg) of blasts in Stage 7 will not exceed the mass of explosives given by the then current combined ground vibration site law. Blast design procedures will be implemented with the objective of maintaining the levels of ground vibration at the closest residences below 5 mm/s.

A permanent blast emissions monitor (ground vibration and airblast overpressure) has been located at the closest inhabited residence to the Project Area, namely the “Figtree Hill” (Residence R1 “The Cottage”) residence, as shown in Figure 3.

The Development Consent blasting criteria have been adopted to minimise the impacts of blasting to human amenity rather than the protection of structures. SLR (2023) determined a conservative vibration damage assessment criterion of 12.5mm/s would be applicable for the prevention of even cosmetic damage to residential structures, and notes that a building of historical value should not (unless it is structurally unsound) be assumed to be more sensitive. As such, the adoption of the development consent blasting criteria will ensure that blasting activities associated with the Quarry minimise any impacts to The Hill Complex.

The Blast Management Plan also states:

A dilapidation survey will be undertaken every 2 years on all structures associated with item I022 (The Hill Complex) listed on the Shellharbour Local Environmental Plan 2013, subject to landowner access arrangements.

Dilapidation surveys at regular intervals as proposed in the Blast Management Plan will allow for the verification of minimal impacts from blasting activities.

The Blast Management Plan also requires the Environmental Officer to inspect all heritage listed structures where there may have been an exceedance of the blasting criteria, with reference to any recent dilapidation report.

5.5.2 Minimising changes to the Visual Landscape of The Hill Complex

Section 4 discusses how the Project may adversely affect the visual landscape of The Hill Complex. The Rehabilitation Strategy includes protocols for minimising changes to the visual landscape of the Hill Complex and has been summarised below.

Visual screens to be established along the northern boundary of quarry excavation – refer to figure showing location. Plantings were undertaken within 2 years of commencing quarry activities using fast growing endemic species, to ensure plantings reach a minimum of 10 metres before the start of Stage 7d, when quarrying will approach the boundary with this property. The planting program has been designed by personnel experienced with bush regeneration and will incorporate drip irrigation to boost growth during drier periods if required (Figure 21). The planting mix will include some slower growing emergent species to provide long term screening beyond quarry closure.

To minimise the impacts associated with the quarry excavation that will be visible over the tree screen, the upper benches of the southwestern extent of the excavation will be specially treated with 7m high faces on the highwalls, separated by 10m wide benches (refer Figure 22). The increased bench width and progressive rehabilitation strategies (as described in the Rehabilitation Strategy) will assist the completed quarry benches to blend into the surrounding rainforest canopy prior to them becoming significantly visible in the later years of the Quarry.

Planting Plan

The following planting plan shows the layout and density of plantings and the installation of irrigation lines:

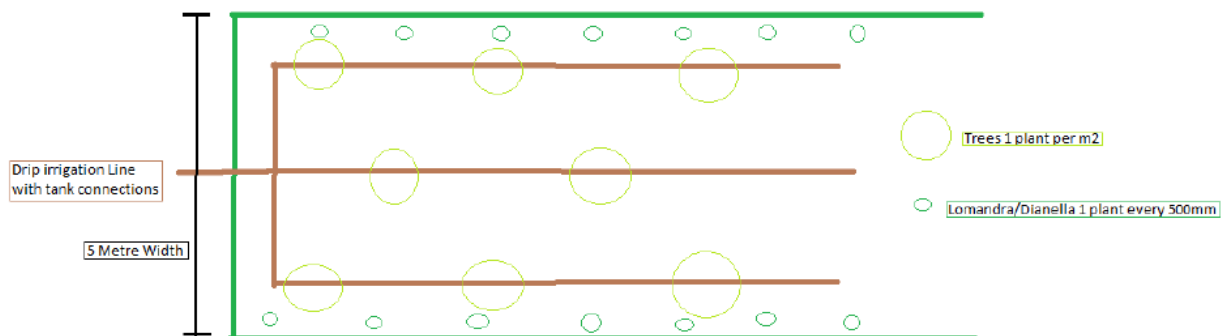


Figure 21: Planting Plan for the vegetation screens

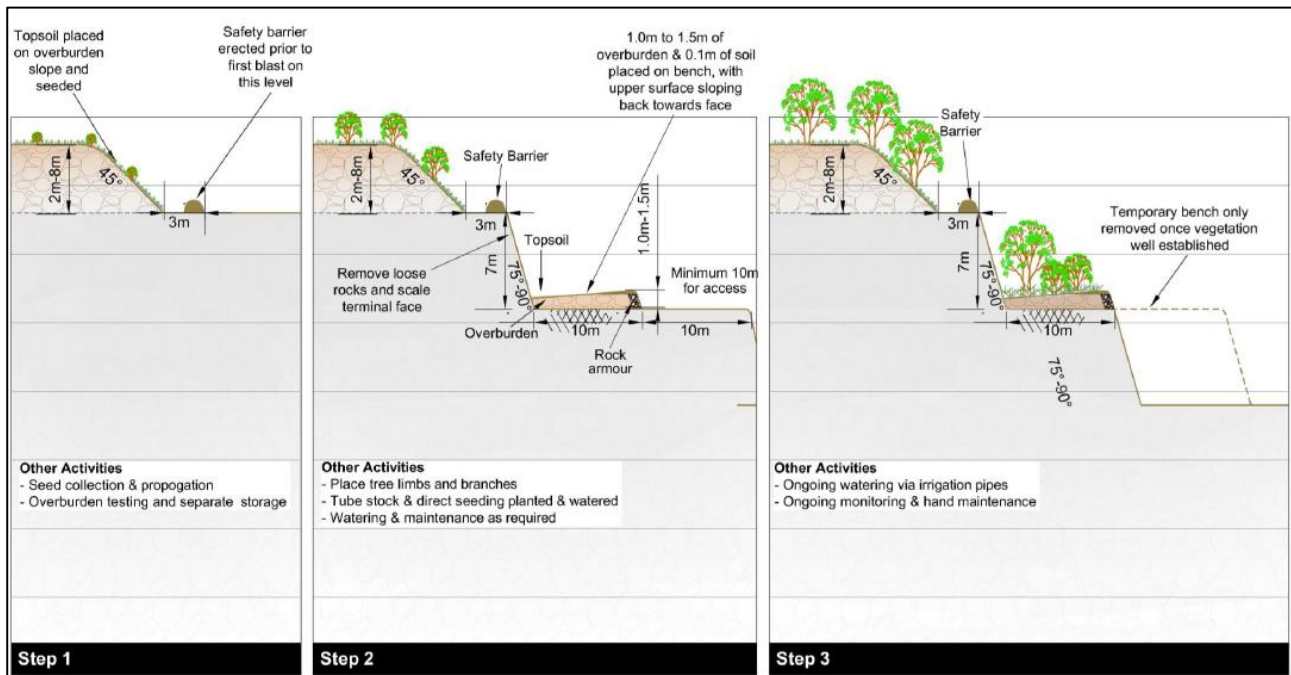


Figure 22: Upper bench rehabilitation schematic

6. Monitoring

Cleary Bros commitment to effective and sustainable rehabilitation would involve an ongoing monitoring and maintenance program throughout and beyond the project life.

6.1 Archaeological Monitoring

The archaeological monitoring consisted of monitoring demolition works within the study area with the aim of identifying and revealing intact archaeological remains which may be present, as is listed in the ARD. The archaeological monitoring consisted of two areas as follows:

- Monitoring Area 1 is located in the area assessed as high potential within the vicinity of ‘Belmont’ house. Monitoring consisted of the removal by machine excavator of ‘Belmont’ house up to the floorboards. Once the floorboards have been revealed, the floorboards were removed carefully by hand, so the ground surface below is not disturbed.
- Monitoring Area 2 is located in the vicinity of the bails and dairy. Monitoring consisted of the removal of material until a sterile layer or archaeological remains was encountered.

The excavation director(s) worked closely with the demolition contractor to establish effective protocols for the protection of archaeological remains. The depth and extent of monitoring works were dependent on the nature of soil conditions within the study area and as such the precise depth and extent of excavations is not known. Monitoring continued until a sterile layer was encountered.⁸ An Archaeological Summary Report has been prepared as part of the demolition process to document the results of the archaeological monitoring as described in Section 5.2.4.

6.2 Archival Recording

Archival photographic recording has been undertaken as part of the preparation of the EIS according to the methodologies of the following documents:

- NSW Heritage Council guideline “Photographic Recording of Heritage Items Using Film or Digital Capture” (2006); and
- NSW Heritage Office publication “How to Prepare Archival Records of Heritage Items” (1998)

Cleary Bros provided the original Archival Recording to Shellharbour City Council for comment on 9 October 2023, and received advice as summarised in [Table 14](#).

Table 14: Summary of Consultation – Archival Recording

Stakeholder	Date	Comments	How Addressed
Shellharbour City Council	30/10/2023	The report is a stage one report as the condition requires an archival record be made during and after the works affecting the heritage item. The stage one report is satisfactory with the exception of the following: i. The report does not show the location of photographs in relation to a floor plan. ii. No floor plan or site plan has been provided.	Agreed The original Archival Report included the photo-points overlaid on a high resolution aerial photo only. The updated Recording will include photo points overlaid on a floor plan as suggested.

⁸ Biosis Pty Ltd, 2021c. Albion Park Quarry Extension: Historic Heritage Assessment, Part 6 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd. P. 72.

Stakeholder	Date	Comments	How Addressed
		iii. Thumb nail images are blurred and difficult to read. As the images in the report were taken in August 2020 an up to date set of images should be taken to supplement the report.	Thumb nail images provide an index of images only. High quality originals will be included in the final report. The homestead is largely unchanged since the August 2020, and as such the photos are still appropriate. Further photography has been undertaken which has been incorporated into the Heritage Interpretation Plan.

The three-dimensional virtual model of the 'Belmont' as described in Section 5.1 also forms part of the Archival Recording. The Archival Recording was updated following the demolition of the 'Belmont' to include the findings from the archaeological monitoring, with the Post Excavation Report described in Section 6.3 appended to the revised Archival Recording. This includes a catalogue of the significant items identified prior to and during the demolition of the 'Belmont', as described in Section 5.2.3.

Within 12 months of the demolition of the 'Belmont', the Archival Recording will be updated with the above additional detail. This update was undertaken by a suitably qualified and experienced heritage consultant endorsed by the Planning Secretary. The draft Archival Recording was then provided to Shellharbour City Council, who did not request any changes to the report, however provided details of the preferred format and number of copies. The Archival Recording has now been finalised, and placed on Cleary Bros website. Shellharbour City Council will be provided with a digital and hard copy as per their request, which is detailed in the finalised report.

6.3 Post Excavation Report

Following the completion of topsoil stripping works covering the areas of Moderate and High Archaeological potential in [Figure 19](#), an archaeological report was prepared that details the particulars of the archaeological investigation, any unexpected finds encountered during works, and the results of the post-excavation artefact analysis (if required). This Post Excavation Report was prepared in accordance with Heritage Council of NSW and Heritage NSW, DCCEEW requirements and guidelines⁹, including:

- NSW Heritage Manual, Archaeological Assessment Guidelines, 1996
- Assessing Significance Department of Planning and Environment, 2023
- NSW Heritage Office, Historical Archaeology Code of Practice, 2006
- Criteria for assessing excavation directors (if applicable)

The Post Excavation Report has been undertaken within 12 months of the completion of archaeological works. The Post Excavation Report was prepared under the direction of the Primary Excavation Director with the following provisions for inclusion in the report:

- An executive summary of the archaeological programme;
- Due credit to the client paying for the excavation, on the title page;
- An accurate site location and site plan (with scale and north arrow);
- Historical research, references and bibliography;
- Detailed information on the excavation, including the aim, the context for the excavation, procedures, treatment of artefacts (cleaning, conserving, sorting, cataloguing, labelling, scale photographs and/or drawings, location of repository) and analysis of the information retrieved;

⁹ HNSW Archaeological guidelines: <https://www.environment.nsw.gov.au/topics/heritage/apply-for-heritage-approvals-and-permits/historical-archaeology>

- Nominated repository for the items;
- Detailed response to research questions (at minimum those stated in the approved Research Design);
- Conclusions from the archaeological programme. The information must include a reassessment of the site's heritage significance, statement(s) on how archaeological investigations at this site have contributed to the community's understanding of the site and other comparable archaeological sites in the local area and any relevant recommendations for the future management of the site information and artefacts;
- Details of how this information about this excavation has been publicly disseminated (for example provide details about Public Open Days and include copies of press releases, public brochures and/or information signs produced to explain the archaeological significance of the site)

The Post Excavation Report is included in the updated Archival Recording described in Section 6.2, a copy of which will be provided to Shellharbour City Council.

7. Management of Compliance

7.1 Incident and Non-Compliance Management

Conditions D8 and D9 of SSD10369 require Cleary Bros to notify the Department of Planning and Environment and any other relevant government agency of incidents or non-compliances with the conditions of the consent.

For the purposes of this Plan, an incident or non-compliance is as follows.

- Incident - An occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance. Material harm is defined as “harm to the environment that:
 - involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or
 - results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000, (such loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment)

Material harm does not include “harm” that is authorised under SSD10369 or any other statutory approval.

- Non-compliance - An occurrence, set of circumstances or development that is a breach of this consent.

An incident and the appropriate incident response in the context of historical heritage are outlined below:

- The unexpected find of an item of historical heritage, other than as part of the processes for identifying and capturing heritage values described in this Plan.
 - Works in the vicinity of the find will stop, the DPE will be notified immediately, and a heritage expert consulted to assess the item and advise on actions required for the item.
 - The unexpected finds procedure will be implemented as described in Section 5.4.
- An Impact to the heritage value of an item listed in the LEP which is greater than that predicted by the EIS.
 - If an impact greater than was predicted by the EIS has the potential to occur to an item listed on the LEP, quarrying activities related to the potential impact will stop and a heritage expert consulted to assess the potential impacts.
 - Where alternative management strategies can be implemented to ensure impacts are in line with what was predicted in the EIS, the HHMP will be updated to include these strategies and submitted to the Planning Secretary for approval prior to continuing the relevant quarrying activities.
 - Where alternative management strategies cannot be implemented to ensure impacts are commensurate with the EIS predictions, then Cleary Bros will consult with the Planning Secretary regarding the matter.
- Any works associated with the Project which are undertaken not in accordance with the processes described in this Plan.

- If a circumstance arises where the proposed works require deviation from this Plan, all works that deviate from the Plan will stop, and a heritage expert consulted to provide advice on how to proceed.
- The HHMP will be updated and approved by the Planning Secretary prior to recommencing the affected works.

7.2 Annual Review, Reporting and Publishing

An *Annual Review* must be prepared and submitted to the Department by 30 September each year addressing the matters identified in Condition D10 of SSD10369. The *Annual Review* will include all heritage-related activities undertaken in the 12-month period to the preceding 30 June, as well as activities proposed to be implemented for the following 12-month period.

The Annual Review will include information relevant to:

- Activities undertaken during the year, and activities planned to be carried out over the next year.
- A review of all monitoring results associated with this plan, including how they compare to the limits and performance criteria identified in this plan, the risk assessment in Section 4, previous years monitoring results, the predictions from the EIS, and any trends observed.
- Details of compliance and any non-compliance with the conditions and the plans, and any incidents.
- Details of any complaints received, and how Cleary Bros has responded to them.
- Any discrepancies between the observed impacts of the Quarry and that predicted by the EIS.
- Any measures that will be implemented in the next year to improve the environmental outcomes of the Quarry.

The Annual Review will be uploaded to the Planning Portal or otherwise submitted to the Planning Secretary in line with the current submission process.

In accordance with condition D15 of SSD 10369, Cleary Bros will make the following information and documents publicly available on their website:

- the EIS;
- all current statutory approvals for the Quarry;
- all strategies, plans and programs required under the conditions SSD 10369;
- any strategy, plan, or program developed in accordance with the EIS or the conditions of this SSD 10369.
- the proposed staging plans for the Quarry;
- minutes of CCC meetings;
- regular reporting on the environmental performance of the Quarry in accordance with the reporting requirements in any plans or programs required by the conditions SSD 10369;
- a comprehensive summary of the monitoring results of the Quarry, reported in accordance with the specifications in any conditions of SSD 10369, or any strategies, plans and programs;
- a summary of the current phase and progress of the Quarry;
- contact details to enquire about the Quarry or to make a complaint;
- a complaints register, updated monthly;
- the Annual Reviews of the Quarry;
- audit reports prepared as part of any Independent Environmental Audit of the Quarry and the Cleary Bros' response to the recommendations in any audit report; and
- any other matter required by the Planning Secretary.

All information will be regularly updated.

8. Plan Review and Continual Improvement

8.1 Independent Environmental Audit

In accordance with Condition D11 of SSD 10369 and Condition 25 of 2020-8871, Cleary Bros will engage a third party to undertake an independent environmental audit of the conditions of these approvals and the implementation of the Historic Heritage Management Plan. The first audit will be undertaken within 12 months of commencement of quarrying activities under SSD 10369, and will be undertaken every three years thereafter. The Independent environmental audit will be undertaken as per the process described in the Environmental Management Strategy.

In accordance with D12 of SSD 10369, Cleary Bros will review each Independent Environmental Audit and submit a response to the Planning Secretary and any other relevant agencies. The response will include a timetable for the implementation of the recommendations of the Independent Environmental Audit. The Independent Audit Report and Response will be made available on the Cleary Bros' website within 60 days following submission to the Planning Secretary.

8.1 Plan Review

In accordance with Condition D6 of SSD-10369, this Management Plan will be reviewed and, if required, revised within 3 months of any of:

- the submission of an incident report related to historic heritage under Condition D8 or D9;
- the identification of any unexpected finds as described in Section 5.4;
- the submission of an Annual Review under Condition D10;
- the submission of an Independent Environmental Audit under Condition D11;
- the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or
- notification of a change in development phase under condition A14

This review will include the adequacy of strategies, plans and programs as required under the SSD-10369.

9. References

- Australia International Council on Monuments and Sites (ICOMOS) (2013). The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance.
- Biosis Pty Ltd, 2019. Albion Park Quarry Extension: Aboriginal and Historical Heritage Scoping Report.
- Biosis Pty Ltd, 2021a. Albion Park Quarry Extension: Aboriginal and Cultural Heritage Assessment, Part 5 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd, 2021b. Albion Park Quarry Extension: Archaeological Report, Part 5 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd, 2021c. Albion Park Quarry Extension: Historic Heritage Assessment, Part 6 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd, 2021c. Albion Park Quarry Extension: Historic Heritage Assessment, Part 6 of the Specialist Consultant Studies Compendium, Appendix 4: Archaeological Research Design, prepared for Cleary Bros (Bombo) Pty Ltd.
- Biosis Pty Ltd, 2021d. Albion Park Quarry Extension: Archival Report, Part 6 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Cleary Bros (Bombo) Pty Ltd, 2017. Albion Park Quarry Heritage Management Plan, November 2017.
- Cleary Bros (Bombo) Pty Ltd, 2017. Albion Park Quarry Rehabilitation Management Plan, October 2017.
- Cleary Bros. 3D model – The Belmont, Croom NSW (Available at: <https://my.matterport.com/show/?m=x16ryHn8UuM>).
- Design 5, 2018. Belmont Homestead, Croom: Dilapidation Survey.
- Department of Environment, Climate Change and Water (DECCW), 2010a. Aboriginal Cultural Heritage Consultation Requirements for Proponents, April 2010.
- Department of Environment, Climate Change and Water (DECCW), 2010b. Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales.
- Element Environment, 2022. Social Impact Assessment, Part 10 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Gillespie Economics Pty Ltd, 2022. Economic Impact Assessment, Part 9 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Jacobs Group (Australia) Pty Limited, 2021. Albion Park Quarry Extension: Groundwater Assessment, Part 8 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Minister for Planning and Public Spaces, 2023. Development Consent: State Significant Development (SSD) 10369: Albion Park Quarry Stage 7 Extension.
- Niche Environment and Heritage Pty Ltd (Niche), 2022. Albion Park Quarry Extension: Biodiversity Development Assessment, Part 4 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- Northstar Air Quality Pty Ltd, 2022. Albion Park Quarry Extension: Air Quality Assessment, Part 1 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.
- NSW Heritage Council, 2001. New South Wales Historical Themes.
- NSW Heritage Office, 2001. Assessing Heritage Significance.

R.W. Corkery & Co. Pty Limited (RWC), 2022. Albion Park Quarry Extension: Visual Impacts Assessment, Part 3 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.

RW Corkery & Co, 2022. *Environmental Impact Statement for the Albion Park Quarry Extraction Area Stage 7 Extension*. Available at: <https://www.planningportal.nsw.gov.au/major-projects/projects/albion-park-quarry-stage-7> (Accessed 24 October 2023).

Tonin, R. 2015. Albion Park Rail Bypass Noise and Vibration Assessment, prepared on behalf of NSW Roads & Maritime.

Shellharbour City Council, 2013. Local Environmental Plan.

SLR Consulting Australia Pty Ltd (SLR), 2022a. Albion Park Quarry Extension: Noise and Blasting Assessment, Part 2a of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.

SLR Consulting Australia Pty Ltd (SLR), 2022b. Albion Park Quarry Stage 7 Extraction Area Removal of Northern Amenity Barrier Noise Impacts, Part 2b of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.

SLR Consulting Australia Pty Ltd (SLR), 2023. Response to DPEs Request for Information. Noise and Blasting Assessment. Albion Park Quarry Extraction Area Stage 7 Extension, dated 13 March 2023, prepared for Cleary Bros (Bombo) Pty Ltd.

Strategic Environmental and Engineering Consulting (SEEC), 2022. Albion Park Quarry Extension: Soil and Water Assessment, Part 7 of the Specialist Consultant Studies Compendium, prepared for Cleary Bros (Bombo) Pty Ltd.

TfNSW, 2019. Unexpected Heritage Finds Guideline. Available at: <https://www.transport.nsw.gov.au/sites/default/files/media/documents/2019/unexpected-heritage-finds-guideline-3tp-sd-115.pdf> (Accessed 24 October 2023).

Appendix 1 – Archaeological Research Design

Appendix 4 Archaeological research design

This research design describes the methodology to be used for the archaeological monitoring and, if required, subsequent expansion and monitoring tasks.

Monitoring timeframes

Areas of high and medium archaeological potential within the study area are to be subject to a program of monitoring as part of the on-site demolition works associated with Belmont house and initial bulk excavation of the site. Should intact archaeological remains be identified, the excavation and recording techniques detailed in the section below will be undertaken. Should substantial archaeological remains be located, the excavations will cease once the nature of the structural and depositional archaeological remains has been established.

Premises of investigation

There are three premises that underlie the strategy outlined in this section for a program of excavations:

- The monitoring program is designed to locate specific archaeological sites that have been identified. The objective of the work is to determine the extent to which archaeological remains are still present within the study area and how these will be impacted upon by the proposed development.
- If intact archaeological features or deposits are revealed within any monitoring area then sufficient work will be undertaken to determine as far as possible their likely context or association and date.
- Once the nature, extent and significance of archaeological remains within the study area have been established, the viability and necessity of salvaging of archaeological remains can be considered. Should archaeological remains be encountered which require salvage, this will be undertaken in accordance with the methodology presented in this research design.

Research questions

The purpose of the research design is to clearly articulate the anticipated outcomes from the program of work, what questions we are asking of the program and how the work would be undertaken to address these questions. Several questions are proposed as the operating framework. These are:

- Are archaeological remains associated with Belmont present within the study area? If so, what is their nature, extent, condition and likely significance?
- Can distinct underfloor deposits be identified within the footprint of Belmont house?
- To what extent does the study area contain archaeological remains relating to the bails and dairy? Are sufficient archaeological profiles present so as to establish dates or specific associations for archaeological evidence revealed to it?
- If remains have survived of the bails and dairy, do they indicate how these buildings were constructed? What materials and techniques were used? How does this compare with other dairies identified in NSW dating to a similar period?

- Are there any in-situ archaeological deposits associated with the bails and dairy which may provide information on its use during the early 20th century?
- Are sufficient archaeological profiles present so as to establish dates of the bails and dairy or specific associations to Belmont house for archaeological evidence revealed in them?
- If present, what can depositional remains from the study area tell us about the social and economic conditions experienced by tenant farming and the operation of rural estates?

Methodology

Archaeological Monitoring

The archaeological monitoring will consist of monitoring demolition works within the study area with the aim of identifying and revealing intact archaeological remains which may be present. The archaeological monitoring will consist of two areas as follows:

- Monitoring Area 1 is located in the area assessed as high potential within the vicinity of Belmont House. Monitoring will consist of the removal by machine excavator of Belmont house up to the floorboards. Once the floorboards have been revealed, a machine excavator will remove these carefully so the ground surface below is not disturbed.
- Monitoring Area 2 is located in the vicinity of the bails and dairy. Monitoring will consist of the removal of material until a sterile layer or archaeological remains are encountered.

The excavation director(s) will work closely with the demolition contractor to establish effective protocols for the protection of archaeological remains. The depth and extent of monitoring works will be dependent on the nature of soil conditions within the study area and as such the precise depth and extent of excavations is not known. Monitoring will take place until a sterile layer or archaeological remains are encountered.

Expansion of excavation areas

Based upon the results of the monitoring it might be determined necessary to expand the excavation areas to encompass a larger portion of the study area. For example, it may be necessary to widen the excavation areas to allow these archaeological features to be fully investigated and recorded. In the event that expansion of the excavation areas is warranted, this will be undertaken to reveal the extent of all archaeological remains subject to investigation.

Excavation will be undertaken through a combination of machine excavation and conventional manual archaeological techniques. Should intact archaeological structures or deposits be exposed then machine excavation will cease and the archaeological material will be investigated by the conventional manual techniques under the direction of the nominated excavation director.

Areas of low archaeological potential

Monitoring is not proposed for areas of low archaeological potential. However, it is possible that there are phases of occupation that may not be readily identifiable in the documentary record and/or discrepancies in the extent of disturbances, which may result in intact archaeological remains being present. An unexpected finds protocol should be implemented in this instance.

Excavation and Recording Techniques

Excavation would be undertaken using standard archaeological techniques, with the aim of removing each stratigraphic layer (or context) in the order in which it was deposited. All monitoring will be undertaken in accordance with the following methodology:

- Should identifiable modern fills be encountered within the trenches these deposits would be machine excavated until occupational or natural depositional horizons were encountered. All machine excavators would use a straight-edged mud bucket to scrape back the deposits which cap archaeologically significant structural and depositional remains and this work would be supervised and directed by the Primary Excavation Director at all times.
- All excavation would be conducted in stratigraphic sequence; the reduction of all occupational/natural deposits would be by stratigraphic unit. This would be undertaken using either machine or hand excavation.
- Excavation would be undertaken until natural deposits are encountered or a suitable depth is reached which would allow activity to proceed or where it is determined that further excavation would not yield beneficial diagnostic information.
- Where individual rooms contain subfloor deposits, they will be excavated by hand and sieved. The rooms will be assigned separate context numbers and all finds will be allocated an X-Y-Z coordinate to identify their location and possible associations.
- Should any historical archaeological structures, features or artefacts be identified, excavation would cease and these would be investigated to establish their nature, extent and significance. Should archaeological remains be encountered which are thought to be potentially of local or state significance these remains would be recorded.
- All hand excavated material will be sieved with a 3mm sieve.
- Artefacts would be collected and bagged with reference to their stratigraphic location.
- The following recording system is based upon that described in the first Port Arthur Manual and would employ the following recording mechanisms:⁵³
 - The location would be recorded by the Site Planner with a DGPS. Surveying techniques to establish the location of archaeological deposits and features would be undertaken.
 - A survey control for the site would be established, including main and subsidiary datums, a grid system tied to the Map Grid of Australia and the development grid, as well as the cadastre. Further datums for vertical control would be established to allow all trenches to be surveyed in to a nearby point. These would be tied back to Australian Height Datum.
 - Stratigraphy and archaeological features would be recorded through the preparation of plans and sections. Structural elements such as brick walls and timber posts would be recorded *in situ* to observe phases in construction. It may be necessary to sample archaeological deposits to understand their significance and research potential but this would only be undertaken where necessary.

⁵³ Davies et al. 1987

- Rubble fill would only be recorded where it provides specific information regarding masonry and construction (i.e. wall finishes, material etc.).
- A comprehensive digital photographic record would be prepared (following the Photographic recording of Heritage Items using Film or Digital capture).⁵⁴
- The stratigraphic relationships between contexts would be described through the compilation of a Harris Matrix for each test trench.⁵⁵
- Analysis of fabric and detailed recording of the remains on context sheets would be conducted in according to best practice standards.

Protocol for finds and conservation

Any artefacts recovered from the excavation would be recorded as inclusions in specific contexts. The artefacts would be retrieved from the site, stored in labeled context boxes and analysed within three months of the completion of the excavation. The latter would include cleaning, cataloguing and photography where appropriate. The artefact catalogue and an analysis would be included in the excavation report. The artefacts would be lodged with an appropriate repository depending on the significance and conservation requirements of the artefacts encountered.

During field work

A simple digital archaeological database will be used as the cataloguing and inventory software for artefacts.

Primary artefact processing (sort into fabric / wash, brush or other cleaning / raw counts / labelled bagging / data entry) is to be undertaken as part of the field program. This will necessitate an artefact processing 'lab' being set up in the field. As far as possible, artefact cleaning and cataloguing will occur on site during the excavation. The cataloguing will be a simple catalogue of material by type and context.

The collection as a whole would then be evaluated in connection with the results of the excavation to develop a plan for further artefact analysis. This will allow the artefact analysis to focus on artefacts from relevant stratigraphic contexts.

Post-excavation analysis

Specific artefact processing routines are to be developed for all artefact types. As an example, glass will be primarily sorted by colour into black cylindrical / black case / olive – green tint / clear / etc. The next stage of sorting will be minimum number of individual (MNI) counts for defined aggregates of stratigraphic units. Specialist analyses will then be undertaken on classes of material [(fabric type or artefact function)], with all data being added to the database.

Authoritative and experienced analysts will be sought to undertake typological and descriptive work if available, or to peer review the analysis. Provision will also be made for students and researchers to catalogue parts of the collection under supervision.

Assemblages from each element will be described in terms of their quantity, representation of different fabric and forms and other broad descriptive characteristics. More importantly, the assemblages will be interpreted according to possible functional evidence of how people lived and interacted with each other. This form of

⁵⁴ NSW Heritage Office 2001

⁵⁵ Harris 1979

analysis is qualitative rather than quantitative, relying upon interpreting how artefacts are used in their social context.

Collection management policy

Artefact material recovered would be analysed and the results incorporated into the excavation report to address the specified research questions. Different retention methods and processing depending on their information potential may be applied. This would be determined by the Primary Excavation Director.

If required, a materials conservator would be engaged to assist in preparing artefact processing and storage protocols and for advice on recovery of delicate remains.

Hazardous materials would be photographed and discarded appropriately at a waste facility licensed to accept the type of material in accordance with Health, Safety, Environment and Community guidelines.

Building materials would be recorded photographically and catalogued and a small sample of items kept for further analysis and the remaining items discarded.

Once the scope of the artefact collection is established, a further discard policy may be developed in consultation with Heritage NSW to identify which materials are to be discarded, retained only as samples, retained for long-term storage and retained for possible display. Following confirmation of the policy, the collection may be culled and the remainder prepared for long-term storage.

The Applicant would negotiate with relevant heritage groups (e.g. local historical society) to establish the preferred recipient of the permanent artefact collection regarding storage, conservation, curation and display of the collection.

Report production

Biosis would produce a report which complies with the requirements of Heritage NSW. Dependent on the findings of the excavation, the final archaeological report would include:

- The compiled results of areas investigated and contexts or units encountered.
- A stratigraphic matrix and discussion of the site's phasing.
- GIS and CAD mapping where appropriate to illustrate the findings.
- A detailed description of the excavation results including discussion on phasing and possible land use.
- An artefact catalogue compiled on a commercially available computer database designed to reflect the research questions.
- A functional analysis of artefacts uncovered with reference to their provenance and pertinence to research questions.
- A synthesis of results to allow for comparison to other sites.
- Additional historical research to aid understanding of the archaeological evidence.
- A detailed interpretation of the results and addressing of the research questions.
- Illustration of significant artefacts in drawn or photographic form, and a photographic archive of excavation in progress.

Cleary Bros (Bombo) Pty Ltd
Albion Park Quarry Extraction Area Stage 7 Extension

Copies of the excavation report would be lodged at appropriate research libraries and with Heritage NSW

Excavation personnel

Biosis' proposed excavation team would be led by Fiona Leslie (Principal Heritage Consultant, Mountains Heritage) as Primary Excavation Director and Maggie Butcher (Consultant Archaeologist, Biosis) as Secondary Excavation Director. Biosis' heritage team would assist in the excavation as required.