A.6 Construction Noise and Vibration Management Sub-plan (CNVMSP)

Jindabyne Education Campus

Construction Noise and Vibration Management Sub Plan

Hansen Yuncken

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1 INTRODUCTION

Pulse White Noise Acoustics (PWNA) has been engaged to prepare a Construction Noise and Vibration Management Sub Plan (CNVMSP) for the construction activities to be undertaken as part of the Jindabyne Education Campus project including Item B17 of the project approvals including the SSD-15788005.

This assessment has been undertaken based on the previously completed by SLR including the *Jindabyne Primary and High Schools, SSDA Acoustic Report* with reference: 610.30436-R01-v0.3 and dated 3 December 2021, which has been included in the project submission and details background noise levels at the site.

A glossary of acoustic terminology used throughout this report is included in Appendix A.

The author of this report is a director of Pulse White Noise Acoustics who is a member of the Australian Acoustic Society, details including Ben's CV and membership of the AAS are included in Appendix B.

1.1 Site Layout and Development Overview

The proposed development is for the construction of the Jindabyne Education Campus comprising a new primary school and a new high school at Jindabyne (the proposal). The proposal is located within the JSRC located at 207 Barry Way (the site) and will accommodate approximately 925 students with the capacity for expansion in the future.

The new primary school will be located generally in the northern portion of the site whilst the new high school will to the south of the site. While the schools are inherently separate identities, with separate student entries, opportunities for integration are provided in a central shared plaza with co-located school administration facilities. This outdoor learning space is activated by the school canteen (shared) and separate core facilities including the primary school hall and library, and the high school gym and library, and provides opportunities for shared community use.

The new primary school will provide for a Core 21 school. This will comprise of 20 home base units and 2 support learning units, administration and staff facilities, covered outdoor learning area (COLA), hall, staff and student amenities, out of school care facilities, library and special programs. Landscaped areas include active and passive open space play areas, and a games court.

The new high school will provide for a stream 2 high school. This is to comprise of 20 general/specialised learning spaces and support learning units, administration and staff facilities, covered outdoor learning area (COLA), hall, staff and student amenities, library, an agricultural learning unit. Landscaped areas include active and passive open space play areas, a sports field and multipurpose games courts.

A new access driveway is proposed off Barry way Road along the western boundary of the site and includes car parking, bus and private vehicle drop-off zones, and delivery zones.

Details of the Jindabyne Education precinct site are detailed in Figure 1 below.

The works to be undertaken as part of the SSD-15788005.

The nearest sensitive receivers to the site including residential and a hotel receivers, including the following:

Receiver 1: Residential receiver to the South of the site at 218 Barry Way, Jindabyne, approximately 150m from the site.

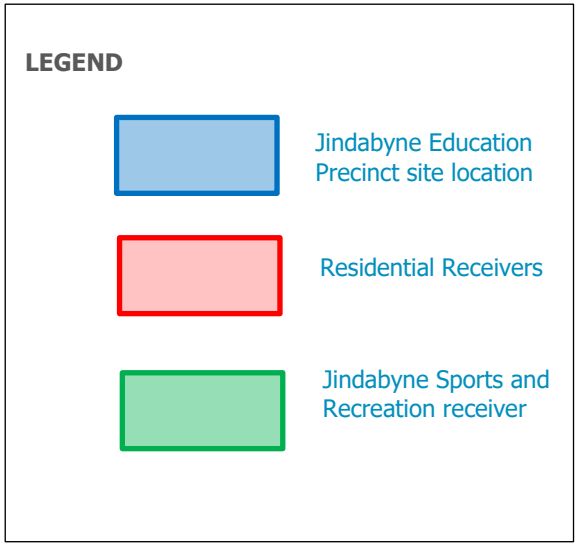
Receiver 2: Hotel receiver located to the west of the site at 150 Barry Way, Jindabyne, approximately 500m from the site.

Receiver 3: Residential receiver to the North of the site at 103 Barry Way, Jindabyne, approximately 400m from the site.

Receiver 4: Jindabyne Sports and Recreation Centre located to the east of the site at 103 Barry Way, Jindabyne, approximately 150m from the site.

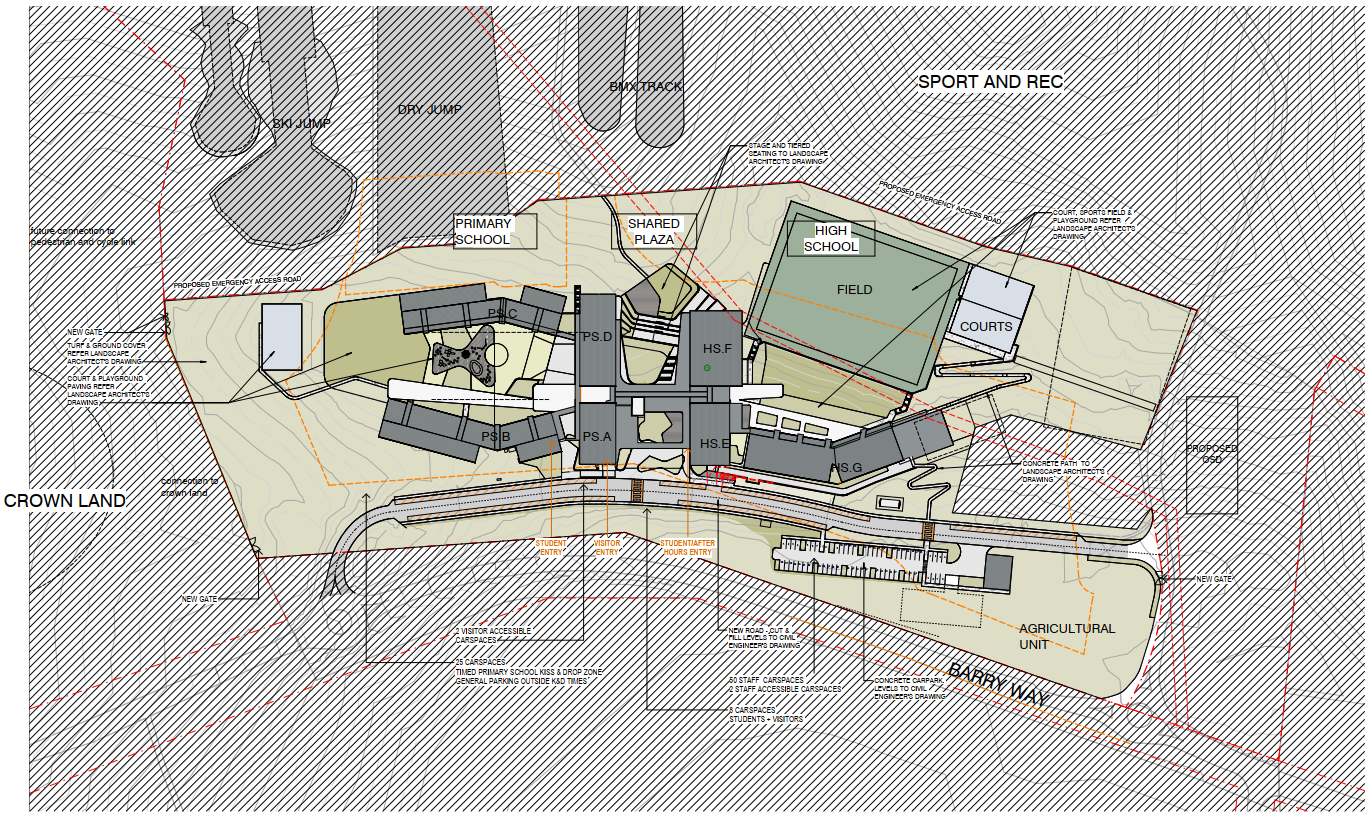
Details of the site location and surrounding receivers are detailed in following figure.

Figure 1 Site Map, Measurement Locations and Surrounding Receivers



Details of the proposed development are included in the proposed site plan of the site which is detailed in the Figure below.

Figure 2 Proposed Site Plan details



1.2 SSD Compliance

This report has been undertaken in accordance with the requirements of Item B17 of the project's conditions of consent. Details of conditions of consent and sections of the report which include the required items required by the consent are included in the table below.

Table 1 SSD Compliance Table

SSD Condition number	Requirement	Report Reference for Satisfaction
B17	*B17. The Construction Noise and Vibration Management Sub-Plan must address, but not be limited to, the following:*	-
(a)	*be prepared by a suitably qualified and experienced noise expert;*	Ben white is a director of Pulse White Noise Acoustics, Ben's CV and membership of the Australian Acoustic Society is included in Appendix B.
(b)	*describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009);*	Sections 4.1
(c)	*describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;*	Section 6.1 and 6.2
(d)	*include strategies that have been developed with the community for managing high noise generating works;*	Section 6.4.4and Section 6.4.5.
(e)	*describe the community consultation undertaken to develop the strategies in condition B17(d);*	Section 6.4.2 and included in the project *Community Communication Strategy.*
(f)	*include a complaints management system that would be implemented for the duration of the construction; and*	Section 6.5
(g)	*include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the implemented management measures in accordance with the requirements of condition B15*	Section 6.2.2 and Section 0

2 EXISTING ACOUSTIC ENVIRONMENT

Environmental noise constantly varies in level with time. Therefore, it is necessary to measure noise in terms of quantifiable time periods with statistical descriptors. Typically environmental noise is measured over 15 minute periods and relevant statistical descriptors of the fluctuating noise are determined to quantify the measured level.

Noise (or sound) consists of minute fluctuations in atmospheric pressure capable of detection by human hearing. Noise levels are expressed in terms of decibels, abbreviated as dB or dBA, the "A" indicating that the noise levels have been frequency weighted to approximate the characteristics of normal human hearing. Because noise is measured using a logarithmic scale, 'normal' linear arithmetic does not apply, e.g. adding two sound sources of equal values result in an increase of 3 dB (i.e. 60 dBA plus 60 dBA results in 63 dBA). A change of 1 dB or 2 dB in the sound level is difficult for most people to detect, whilst a 3 dB – 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change roughly corresponds to a doubling or halving in loudness.

Specific acoustic terminology is used in this assessment report. An explanation of common acoustic terms is included in Appendix A.

This assessment has been undertaken based on the previously completed previously completed by SLR including the *Jindabyne Primary and High Schools, SSDA Acoustic Report* with reference: 610.30436-R01-v0.3 and dated 3 December 2021 which has been included in the projects SSD approvals. The background noise levels detailed in this report have been used as the basis of this report.

As part of the SLR including the *Jindabyne Primary and High Schools, SSDA Acoustic Report* background noise levels within the vicinity of the site have been assessed and are detailed in Section 2.1, table 2 of the report. The results detailed in the *SSDA Acoustic Report* have been used as the basis of this report and are summarised below.

The Rating Background Noise Level (RBL) is the background noise level used for assessment purposes and includes the 90th percentile of the daily background noise levels during each assessment period, being day, evening and night. The RBL $L_{A90\ (15minute)}$ and L_{Aeq} noise levels which are presented within the SLR including the *Jindabyne Primary and High Schools, SSDA Acoustic Report* are detailed in the table below.

Table 2 Presented Background Noise Levels - SLR including the *Jindabyne Primary and High Schools, SSDA Acoustic Report*

Location	Daytime 7:00 am to 6:00 pm	Evening 6:00 pm to 10:00 pm	Night-time 10:00 pm to 7:00 am
	L_{A90}[1] (dBA)	L_{A90}[1] (dBA)	L_{A90}[1] (dBA)
Location 1 – 70m East of Barry Way	37	30[2]	30[2]
Location 2 – 150m east of Barry Way	36	30[2]	30[2]
Location 3 – 50m east of Barry Way (the project site)	38	30[2]	30[2]

Note 1: The L_{A90} noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Note 2: background noise levels based on the minimum levels as detailed in the EPA's Noise Policy for Industry.

3 PROJECT WORKING HOURS

Construction working hours to be undertaken on site include those detailed within the SSD-15788005, including Items C4 to C8, which include the following:

Construction Hours

C4. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
- (b) between 8am and 1pm, Saturdays.

No work may be carried out on Sundays or public holidays.

C5. Notwithstanding condition C4, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:
- (a) between 6pm and 7pm, Mondays to Fridays inclusive; and
- (b) between 1pm and 4pm, Saturdays.

C6. Construction activities may be undertaken outside of the hours in condition C4 (and C5) if required:
- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or
- (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
- (c) where the works are inaudible at the nearest sensitive receivers; or
- (d) for the delivery, set-up and removal of construction cranes, where notice of the crane-related works is provided to the Planning Secretary and affected residents at least seven days prior to the works; or
- (e) where a variation is approved in advance in writing by the Planning Secretary or her nominee if appropriate justification is provided for the works.

C7. Notification of such construction activities as referenced in condition C6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

C8. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 8am to 12pm, Monday to Friday;
(b) 1pm to 5pm Monday to Friday; and
(c) 9am to 12pm, Saturday.

4 NOISE AND VIBRATION CRITERIA

Relevant noise and vibration criteria for construction activities are detailed below.

4.1 Construction Noise Objectives

Relevant construction noise objectives applicable to this project are outlined below.

4.1.1 NSW EPA (Former DECC) Interim Construction Noise Guideline (ICNG) 2009

Noise objective for construction and demolition activities are discussed in the *Interim Construction Noise Guideline* (ICNG). The ICNG also recommends procedures to address potential impacts of construction noise on residences and other sensitive land uses. The main objectives of the ICNG are summarised as follows:

- Promote a clear understanding of ways to identify and minimise noise from construction works;
- Focus on applying all "feasible" and "reasonable" work practices to minimise construction noise impacts;
- Encourage construction to be undertaken only during the recommended standard hours unless approval is given for works that cannot be undertaken during these hours;
- Streamline the assessment and approval stages and reduce time spent dealing with complaints at the project implementation stage; and
- Provide flexibility in selecting site-specific feasible and reasonable work practices in order to minimise noise impacts.

The ICNG contains a quantitative assessment method which is applicable to this project. Guidance levels are given for airborne noise at residences and other sensitive land uses.

The quantitative assessment method involves predicting noise levels at sensitive receivers and comparing them with the Noise Management Levels (NMLs). The NML affectation categories for residential receivers have been reproduced from the guideline and are listed in the Table 3 below.

Table 3 NMLs for quantitative assessment at residences

Time of Day	Noise Management Level $L_{Aeq(15minute)}$ [1,2]	How to Apply
Recommended standard hours: Monday to Friday 7 am to 6 pm Saturday 8 am to 1 pm No work on Sundays or public holidays	Noise affected RBL + 10 dB	The noise affected level represents the point above which there may be some community reaction to noise. • Where the predicted or measured LAeq(15minute) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. • The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dBA	The highly noise affected level represents the point above which there may be strong community reaction to noise. • Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: 1. Times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences. 2. If the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside the recommended standard hours above	Noise affected RBL + 5 dB	• A strong justification would typically be required for works outside the recommended standard hours. • The proponent should apply all feasible and reasonable work practices to meet the noise affected level. • Where all feasible and reasonable practices have been applied and noise is more than 5 dB above the noise affected level, the proponent should notify the community.

Note 1 Noise levels apply at the property boundary that is most exposed to construction noise, and at a height of 1.5 m above ground level. If the property boundary is more than 30 m from the residence, the location for measuring or predicting noise levels is at the most noise-affected point within 30 m of the residence. Noise levels may be higher at upper floors of the noise affected residence.

Note 2 The RBL is the overall single-figure background noise level measured in each relevant assessment period (during or outside the recommended standard hours). The term RBL is described in detail in the NSW Industrial Noise Policy (EPA 2000).

Construction noise levels at other noise receivers are outlined below:

- Construction noise levels within classrooms other educational institutions is not recommended to exceed 45dBA $L_{Aeq,15minute}$, when measured internally.
- Construction noise levels at offices and retail outlets are not recommended to exceed 70dBA LAeq,15minute, when measured externally.

Based on the measured background noise levels summarised in Section 2, and the NMLs outlined above, the construction noise criteria to be used in this assessment are listed in Table 4.

Table 4 NMLs as basis for the acoustic assessment

Receiver Types	NML, dB $L_{Aeq(15minute)}$		
	Standard Hours **Monday to Friday: 7:00am to 6:00pm** **Saturday: 8:00am to 1:00pm**		**Outside Standard Hours** **All hours not listed in the adjacent column.**
Residential Receivers	**NAFL: 46** (RBL (36) + 10dB)	**HNAL: 75**	RBL + 5dB

4.2 Vibration Criteria

Effects of ground borne vibration on buildings may be segregated into the following three categories:

- Human comfort – vibration in which the occupants or users of the building are inconvenienced or possibly disturbed.
- Effects on building contents – where vibration can cause damage to fixtures, fittings and other non-building related objects.
- Effects on building structures – where vibration can compromise the integrity of the building or structure itself.

4.2.1 Vibration Criteria – Human Comfort

Vibration effects relating specifically to the human comfort aspects of the project are taken from AV-TG. This type of impact can be further categorised and assessed using the appropriate criterion as follows:

- Continuous vibration – from uninterrupted sources.
- Impulsive vibration – up to three instances of sudden impact e.g., dropping heavy items, per monitoring period.
- Intermittent vibration – such as from drilling, compacting or activities that would result in continuous vibration if operated continuously.

Table 5 Continuous vibration acceleration criteria (m/s^2) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Critical working areas (e.g. hospital operating theatres, precision laboratories)	Day or night-time	0.0050	0.010	0.10	0.20
Residences	Daytime	0.010	0.0071	0.020	0.014
	Night-time	0.007	0.005	0.014	0.010
Offices, schools, educational institutions and places of worship	Day or night-time	0.020	0.014	0.040	0.028
		0.04	0.029	0.080	0.058
Workshops	Day or night-time	0.04	0.029	0.080	0.058

Table 6 Impulsive vibration acceleration criteria (m/s^2) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Critical working areas (e.g. hospital operating theatres, precision laboratories)	Day or night-time	0.0050	0.010	0.10	0.20
Residences	Daytime	0.30	0.21	0.60	0.42
	Night-time	0.10	0.071	0.20	0.14
Offices, schools, educational institutions and places of worship	Day or night-time	0.64	0.46	1.28	0.92
Workshops	Day or night-time	0.64	0.46	1.28	0.92

Table 7 Intermittent vibration impacts criteria (m/s$^{1.75}$) 1 Hz-80 Hz

Location	Daytime		Night-time	
	Preferred Values	Maximum Values	Preferred Values	Maximum Values
Critical working areas (e.g. hospital operating theatres, precision laboratories)	0.10	0.20	0.10	0.20
Residences	0.20	0.40	0.13	0.26
Offices, schools, educational institutions and places of worship	0.40	0.80	0.40	0.80
Workshops	0.80	1.60	0.80	1.60

4.2.2 Vibration Criteria – Building Contents and Structure

The vibration effects on the building itself are assessed against international standards as follows:

- For transient vibration: British Standard BS 7385: Part 2-1993 *"Evaluation and measurement for vibration in buildings Part 2: Guide to damage levels from ground borne vibration"* (BSI 1993); and
- For continuous or repetitive vibration: German DIN 4150: Part 3 – 1999 *"Effects of Vibration on Structure"* (DIN 1999).

4.2.3 Standard BS 7385 Part 2 - 1993

For transient vibration, as discussed in standard BS 7385 Part 2-1993, the criteria are based on peak particle velocity (mm/s) which is to be measured at the base of the building. These are summarised below.

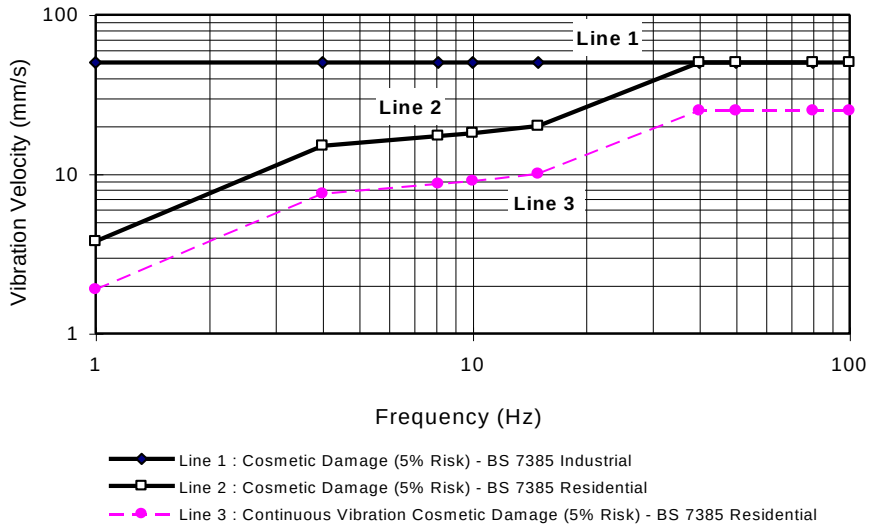
Table 8 Transient vibration criteria as per standard BS 7385 Part 2 - 1993

Line in Figure 3	Type of Building	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
		4 Hz to 15 Hz	15 Hz and Above
1	Reinforced or framed structures Industrial and heavy commercial buildings.	50 mm/s at 4 Hz and above	
2	Unreinforced or light framed structures Residential or light commercial type buildings	15 mm/s at 4 Hz increasing to 20 mm/s at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Standard BS 7385 Part 2 – 1993 states that the values in Table 8 relate to transient vibration which does not cause resonant responses in buildings.

Where the dynamic loading caused by continuous vibration events is such that it results in dynamic magnification due to resonance (especially at the lower frequencies where lower guide values apply), then the values in Table 8 may need to be reduced by up to 50% (refer to Line 3 in Figure 3).

Figure 3 BS 7385 Part 2 – 1993, graph of transient vibration values for cosmetic damage



In the lower frequency region where strains associated with a given vibration velocity magnitude are higher, the recommended values corresponding to Line 2 are reduced. Below a frequency of 4 Hz, where a high displacement is associated with the relatively low peak component particle velocity value, a maximum displacement of 0.6 mm (zero to peak) is recommended. This displacement is equivalent to a vibration velocity of 3.7 mm/s at 1 Hz.

The standard also states that minor damage is possible at vibration magnitudes which are greater than twice those given in Table 8, and major damage to a building structure may occur at values greater than four times the tabulated values.

Fatigue considerations are also addressed in the standard and it is concluded that unless the calculation indicates that the magnitude and number of load reversals is significant (in respect of the fatigue life of building materials) then the values in Table 8 should not be reduced for fatigue considerations.

4.2.4 Standard DIN 4150 Part 3 - 1999

For continuous or repetitive vibration, standard DIN 4150 Part 3-1999 provides criteria based on values for peak particle velocity (mm/s) measured at the foundation of the building; these are summarised in Table 9. The criteria are frequency dependent and specific to particular categories of structures.

Table 9 Structural damage criteria as per standard DIN 4150 Part 3 - 1999

Type of Structure	Peak Component Particle Velocity, mm/s			
	Vibration at the foundation at a frequency of			Vibration of horizontal plane of highest floor at all frequencies
	1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz[1]	
Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
Structures that, because of their sensitivity to vibration, do not correspond to those listed in lines 1 and 2 and are of great intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

Note 1: For frequencies above 100Hz, at least the values specified in this column shall be applied.

5 NOISE AND VIBRATION ASSESSMENT

5.1 Construction Noise Assessment

Sound power levels have been predicted for the construction tasks identified in the project program. The equipment anticipated for use in each task is based on previous project experience. The sound power levels for the equipment likely to be used for each of the listed tasks are provided in Table 10 below.

Table 10 Summary of predicted sound power levels

Tasks	Equipment	Sound Power Levels (dBA re 1pW)	Aggregate Sound Power Level per Task (dBA re 1pW)
Site Establishment Works	Mobile crane	110	113
	Power hand tools	109	
	Semi Rigid Vehicle [1]	105	
Ground Works and Demolition	Excavator	112	119
	Hand held jack hammer [1]	111	
	Dump truck [1]	104	
	Concrete saw [1]	114	
	Skid steer	110	
	Power hand tools	109	
Structure	Hand held jack hammer [1]	106	117
	Concrete saw [1]	114	
	Power hand tools	109	
	Welder	101	
	Concrete pump truck	110	
	Concrete agitator truck	108	
Internal Works/Refurbishment works	Power hand tools	109	109
Ground and External Works	Concrete agitator truck	108	118
	Excavator	112	
	Saw cutter [1]	104	
	Dump truck [1]	104	
	Concrete saw [1]	114	
	Power hand tools	109	

Note 1: An assumed time correction has been applied, this being 5 minutes of operation in any 15-minute interval.

5.2 Predicted Construction Noise Levels

Predicted construction noise levels are presented below for each of the surrounding receivers in accordance with the NSW EPA ICNG.

Note:

- Predicted noise levels presented below are given in a range, this includes the expected minimums as well as the maximums.
- With regards to the maximum noise levels in the range, these are typically experienced when plant/works are within close proximity to a boundary. In our experience whilst these levels above NML's and considered intrusive they will only occur for a short time and is not a representation of noise levels during the entire construction period.

Table 11 Receiver 1 – Summary of preliminary predicted construction noise levels

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	50 to 58	53 to 61	**Standard Construction Hours** 36 + 10 = **46** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management levels. Mitigations of construction noise required to be undertaken including management and measures detailed in Section 6 of this report.
	Power hand tools		49 to 57			
	Semi Rigid Vehicle		40 to 49			
Ground Works and Demolition	Excavator	119	52 to 60	57 to 65		
	Handheld jack hammer		46 to 55			
	Dump truck		39 to 48			
	Concrete saw		49 to 58			
	Skid steer		50 to 58			
	Power hand tools		49 to 57			
Structure	Handheld jack hammer	117	41 to 50	55 to 64		
	Concrete saw		49 to 58			
	Power hand tools		49 to 57			
	Welder		41 to 49			
	Concrete pump truck		50 to 58			
	Concrete agitator truck		48 to 56			
Internal Works	Power hand tools	109	49 to 57	49 to 57		
Common and External Works	Concrete agitator truck	118	48 to 56	54 to 62		
	Excavator		52 to 60			
	Saw cutter		39 to 48			
	Dump truck		39 to 48			
	Concrete saw		49 to 58			
	Power hand tools		49 to 57			

Table 12 Receiver 2 – Summary of predicted construction noise levels

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	44 to 49	47 to 52	**Standard Construction Hours** 36 + 10 = **46** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management levels. Mitigations of construction noise required to be undertaken including management and measures detailed in Section 6 of this report.
	Power hand tools		43 to 48			
	Semi Rigid Vehicle		34 to 39			
Ground Works and Demolition	Excavator	119	46 to 51	51 to 56		
	Handheld jack hammer		40 to 45			
	Dump truck		33 to 38			
	Concrete saw		43 to 48			
	Skid steer		44 to 49			
	Power hand tools		43 to 48			
Structure	Handheld jack hammer	117	35 to 40	49 to 54		
	Concrete saw		43 to 48			
	Power hand tools		43 to 48			
	Welder		35 to 40			
	Concrete pump truck		44 to 49			
	Concrete agitator truck		42 to 47			
Internal Works	Power hand tools	109	43 to 48	43 to 48		
Common and External Works	Concrete agitator truck	118	42 to 47	48 to 53		
	Excavator		46 to 51			
	Saw cutter		33 to 38			
	Dump truck		33 to 38			
	Concrete saw		43 to 48			
	Power hand tools		43 to 48			

Table 13 Receiver 3 - Summary of predicted construction noise levels

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	44 to 47	47 to 50	**Standard Construction Hours** 36 + 10 = **46** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management levels. Mitigations of construction noise required to be undertaken including management and measures detailed in Section 6 of this report.
	Power hand tools		43 to 46			
	Semi Rigid Vehicle		34 to 37			
Ground Works and Demolition	Excavator	119	46 to 49	51 to 54		
	Handheld jack hammer		40 to 43			
	Dump truck		33 to 36			
	Concrete saw		43 to 46			
	Skid steer		44 to 47			
	Power hand tools		43 to 46			
Structure	Handheld jack hammer	117	35 to 38	49 to 53		
	Concrete saw		43 to 46			
	Power hand tools		43 to 46			
	Welder		35 to 38			
	Concrete pump truck		44 to 47			
	Concrete agitator truck		42 to 45			
Internal Works	Power hand tools	109	43 to 46	43 to 46		
Common and External Works	Concrete agitator truck	118	42 to 45	48 to 51		
	Excavator		46 to 49			
	Saw cutter		33 to 36			
	Dump truck		33 to 36			
	Concrete saw		43 to 46			
	Power hand tools		43 to 46			

Table 14 Receiver 4 - Summary of predicted construction noise levels

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted Individual Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Predicted Combined Noise Level at Receiver dBA $L_{Aeq\ 15\ minutes}$	Criteria dBA $L_{Aeq\ 15\ minutes}$	Summary of Result
Site Establishment Works	Mobile crane	113	46 to 58	49 to 61	**Standard Construction Hours** 36 + 10 = **46** **Highly Noise Affected Level** Standard Construction Hours **75**	Works indicatively predicted to have the potential to exceed the noise management levels. Mitigations of construction noise required to be undertaken including management and measures detailed in Section 6 of this report.
	Power hand tools		45 to 57			
	Semi Rigid Vehicle		37 to 49			
Ground Works and Demolition	Excavator	119	48 to 60	53 to 65		
	Handheld jack hammer		43 to 55			
	Dump truck		36 to 48			
	Concrete saw		46 to 58			
	Skid steer		46 to 58			
	Power hand tools		45 to 57			
Structure	Handheld jack hammer	117	38 to 50	52 to 64		
	Concrete saw		46 to 58			
	Power hand tools		45 to 57			
	Welder		37 to 49			
	Concrete pump truck		46 to 58			
	Concrete agitator truck		44 to 56			
Internal Works	Power hand tools	109	45 to 57	45 to 57		
Common and External Works	Concrete agitator truck	118	44 to 56	50 to 62		
	Excavator		48 to 60			
	Saw cutter		36 to 48			
	Dump truck		36 to 48			
	Concrete saw		46 to 58			
	Power hand tools		45 to 57			

5.3 Construction Traffic Noise Assessment

For existing residences and other sensitive land uses affected by additional traffic on existing roads, the NSW *Road Noise Policy (RNP)* states that for noise associated with increased road traffic generated by land use developments, any increase in the total traffic noise level should be limited to 2 dB during both day and night-time periods. An increase of 2 dB represents a minor impact that is considered barely perceptible to the average person.

It is proposed that the construction traffic would access the site via Barry Way to the east of the site. All construction traffic will access the site and use the surrounding roadways in accordance with the site Construction Management plan.

5.4 Vibration Assessment

In order to maintain compliance with the human comfort vibration criteria discussed in Section 4.2, it is recommended that the indicative safe distances listed in table below should be maintained. These indicative safe distances should be validated prior to the start of construction works by undertaking measurements of vibration levels generated by construction and demolition equipment by the contractor.

Additionally, any vibration levels should be assessed in accordance with the criteria discussed in Section 4.2.

Table 15 Recommended indicative safe working distances for vibration intensive plant

Plant	Rating / Description	Safe Working Distances (m)	
		Cosmetic Damage (BS 7385: Part 2 DIN 4150: Part 3)	Human Comfort (AVTG)
Vibratory roller	< 50 kN (Typically 1 – 2 tonnes)	5	15 – 20
	< 100 kN (Typically 2 – 4 tonnes)	6	20
	< 200 kN (Typically 4 – 6 tonnes)	12	40
	< 300 kN (Typically 7 – 13 tonnes)	15	100
	> 300 kN (Typically more than 13 tonnes)	20	100
Small hydraulic hammer	300 kg, typically 5 – 12 tonnes excavator	2	7
Medium hydraulic hammer	900 kg, typically 12 – 18 tonnes excavator	7	23
Large hydraulic hammer	1600 kg, typically 18 – 34 tonnes excavator	22	73
Vibratory pile driver	Sheet piles	2 – 20	20
Jackhammer	Hand held	1	Avoid contact with structure and steel reinforcements

Based on the location of the surrounding receivers compliance with the recommended safe working distances for the proposed construction activities is expected to be achieved.

6 NOISE AND VIBRATION MANAGEMENT PLAN

6.1 Acoustic Management Procedures

Table 16 below summarises the management procedures recommended for airborne noise and vibration impact. These procedures are also further discussed in the report as well as recommended mitigation measures. Hence, where applicable, links to further references are provided in Table 16.

Table 16 Summary of mitigation procedures

Procedure	Abbreviation	Description	Further Reference
General Management Measures	GMM	Introduce best-practice general mitigation measures in the workplace which are aimed at reducing the acoustic impact onto the nearest affected receivers.	Refer to Section 6 For noise impact, also refer to Section 6.1 For vibration impact, also refer to Section 6.3.1
Project Notification	PN	Issue project updates to stakeholders, discussing overviews of current and upcoming works. Advanced warning of potential disruptions can be included. Content and length to be determined on a project-by-project basis.	Refer to Section 6.
Verification Monitoring	V	Monitoring to comprise attended or unattended acoustic surveys. The purpose of the monitoring is to confirm measured levels are consistent with the predictions in the acoustic assessment, and to verify that the mitigation procedures are appropriate for the affected receivers. If the measured levels are higher than those predicted, then the measures will need to be reviewed and the management plan will need to be amended.	For noise impact, refer to Section 6 and Section 6.2.3. For vibration impact, refer to Section 0
Complaints Management System	CMS	Implement a management system which includes procedures for receiving and addressing complaints from affected stakeholders	Refer to Section 6.5
Specific Notification	SN	Individual letters or phone calls to notify stakeholders that noise levels are likely to exceed noise objectives. Alternatively, contractor could visit stakeholders individually in order to brief them in regards to the noise impact and the mitigation measures that will be implemented.	Refer to Section 6.
Respite Offer	RO	Offer provided to stakeholders subjected to an ongoing impact.	-
Alternative Construction Methodology	AC	Contractor to consider alternative construction options that achieve compliance with relevant criteria. Alternative option to be determined on a case-by-case basis. It is recommended that the selection of the alternative option should also be determined by considering the assessment of on-site measurements (refer to Verification Monitoring above).	-

The application of these procedures is in relation to the exceedances over the relevant criteria. For airborne noise, the criteria are based on NMLs. The allocation of these procedures is discussed in Section 6.1.1

For vibration, the criteria either correspond to human comfort, building damage or scientific and medical equipment. The application of these procedures is discussed in Section 6.1.2.

6.1.1 Allocation of Noise Management Procedures

For residences, the management procedures have been allocated based on noise level exceedances at the affected properties, which occur over the designated NMLs (refer to section **Error! Reference source not found.**). The a llocation of these procedures is summarised in Table 17 below.

Table 17 Allocation of noise management procedures – residential receivers

Construction Hours	Exceedance over NML (dB)	Management Procedures (see definition above)
Approved Construction Hours Mon – Fri: 7:00 am to 6:00 pm Sat: 8:00 am – 1:00 pm	0 - 3	GMM
	4 - 10	GMM, PN, V [1], CMS, AC
	> 10	GMM, PN, V, CMS, SN, AC
Standard Hours Mon – Fri: 7:00 am to 8:00 am Sat: 7:00 am to 8:00 am	0 - 10	GMM, AC
	11 - 20	GMM, PN, V [1], CMS, AC
	> 20	GMM, PN, V, CMS, SN, RO, AC

Notes

1. Verification monitoring to be undertaken upon complaints received from affected receivers

Please note the following regarding the allocation of these procedures:

- In addition to the above the projects *Conditions of Consent* require works to include the following:
    - Rock Breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
        - 8am to 12 midday – Monday to Friday.
        - 1 pm to 5pm – Monday to Friday.
        - 9am to 12 midday – Saturday's.
- The exceedances have been estimated as part of the acoustic assessment, and these are summarised in Section 5.2.
- The allocation of procedures is based on the assumptions used for noise level predictions (refer to Section 5.1 and 5.2). Consequently, these allocations can be further refined once additional details of the construction program become available.

6.1.2 Allocation of Vibration Management Procedures

Table 18 below summarises the vibration management procedures to be adopted based on exceedance scenarios (i.e., whether the exceedance occurs over human comfort criteria, building damage criteria, or criteria for scientific and medical equipment). Please note these management procedures apply for any type of affected receiver (i.e., for residences as well as non-residential receivers).

Table 18 Allocation of vibration management procedures

Construction Hours	Exceedance Scenario	Management Procedures
Approved Construction Hours	Over human comfort criteria (refer to Section 4.2)	GMM, PN, V, RO
	Over building damage criteria (refer to Section 4.2)	GMM, V, AC
Outside Standard Hours	Over human comfort criteria (refer to Section 4.2)	GMM, SN, V, RO, CMS
	Over building damage criteria (refer to Section 4.2)	GMM, V, AC

6.2 Site Specific Noise Mitigation Measures (including High Noise Affected Levels)

Predicted noise levels outlined in section 5.2 indicate exceedances above the Noise Management Levels (NMLs) as well as the Highly Noise Affected Level (HNAL) when in proximity to a boundary. To militate against any exceedances, the site will need to introduce periods of respite for activities which are creating noise levels above the HNAL and including activities such as piling, hydraulic hammering and the like (i.e. greater than 75dBA). See below.

Table 19 Recommended Respite Periods

Monday to Friday	Saturday
Prior to 8:00am – No noisy works (Respite Period)	Prior to 9:00am – No noisy works (Respite Period)
8:00am to 12:00pm – Works	9:00am to 12:00pm – Works
12:00pm to 1:00pm – No noisy works (Respite Period)	After 12:00pm – No noisy works (Respite Period)
1:00pm to 5:00pm – Works	
After 5pm – No noisy works (Respite Period)	

Details of the required respite time include above are based on the requirements of the project SSD approval.

It is noted that based on the predictions of noise emissions from construction activities High Noise Affected Levels are not expected to results at the surrounding receivers.

6.2.1 General Mitigation Measures

The contractor will, where reasonable and feasible, apply best practice noise mitigation measures. These measures shall include the following:

- Maximising the offset distance between plant items and nearby noise sensitive receivers.
- Preventing noisy plant working simultaneously and adjacent to sensitive receivers.
- Minimising consecutive works in the same site area.
- Orienting equipment away from noise sensitive areas.
- Carrying out loading and unloading away from noise sensitive areas.

In order to minimise noise impacts during the works, the contractor will take all reasonable and feasible measures to mitigate noise effects.

The contractor will also take reasonable steps to control noise from all plant and equipment. Examples of appropriate noise control include efficient silencers and low noise mufflers.

Construction works are to be conducted in accordance with the Conditions of Consent, which includes item C15 and include the following:

> *The Applicant must implement, where practicable and without compromising the safety of construction staff and members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.*

The contractor should apply all feasible and reasonable work practices to meet the NMLs and inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels, duration of noise generating construction works, and the contact details for the proposal. Works will be undertaken in conjunction with the Community Communication Strategy, as required by Item B9 of the Conditions of Consent.

All construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of works outlined in the consent conditions, including item C4 to C8, and detailed in Section 3 above.

6.2.2 Noise Monitoring

Noise monitoring will be performed by an acoustical consultant directly engaged by the contractor.

Noise monitoring is recommended to be undertaken by attended noise measurements at the start of any new phase of works (i.e. demolition, excavation or remediation works etc.). The statistical parameters to be measured should include the following noise descriptors: L_{Amin}, L_{A90}, L_{A10}, L_{A1}, L_{Amax} and L_{Aeq}. Unattended noise measurements should be conducted over consecutive 15 minute periods at the commencement of demolition and ground works on the site.

This monitoring should also be complemented by undertaking attended noise measurements in order to:

- Differentiate between construction noise sources and other extraneous noise events (such as road traffic and aircraft noise)
- Note and identify any excessive noise emitting machinery or operation.

In addition to the above detailed measurements, should any complaints be received which have not been determined previously, it should be confirmed by conducting additional attended noise measurements.

The survey methodology and any equipment should comply with the requirements discussed in Standard AS 1055.1-1997.

6.2.3 Noise Mitigation Measures for Non-Residential Receivers

Where exceedances have been identified in Section 5, the following mitigation measures are recommended:

- Undertake general mitigation measures as discussed in Section 6.
- Issue project updates to tenants in affected premises. The updates can include overview of current and upcoming works, as well as advanced warning of potential disruptions. These updates can also be issued through an email distribution list or via social media and in accordance with consent condition B7 requiring a Community Communication Strategy.
- Signage to be posted in order to provide stakeholders information regarding project details, emergency contacts and enquiry contact information in accordance with consent condition C1 requiring a site notice.

6.2.4 Alternate Equipment or Process

Exceedance of the site's NMLs should result in an investigation as to whether alternate equipment could be used, or a difference process could be undertaken. The assessment is required to be undertaken in coordination with the contractors undertaking the works to be conducted.

6.2.5 Acoustic Enclosures/Screening

Typically, on a construction site there are three different types of plant that will be used: mobile plant (i.e., excavators, skid steers, etc.), semi mobile plant (i.e., hand tools generally) or static plant i.e. (diesel generators).

For plant items which are static it is recommended that, in the event exceedances are being measured due to operation of the plant item, an acoustic enclosure/screen is constructed to reduce impacts. These systems can be constructed from Fibre Cement (FC) sheeting or, if airflow is required, acoustic attenuators or louvres.

For semi mobile plant, relocation of plant should be investigated to either be operated in an enclosed space or at locations away from a receiver.

With mobile plant it is generally not possible to treat these sources. However, investigations into the machine itself may result in a reduction of noise (i.e., mufflers/attenuators etc) and proactive mechanical maintenance.

6.3 Vibration Mitigation Measures

6.3.1 General Mitigation Measures

As part of the CNVMP, the following vibration mitigation measures should be implemented:

- Any vibration generating plant and equipment is to be in areas within the site in order to lower the vibration impacts to surrounding receivers.
- Investigate the feasibility of rescheduling the hours of operation of major vibration generating plant and equipment to within the allowable time set within the consent conditions which include rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
    (a) 9am to 12pm, Monday to Friday;
    (b) 2pm to 5pm Monday to Friday; and
    (c) 9am to 12pm, Saturday.
- Use lower vibration generating items of construction plant and equipment; that is, smaller capacity plant.
- Minimise conducting vibration generating works consecutively in the same area (if applicable).
- Schedule a minimum respite period of at least 30 minutes after a period of continuous 2 hours of work.
- Use only dampened rock breakers and/or "city" rock breakers to minimise the impacts associated with rock breaking works.
- Conduct attended measurements of vibration generating plant at commencement of works in order to validate the indicative safe working distances advised in Table 15 and, consequently, to establish safe working distances suitable to the project. Measurements should be conducted at the nearest affected property boundary. These safe working distances should be defined by considering the vibration criteria discussed in Section 3 (i.e., criteria for structural damage, human comfort and impact to scientific or medical equipment).

6.3.2 Vibration Monitoring

Vibration monitoring can be undertaken continuously at the nearest most affected structures.

The monitoring location would be on a stiff part of the structure (at the foundation) on the side of the structure adjacent to the subject demolition and construction works.

The vibration monitoring system will be configured to record the peak vibration levels and to trigger an alarm when predetermined vibration thresholds are exceeded. The thresholds correspond to an "Operator Warning Level" and an "Operator Halt Level", where the Warning Level is 75% of the Halt Level. The Halt Level should be determined based on the vibration criteria for building contents and structure (detailed in section 4.2).

Exceedance of the "Operator Warning Level" would not require excavation or demolition work to cease, but rather, alerts the site manager to proceed with caution at a reduced force or load.

An exceedance of the "Operator Halt Level" would require the contractor to implement an alternative excavation technique pending further analysis of the vibration frequency content in order to determine any potential exceedance of the criteria.

The vibration monitoring equipment would be downloaded and analysed by the acoustical consultant monthly including reporting of the collected data.

Reports of the measured vibration levels and their likely impacts would be prepared by the acoustical consultant and issued to the contractor monthly.

Vibration monitoring should be undertaken including the following:

1. Vibration Monitoring to include long term continuous vibration logging.
2. Monitors set to record maximum vibration levels including Peak Particle Velocity (PPV) magnitudes.
3. Monitors are required to be SMS enabled such that any events recorded above 'alert levels can be instantaneously sent to suitable builder, acoustic consultant and contractor representatives.
4. In the event results re received above 'alert levels the following response to events are required as detailed in the table below.
5. Vibration monitoring should be undertaken for the periods including demolition, exaction and construction of the building structure including installation of concrete to ground floor as a minimum or on agreement with neighbouring stake holders in the event monitoring details no negative impacts during the construction of the project.

Table 20 Required Response to Vibration Events

Location/ Receiver Type	Event Type		
	Trigger	Alert	Alarm, Stop Work
Surrounding Residential Dwellings	6 mm/s	7 mm/s	8 mm/s
See Section below for response to Event Types			

The required response to recorded event types detailed in the table above are included in the following table.

Table 21 Required Response to Vibration Events

Event Type	Required Response
Trigger level	All events above the trigger level are required to be recorded by the vibration monitors.
Alert	Temporarily cease the vibration generating activity and assess the reason for vibration exceedances. Modify the related construction practice to prevent future exceedances. Keep records of subsequent breaches to demonstrate that vibrations for modified activity do not reach Alert Level. All *Alert* events are to be SMS messaged to the building contractor site manager, subcontractor and acoustic consultant.
Alarm	**Stop Work Event** All *Alarm* events are to be SMS messaged to a relevant Richard Crookes, subcontractor and acoustic consultant. The activity generating the vibration levels is to be stopped immediately. Suitable representatives of the building contractor, the relevant Subcontractor, Heritage Consultant and acoustic consultant. Vibration monitoring report to be completed. Visual assessment of affected property will be conducted to assess whether damage is evident. The item/s of work generating the vibration events is not be recommenced until an action plan is agreed and implemented.

6.4 Noise and Vibration Monitoring

As part of the management of noise from the proposed construction activities to be undertaken on the site the following noise and vibration monitoring is to be undertaken:

1. Noise Monitoring– Attended noise monitoring of excavation and construction activities is to be undertaken during the following periods:
    a. In response to any ongoing complaints received from neighbours.

    It is noted that based on the assessment of construction activities construction activities are not expected to result in noise levels which will result in levels which are greater than High Noise Affected Levels.

2. Vibration – Based on the proximity of the surrounding receivers to the works magnitudes of vibration resulting from construction activities required to be undertaken on the site are not expected to approach vibration limits detailed in Section 4.2 of this report, therefore permanent continuous vibration monitoring is not recommended.

    Attended vibration monitoring is to be undertaken at the following periods:
    a. receiver location in the event complaints resulting from construction activities resulting from the perception of vibration are experienced by the occupants of buildings within the vicinity of the site.

SINSW Complaints management process as outlined in the Community Communication Report (CCR) and required as part of Item B9 of the SSD.

6.4.1 Enquiries and complaints management

SINSW manages enquiries, and complaints in a timely and responsive manner and detailed in the SINSW Community Consolation Summary report.

Prior to project delivery, a complaint could be related to lack of community consultation, design of the project, lack of project progress, etc.

During project delivery, a complaint is defined as in regard to construction impacts – such as – safety, dust, noise, traffic, congestion, loss of parking, contamination, loss of amenity, hours of work, property damage, property access, service disruption, conduct or behaviour of construction workers, other environmental impacts, unplanned or uncommunicated disruption to the school.

As per our planning approval conditions, a complaints register is updated monthly and is publicly available on the project's website page on the SINSW website. The complaints register will record the number of complaints received, the nature of the complaints and how the complaint was resolved as detailed in the complaints handling procedure is set out in the Community Communication Strategy.

If the Community Communication Strategy Complaints Procedure/process is updated, that document and process takes precedence over this CNVMSP.

6.4.2 Complaints management process

All complaints will be conducted using the SINSW Community Communication Strategy for the project.

Any face to face complaints will be directed to the hotline as detailed in the Community Communication Strategy.

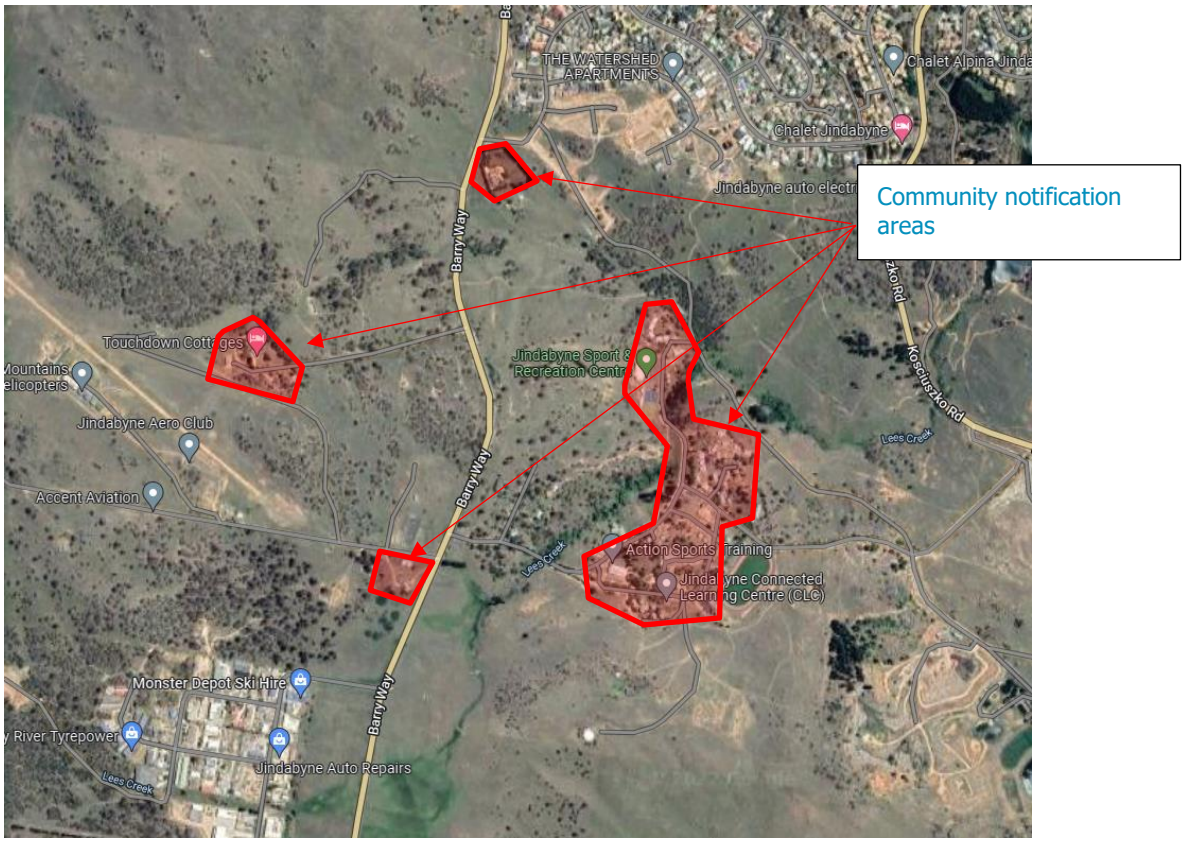
6.4.3 Complaints in common community languages

Complaints can be made in common community languages using the Translating and Interpreting Service (TIS), managed by the Department of Home Affairs. Community members can be connected to an interpreter by calling TIS on 131 450. TIS contact details are included on all project communications. Once TIS has the interpreter on the line, the interpreter and community member are connected to School Infrastructure and phone interpretation can begin. School Infrastructure NSW receives the complaint via the translator and begins the complaints management process as outlined above.

6.4.4 Community Notifications

Prior to the works onsite being undertaken, it is recommended that community consultation with the neighbouring affected parties be undertaken. These include the locations detailed in the figure below.

Figure 4 Required Community Notification Area



Communication notification, should not be limited to the beginning of the onsite works but throughout, providing the community with constant updates on the progress and upcoming works. In our experience these could include:

- Project website.
- Email notifications; and
- Letterbox drops.

6.4.5 Community Engagement

It is proposed that throughout the duration of the project, continued meetings with both the school principals will be undertaken on a regular basis to monitor and mitigate any impacts of construction noise and vibration on the school community.

Community engagement has been undertaken during the design and approvals basis of the project and detailed in the Community Communication Strategy in accordance with condition B9.

6.5 Complaints Management System

Should complaints arise they must be dealt with in a responsible and uniform manner, therefore, a management system to deal with complaints is detailed above.

Complaints will be undertaken in conjunction with the SINSW complaints management system as detailed in the Community Consultant Summary Report and the Community Communication Strategy documents developed by SINSW to ensure compliance with Condition B9.

6.6 Contingency Plans

Contingency plans are required to address noise or vibration problems if excessive levels are measured at surrounding sensitive receivers and/or if justified complaints occur. Such plans include:

- Stop the onsite works.
- Identify the source of the main equipment within specific areas of the site which is producing the most construction noise and vibration at the sensitive receivers; and
- Review the identified equipment and determine if an alternate piece of equipment can be used or the process can be altered.
- In the event an alternate piece of equipment or process can be used, works can re-commence.
- In the event an alternate piece of equipment or process cannot be determined implement a construction assessment to be performed by a suitably qualified acoustic consultant.

The building contractor shall have access to view the Contractor's noise measurement records on request. The Superintendent may undertake noise monitoring if and when required.

6.7 General Mitigation Measures (Australia Standard 2436-2010)

As well as the above project specific noise mitigation controls, AS 2436-2010 "*Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*" sets out numerous practical recommendations to assist in mitigating construction noise emissions. Examples of strategies that could be implemented on the subject project are listed below, including the typical noise reduction achieved, where applicable.

6.7.1 Additional Recommendations

- Regular reinforcement (such as at toolbox talks) of the need to minimise noise and vibration.
- Regular identification of noisy activities and adoption of improvement techniques.
- Avoiding the use of portable radios, public address systems or other methods of site communication that may unnecessarily impact upon nearby sensitive receivers.
- Where possible, avoiding the use of equipment that generates impulsive noise.
- Minimising the need for vehicle reversing for example (particularly at night), by arranging for one-way site traffic routes.
- Use of broadband audible alarms on vehicles and elevating work platforms used on site.
- Minimising the movement of materials and plant and unnecessary metal-on-metal contact.
- Minimising truck movements.

6.7.2 Plant and Equipment

- Choosing quieter plant and equipment based on the optimal power and size to most efficiently perform the required tasks.
- Selecting plant and equipment with low vibration generation characteristics.
- Operating plant and equipment in the quietest and most efficient manner.

6.7.3 On Site Noise Mitigation

- Maximising the distance between noise activities and noise sensitive land uses.
- Installing purpose-built noise barriers, acoustic sheds and enclosures.

6.7.4 Work Scheduling

- Providing respite periods which could include restricting very noisy activities to time periods that least affect the nearby noise sensitive locations, restricting the number of nights that after-hours work is conducted near residences or by determining any specific requirements.
- Scheduling work to coincide with non-sensitive periods.
- Planning deliveries and access to the site to occur quietly and efficiently and organising parking only within designated areas located away from the sensitive receivers.
- Optimising the number of deliveries to the site by amalgamating loads where possible and scheduling arrivals within designated hours.
- Including contract conditions that include penalties for non-compliance with reasonable instructions by the principal to minimise noise or arrange suitable scheduling.

6.7.5 Source Noise Control Strategies

Some ways of controlling noise at the source are:

- Where reasonably practical, noisy plant or processes should be replaced by less noisy alternatives.
- Modify existing equipment: Engines and exhausts are typically the dominant noise sources on mobile plant such as cranes, graders, excavators, trucks, etc. In order to minimise noise emissions, residential grade mufflers should be fitted on all mobile plant utilised on site.
- Siting of equipment: locating noisy equipment behind structures that act as barriers, or at the greatest distance from the noise-sensitive area; or orienting the equipment so that noise emissions are directed away from any sensitive areas, to achieve the maximum attenuation of noise.
- Regular and effective maintenance.

6.7.6 Miscellaneous Recommendations

Deliveries should be undertaken, where possible, during standard construction hours.

Maximise hammer penetration (and reduce blows) by using sharp hammer tips. Keep stocks of sharp profiles at site and monitor the profiles in use.

It is advised that mobile plant and trucks operating on site for a significant portion of the project are to have reversing alarm noise emissions minimised. This is to be implemented subject to recognising the need to maintain occupational safety standards without compromising the safety of construction staff and members of the public.

No public address system should be used on site (except for emergency purposes).

7 CONCLUSION

This report details the Construction Noise and Vibration Management Sub Plan for the construction works to be undertaken at Jindabyne Education Precinct.

An assessment of noise and vibration impacts from the required processes to be undertaken during the construction period of the project (including ground works and construction) has been undertaken and suitable treatments, management controls, perioding measurements and community engagement has been detailed in this report.

Providing the recommendations in this report are included in the construction of the site, compliance with the relevant EPA's *Interim Construction Noise Guideline* and the projects *Consent* including the SSD-15788005 will be achieved.

For any additional information please do not hesitate to contact the person below.

Regards

Ben White
Director

Pulse White Noise Acoustics

APPENDIX A: ACOUSTIC GLOSSARY

The following is a brief description of the acoustic terminology used in this report:

Ambient Sound	The totally encompassing sound in a given situation at a given time, usually composed of sound from all sources near and far.
Audible Range	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.
Character, acoustic	The total of the qualities making up the individuality of the noise. The pitch or shape of a sound's frequency content (spectrum) dictate a sound's character.
Decibel [dB]	The level of noise is measured objectively using a Sound Level Meter. The following are examples of the decibel readings of every day sounds; 0dB the faintest sound we can hear 30dB a quiet library or in a quiet location in the country 45dB typical office space. Ambience in the city at night 60dB Martin Place at lunch time 70dB the sound of a car passing on the street 80dB loud music played at home 90dB the sound of a truck passing on the street 100dB the sound of a rock band 115dB limit of sound permitted in industry 120dB deafening
dB(A)	*A-weighted decibels* The ear is not as effective in hearing low frequency sounds as it is hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise.
Frequency	Frequency is synonymous to *pitch*. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Loudness	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on
LMax	The maximum sound pressure level measured over a given period.
LMin	The minimum sound pressure level measured over a given period.
L1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L10	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L90	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L_{90} noise level expressed in units of dB(A).
Leq	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
dB (A)	'A' Weighted overall sound pressure level
Sound Pressure Level, LP dB	A measurement obtained directly using a microphone and sound level meter. Sound pressure level varies with distance from a source and with changes to the measuring environment. Sound pressure level equals 20 times the logarithm to the base 10 of the ratio of the rms sound pressure to the reference sound pressure of 20 micro Pascals.
Sound Power Level, Lw dB	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power levels is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt

NAFL	Noise Affected Level - As referred to in the EPA's *Interim Construction Noise Guideline* as the affected noise level for the trigger of construction noise mitigation requirements.
HNAL	High Noise Affected Level – As referred to in the EPA's *Interim Construction Noise Guideline.*
AV-TG	NSW EPA *Assessing Vibration Technical Guideline.*

APPENDIX B – BEN WHITE CV AND AAS MEMBERSHIP

Curriculum Vitae – Benjamin White

Employment Experience:

Director – Pulse White Noise Acoustics November 2020 – Present

Director - White Noise Acoustics: March 2019 – Present

Director/Engineer - Acoustic Logic Consultancy: March 2001 – July 2018

Experience:

Ben White the Director of White Noise has over 17 years of experience in acoustic.

Ben has significant experience in providing acoustic services and expert advice in the following areas:

- Residential acoustic reports including aircraft noise (AS2021) assessments, traffic noise, train noise and vibration assessments.
- Noise emission assessments for various projects including assessments with planning requirements using EPA, Department of Planning, Council DCP's and similar regulatory requirements.
- Planning approvals including Development Applications for multi dwelling residential developments, commercial developments, hotels and boarding houses, places of entertainment, carparks, mixed use developments, shopping centres and the like.
- Expert court witness including Land and Environment Court and other expert witness work.
- Project planning and specifications for types of projects including residential, commercial, retail, hotel accommodation, warehouses and industrial developments and mixed-use projects.
- Project delivery for all types of projects including, design advice and project delivery requirements at all stages of projects during design and construction.
- Certification works including on site testing for the provision of certification of all types of projects including items required to comply with Part F5 of the BCA as well as project specific acoustic requirements.
- Mechanical design and advice for the treatments of mechanical services with project requirements.
- External façade design and specification.
- Specialised acoustic design advice including areas of projects.
- Issues with existing building include site surveys and audits as well as advice regarding rectification if required.

AUSTRALIAN ACOUSTICAL SOCIETY

This is to certify that

BENJAMIN WHITE

was admitted to the grade of

MEMBER

of the Australian Acoustical Society

on 27th October 2020

and is entitled to use the letters

M.A.A.S.

issued on 26th November 2020

S. Moore

President

General Secretary

AUSTRALIAN ACOUSTICAL SOCIETY A.C.N. 000 712 658 The Common Seal Of

This certificate remains the property of the Australian Acoustical Society

A.7 Construction Waste Management Sub-Plan (CWMSP)

Waste Audit & Consultancy Services (Aust) Pty Ltd
Level 21, 133 Castlereagh Street
Sydney, NSW 2000
Australia
02 9199 4521
www.wasteaudit.com.au

October 19, 2022

Mikky Baroni
Design Manager
Hansen Yuncken Pty Ltd
Sydney Corporate Park
Building 1, L3, 75-85 O'Riordan Street
Alexandria NSW 2015

Jindabyne Educational Facility - Construction Waste Management Sub-Plan

This **Construction Waste Management Sub-Plan** (CWMSP) addresses the relevant requirements of the SSD-15788005 Conditions B-18 and C31-35, with regard to the management of waste materials produced as a result of construction works at the development located 207 Barry Way, Jindabyne NSW.

The CWMSP specifically responds to the following clauses:

B18. The Construction Waste Management Sub-Plan (CWMSP) must address, but not be limited to, the procedures for the management of waste including the following:

(a) the recording of quantities, classification (for materials to be removed) and validation (for materials to remain) of each type of waste generated during construction and proposed use for materials to remain;

(b) information regarding the recycling and disposal locations; and

(c) confirmation of the contamination status of the development areas of the site based on the validation results.

C31. All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

C32. All waste generated during construction must be assessed , classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).

C33. The Applicant must ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.

C34. The Applicant must record the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations for the duration of construction.

C35. The Applicant must ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

The following sections of the CWMSP address each of these clauses.

Materials Quantities

The following quantities of materials are estimated to result from construction activities:

Materials on Site		Destination/Treatment		
Type of Material	**Estimated Volume (m^3)**	**Onsite (Reuse/Recycle)**	**Offsite (Reuse/Recycle)**	**Disposal (Landfill)**
Excavation Material (Soil, Rock)	**8,000**	5,000 m^3 reused on site	2,500 m^3 reused/recycled off site	500 m^3 unsuitable for reused/recycling and sent to landfill
General Waste	**45**	No on-site reuse or recycling	No off-site reuse or recycling	Disposal to landfill
Excess Concrete	**29**	Separated on site and crushed for use in temporary road construction	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Excess Timber	**20**	Reuse for formwork where possible	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Recyclable Packaging & Containers	**21**	No on-site reuse	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Steel	**17**	No on-site reuse	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Used Pallets	**13**	Reused on site for storage where possible	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Plasterboard Offcuts	**9**	No on-site reuse	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Floor Coverings	**8**	No on-site reuse	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
Glass	**6**	No on-site reuse	Collected in mixed skip and taken to nearest suitable recycling facility	No disposal to landfill
TOTALS	**8,164 m^3**	**5,300 m^3**	**2,624 m^3**	**240 m^3**

In total, construction activities are expected to produce around **8,164 cubic metres** of waste materials, of which **7,624 cubic metres** or **92%** by volume can potentially be diverted from landfill to reuse or recycling outcomes.

Where possible, prefabricated materials will be used, to minimise waste requiring transportation off-site during the construction process.

Reuse, Recycling, & Disposal

The site's waste contractor will provide these services and ensure that there are adequate numbers of clearly marked bins on site to enable effective separation of the materials listed above. Specific locations of disposal facilities on site and removal schedules will be determined prior to commencement of works. All civil and construction works subcontractors will receive suitable training in separation of waste materials, and practices to be followed in the event that contaminated materials are encountered (see below).

Where contaminated fill/soil is not suitable for onsite retention or is surplus to construction requirements, materials will be remediated by off-site disposal. Materials shall be classified in accordance with EPA (2014) *Waste Classification Guidelines* or an appropriate exemption as created under the *Protection of the Environment Operations (Waste) Regulation* 2014.

All waste materials removed from the site will be taken to one or more licensed treatment facilities, depending on material type. As the site is situated in a remote location, the facilities below are the closest available locations likely to be able to process the expected materials types:

Facility	Address	Materials Accepted
ACT Recycling	Mugga Lane Symonston ACT	Virgin excavated natural material (VENM), rock, concrete, metals, plastics, mixed C&D waste
Canberra Concrete Recyclers	Pialligo Avenue ACT	Virgin excavated natural material (VENM), concrete, bricks, tiles, timber, metals, C&D waste
Mugga Lane Resource Management Centre	Mugga Lane Symonston ACT	Landfill materials, asbestos

Excavation & Off-Site Disposal

Fill materials shall be classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste*, November 2014 (EPA 2014) or an appropriate exemption as created under the Protection of the Environment Operations (Waste) Regulation 2014.

It is anticipated natural soils/bedrock will require off-site disposal and these shall also be classified in accordance with *Waste Classification Guidelines Part 1: Classifying Waste*, (EPA 2014).

Waste certificates will be prepared for each material type that is to be disposed of. All off-site waste facilities used must be lawfully licensed to receive the materials sent to them for disposal.

The Remediation Contractor must be aware of and conduct all waste disposal in accordance with all relevant regulations. All waste tracking documentation including disposal dockets must be maintained by the Remediation Contractor and must be provided to the Site Contamination (Environmental) Consultant and the client for inclusion in the validation report.

Data Collection & Validation

Validation data is required to be collected to verify the effectiveness of the remedial works and document the final site conditions as being suitable for the proposed future use(s). Validation activities will be required for tracking the movement of waste materials requiring off-site disposal.

Hazardous Materials Management (Including Fibrous Materials)

Section 42 of the Protection of the Environment Operations (Waste) Regulation 2014 stipulates special transportation, reporting, re-use and recycling requirements relating to asbestos waste.

The requirements for the transportation of asbestos waste include:

- Bonded asbestos material must be securely packaged at all times
- Friable asbestos material must be kept in a sealed container
- Asbestos-contaminated soils must be wetted down
- All asbestos waste must be transported in a covered, leak-proof vehicle

The transporter of asbestos waste must provide the following information to be given to NSW EPA prior to the transportation of asbestos waste loads:

- Source site details including address, name and contact details
- Date of proposed transportation commencement
- Name, address and contact details of disposal site
- Approximate weight of each class of asbestos in each load

The transporter must give the following information to the disposal site before or at delivery:

- Unique consignment code issued by EPA in relation to that load
- Any other information specified in the Asbestos and Waste Tyres Guidelines

The requirements relating to the off-site disposal of asbestos waste are as follows:

- Asbestos waste in any form must be disposed of only at a landfill site that may lawfully receive the waste
- When asbestos waste is delivered to a landfill site, the occupier of the landfill site must be informed by the person delivering the waste that the waste contains asbestos
- When unloading and disposing of asbestos waste at a landfill site, the waste must be unloaded and disposed of in such a manner as to prevent the generation of dust or the stirring up of dust
- Asbestos waste disposed of at a landfill site must be covered with virgin excavated natural material or other material as approved in the facility's environment protection licence

All wastes generated and proposed to be disposed of off-site shall be assessed, classified and managed in accordance with the NSW EPA *Waste Classification Guidelines* 2014. Where wastes require immobilisation prior to off-site disposal (to reduce waste classifications) an immobilisation approval shall be sought in accordance with Part 2 of the NSW EPA *Waste Classification Guidelines* 2014. Immobilisations are only anticipated to be required with unexpected finds.

Asbestos Removal Regulations & Codes of Practice

The removal and disposal of asbestos will be managed in accordance with the Work Health and Safety Act 2011 (WHS Act) and WHS Regulation, *How to Safely Remove Asbestos: Code of Practice* (Safe Work NSW 2019a13), *How to Manage and Control Asbestos in the Workplace Code of Practice* (Safe Work NSW 2019b14), the NSW EPA (2014) *Waste Classification Guidelines*, and requirements under the Protection of the Environment Operations (Waste) Regulation (2014) for asbestos waste monitoring.

Excavation, onsite remediation and removal of asbestos impacted soils are required to be conducted by a Class A (during removal of friable asbestos) or a minimum of Class B (during removal of bonded ACM) Asbestos Removal licensed contractor. It will be the requirement of the appointed civil works contractor to obtain the appropriate approvals (as outlined below) and prepare an Asbestos Removal Control Plan (ARCP).

All airborne asbestos fibre monitoring works must be undertaken by a competent person or Licenced Asbestos Assessor, in accordance with SafeWork NSW requirements. Before starting the affected works, a licensed asbestos removal contractor shall be responsible for submitting the appropriate WorkSafe NSW permit (friable or non-friable) to remove asbestos at least five business days prior to the proposed works where required.

Remediation works shall not commence until all required approvals, licences and notifications including waste classification documentation (in accordance with EPA 2014) have been granted.

A licensed asbestos removalist and SafeWork notification regarding the scope of the removal works is required. The appointed Remediation Contractor must obtain a site-specific permit approving the works from SafeWork NSW. A permit will not be granted without a current licence and the application must be made at least seven days before the work is due to commence.

Removal of non-friable ACM (>10 m^2) is required to be conducted by a contractor holding at least a Class B licence. Removal for friable asbestos is required to be conducted by a contractor holding a Class A licence.

For details of hazardous materials on site, and recommended management practices, please refer to the *Hazardous Materials Register and Asbestos Management Plan* (Coffey 2013) submitted as part of the EIS for the development's SSDA submission.

Applicable Regulations & Guidelines

The following regulations and guidelines apply with respect to hazardous materials identification, classification, and management and are in line with the Planning Secretary's Environmental Assessment Requirements (SEARs):

- NSW EPA, Sampling Design Guidelines (EPA, 1995)
- Managing Land Contamination: Planning Guidelines - SEPP55 Remediation of Land (DUAP, 1998)
- NSW OEH, Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (OEH, 2011)
- National Environment Protection Council (NEPC) National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended in 2013), (NEPC, 2013)
- Protection of the Environment Operations (Waste) Regulation 2014
- NSW EPA Waste Classification Guidelines, Part 1: Classifying Waste (EPA, 2014a)
- NSW EPA Waste Classification Guidelines Part 2: Immobilisation of Waste (EPA, 2014b); and
- NSW EPA (2017) Contaminated Sites Guidelines for the NSW Site Auditor Scheme 3rd Edition (EPA, 2017).
- Safe Work NSW *How to Safely Remove Asbestos Code of Practice* 2019

Reference Drawings & Documents

The following drawings and documents were reviewed in the course of preparing this CWMSP:

Document Title
SSD Instrument of Consent Holder Full Version
Architectural Design Brief and Room datasheets - rev A
80820348-CI-RPT-001 - Schematic Design Report Civil
CI-1001 - Cover Sheet, Locality Plan
CI-1011- Civil Construction Notes Sheet 1
CI-1141- CutFill Earthworks Plan
CI-1651- Site Sections Sheet 1
CI-1652- Site Sections Sheet 2
CI-1653- Site Sections Sheet 3
A0.103-EXISTING SITE PLAN - Rev B
A0.104-DEMOLITION PLAN - Rev B
A0.105-PROPOSED SITE PLAN - Rev B
A1.001-LOWER GROUND PLAN - Rev C
A1.002-GROUND LEVEL PLAN - Rev C
A1.003-LEVEL 1 PLAN - Rev C
Hazardous Materials Register and Asbestos Management Plan (Coffey 2013)

This CWMSP has been prepared by:

Peter Hosking
Director, Waste Audit & Consultancy Services (Aust) Pty Ltd
October 19, 2022

A.8 Construction Soil and Water Management Sub-plan (CSWMSP)

NORTHROP

CIVIL REPORT

Jindabyne Education Campus HY

Ref: SY221264-00-CV-RP1
Rev: 8
Date: 5 July 2024

PREPARED FOR
Hansen Yuncken Pty Ltd
PO Box 7002
ALEXANDRIA NSW 2015

Civil

Revision Information

Project:	Jindabyne Education Campus HY
Document Title:	Civil Report
Client:	Hansen Yuncken Pty Ltd
Revision:	8
Status:	Issue for Information
Revision Date:	5 July 2024
Author:	N.Sutherland, D.Zhao
Verifier:	S.Fryer

Table of Contents

1. General

1.1 Introduction

Northrop Consulting Engineers Pty Ltd (Northrop) have been engaged by Hansen Yuncken to prepare the Civil Engineering design and documentation in support of a Construction Certificate for the New Jindabyne Education campus in 207 Barry Way, Jindabyne.

This report covers the works shown as the Northrop Drawing Package required for the development of the site including:

- Erosion and Sediment control;

1.2 Related Reports and Documents

This report is to be read in conjunction with the following reports and documents:

1. Detailed Design Phase Civil Documentation prepared by Northrop:
   - NRP-CEC-CC1-DWG-0201: Erosion and Sediment Control Plan
   - NRP-CEC-CC1-DWG-0211: Erosion and Sediment Control Details
2. NSW Department of Housing Manual, “Managing Urban Stormwater Soil & Construction” 2004 (Blue Book)
3. Snowy Monaro Regional Council Engineering Design Guidelines

1.3 The Development

1.3.1 Precinct and Surrounds

The site is located at 207 Barry Way, Jindabyne, in the local government area of Snowy Monaro Regional Council. The site is formally described as Lot 101 DP1019527.

The site is located on an empty land with some commercial centres nearby. Refer to below screenshot.

Figure 1 - Site

2. Erosion and Sediment Control

The objectives of the erosion and sediment control for the development site are to ensure:

- Adequate erosion and sediment control measures are applied prior to the commencement of construction and are maintained throughout construction; and
- Construction site runoff is appropriately treated in accordance with Snowy Monaro Regional Council requirements.
- The erosion and sediment control plan for the site has been prepared to address Condition B19 of SSD-15788005 for the proposed development at 207 Barry Way, Jindabyne, Lot 101 DP1019527. Specific responses to the requirements of Condition B19 can be found in Section 3 of this report.

As part of the works, the erosion and sedimentation control will be constructed in accordance with Council requirements and the NSW Department of Housing Manual, “Managing Urban Stormwater Soil & Construction” 2004 (Blue Book) prior to any earthworks commencing on site. The Concept Sediment and erosion control measures are documented in Northrop’s concept design plans NRP-CEC-CC1-DWG-0201 and NRP-CEC-CC1-DWG-0211.

2.1 Sediment Basin

Eleven temporary sediment basins have been designed to capture site runoff throughout construction staging. These locations have been coordinated to suit onsite conditions. Additionally, the OSD basin is also proposed to be used as a temporary sediment basin until the water treatment devices are installed. The construction of the basin will be undertaken in stages to enable maximum runoff capture assisted by diversion swales and direct runoff to the basin.

Construction Phasing updates:

- As of 22/01/2023, a section of the Southern end of the site has been constructed as well as a section on the Northern end of the site. Basins 2, 3, 10, and 11 have been removed.
- As of 17/06/2024, Hydromulch installation was conducted behind Blocks C, D, and F. To facilitate this work, Basins 4, 5, 6, 7, and 8 were removed. Additionally, the areas of completed construction have increased. Sediment fences along the affected areas will be retained until plantings are well established to manage potential runoff.

The remaining basins have sufficient capacity to effectively control sediment on-site, considering the current status of construction completion. The contractor also has the responsibility of monitoring the proper disposal of dirty water via the remaining basins. Figure 2 and Table 1 have been updated to reflect these changes.

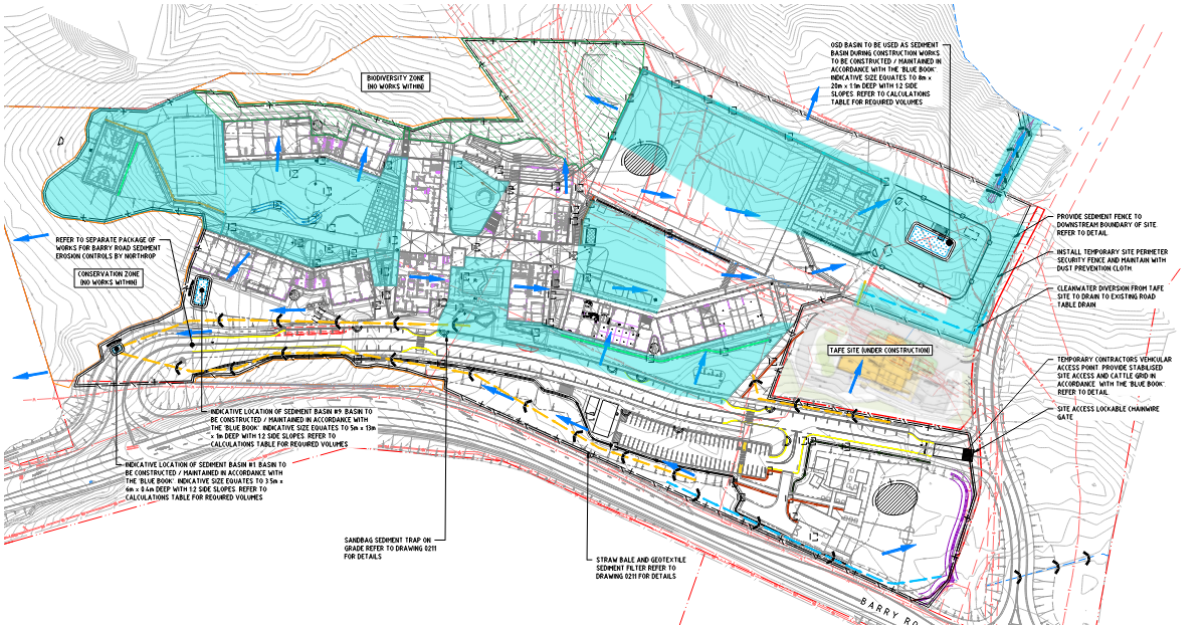


Figure 2 – Sediment Control Plan

Calculations to determine the concept design basin size have been based on available geotechnical information regarding soil types and through the use of the Soils and Construction Volume 1 Manual.

Additionally, the sedimental control works as proposed in this report is sufficient to capture construction runoff from the site of works such that the external Barry Road works can occur in unison. To ensure the sediment basins are working effectively they will be maintained throughout the construction works. Maintenance includes ensuring adequate settlement times or flocculation and pumping of clean water to reach the minimum storage volume at the lower level of the settling zone. The settling zone will be identified by pegs to clearly show the level at which design storage capacity is available.

The pumped water from the sediment basin can be reused for dust control during construction, refer Section 2.1.1 for Maintenance of the sediment basin.

Overflow weirs are to be provided to control overflows for rainfall events in excess of the design criteria which caters for a storm event up to and including the 1% AEP storm event.

The concept sediment basin sizing is summarised in the table below. Detailed sediment basin sizing, configuration and location shall form part of the Construction Certificate application.

Table 1 – Sediment Basin Calculations

SEDIMENT BASIN CALCULATIONS			
PARAMETER	ADOPTED VALUES		
	#1	#9	OSD
TOTAL AREA (ha)	0.170	0.500	3.250
SOIL TEXTURE GROUP	TYPE D	TYPE D	TYPE D
DESIGN RAINFALL DEPTH (DAYS)	5.000	5.000	5.000
DESIGN RAINFALL DEPTH (PERCENTILLE)	75%	75%	75%
X-DAY, Y-PERCENTILE RAINFALL EVENT	17.300	17.300	17.300
CV	0.250	0.250	0.250
SETTLING ZONE VOLUME (m^3)	7.353	21.625	140.563
SEDIMENT STORAGE VOLUME (m^3)	3.676	10.813	70.281
TOTAL BASIN VOLUME (m^3)	12.540	32.438	210.844

The sediment basin has been located for future conversion into the permanent water quality and detention devices.

2.1.1 Maintenance of Sediment Basin

Prior to any forecast weather event, likely to result in sediment laden runoff on the site, dewatering is to be undertaken to provide sufficient capacity to capture sediment laden water from the site. Any sediment laden water captured on site must be treated to ensure it will achieve Council's water quality objectives prior to its release from site. A sample of the released treated water must be kept on site in a clear container with the sample date recorded.

- No aluminum based products may be used to treat turbid water (flocculating/coagulants) on site without the prior written permission from an appropriate Council Officer. The applicant must have demonstrated ability to use such products correctly and without environmental harm prior to any approval.
- The chemical/ agents (Flocculating/coagulants) used in Type D and Type F Basins to treat turbid water captured in the basin must be applied in concentrations sufficient to achieve Council's water quality objectives (TSS <50mg/L Tubidity <60 NTU 6.5 <ph <8.5) within the 5 day rainfall depth used to calculation the capacity of the basin, after a rainfall event.
- All manufacturers instructions must be followed for the use of any chemicals/agents used on site except where approved by the responsible person or an appropriate Council Officier.
- Sufficient quantities of chemicals/agents to treat turbid water (Flocculating/coagulants) must be placed such that water entering the basin mixes with the chemical/agents and is carried into the basin/trap.
- The sediment basin to be dewatered as soon as practical once water captured in the basin achieves Council's water quality objectives
- Inspect the sediment basin after each rainfall events and/or weekly. Ensure that all the sediment is removed once the sediment storage zone is full. Ensure that outlet and emergency spillway works are maintained in a fully operational condition at all times.

2.2 Sediment and Erosion Control Measures

Prior to any earthworks commencing on site, sediment and erosion control measure shall be implemented generally in accordance with the Construction Certificate drawings and the "Blue Book". The measures shown on the drawings are intended to be a minimum treatment only as the contractor will be required to modify and stage the erosion and sedimentation control measures to suit the construction program, sequencing and techniques. These measures will include:

- A temporary site security/safety fence is to be constructed around the site, the site office area and the proposed sediment basin;
- Sediment fencing provided downstream of disturbed areas, including any topsoil stockpiles;
- Dust control measures including covering stockpiles, installing fence hessian and watering exposed areas;
- Placement of hay bales or mesh and gravel inlet filters around and along proposed catch drains and around stormwater inlets pits within the site;
- The construction of a temporary sediment basin as noted above in Section 2.1;
- Stabilised site access at the construction vehicle entry/exits.

Any stockpiled material, including topsoil, shall be located as far away as possible from any associated natural watercourses or temporary overland flow paths. Sediment fences shall be installed to the downstream side of stockpiles and any embankment formation. All stockpiles and embankment formations shall be stabilised by hydroseeding or hydro mulching on formation.

2.3 Wet Weather Management

In circumstances of heavy rain sufficient to affect site access and ground conditions the Site Manager and Site HSE Committee representative should complete a site inspection before work commences. The inspection needs to focus on;

- The suitability of pedestrian access to the amenities and into the construction work areas
- The suitability of access for plant and equipment
- The suitability of ground conditions for plant and equipment to operate
- Nominate the construction zones suitable for work to commence
- Actions to remediate those areas not suitable for work to commence (de-water; prepare ground conditions and access ways etc.)

3. Further Commentary

The Minister for Planning and Open Spaces has provided Conditions of Consent (Application Number: SSD - 15788005) for the New Jindabyne Education Campus. Conditions associated with the Construction Soil and Water Management Plan have been provided below with further commentary for consideration by School Infrastructure NSW and the Certifying Authority.

B19. Construction Soil and Water Management Sub-Plan (CSWMSP)

The Applicant must prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) and the plan must address, but not be limited to the following:

(a) be prepared by a suitably qualified expert, in consultation with Council;

(b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;

(c) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';

(d) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilization of the Site);

(e) detail all off-site flows from the site;

Northrop Commentary

The following comments have been provided with respect to Condition B1 for consideration by School Infrastructure NSW and the Certifying Authority.

Northrop Commentary

(a) The erosion and sediment control plans have been prepared by Stephen Fryer BE(Civil) MIEAust CPEng NER. Please refer to the CV of the designer provided in Appendix. The project design team have forwarded this report to Snowy Monaro Regional Council for their review and comment. Refer Consultation Record in the Appendix.

(b) Please refer to Section 2 of this report and associated Civil Engineering drawings NRP-CEC-CC1-DWG-0201 and NRP-CEC-CC1-DWG-0211. A shaker with wheel wash has been specified at the site egress points to remove loose soils and mud from vehicle wheels prior to leaving site.

(c) Please refer to Erosion and Sediment Control drawings NRP-CEC-CC1-DWG-0201 and NRP-CEC-CC1-DWG-0211.

(d) Clean water from the Sediment Basins are discharge to the empty space on the lot. Refer Section 2.1.1 for methodology prior to site stormwater during construction.

(e) Please refer to Section 2 of this report and associated Civil Engineering drawings NRP-CEC-CC1-DWG-0201 and NRP-CEC-CC1-DWG-0211. The erosion and sediment control plans have been designed in accordance with the requirements of NSW Department of Housing Manual, "Managing Urban Stormwater Soil & Construction" 2004 (Blue Book).

Appendix

Stephen Fryer

Principal | Senior Civil Engineer
BE (Civil) MIEAust CPEng NER

Stephen has over 25 years of professional experience, leading teams to deliver robust civil engineering outcomes for land development and urban infrastructure. His success has stemmed from his proficiency in understanding and bringing together all aspects of urban infrastructure, and the strong relationships he has developed with councils and utility providers.
Since joining Northrop in 2006, Stephen has played an integral role in building the civil team to pursue technical excellence and deliver practical, bespoke solutions for our clients. He was made an Associate in 2010 and then appointed Principal in 2012.
In his client-centred approach and commitment to adding value, Stephen knows the importance of understanding and managing risk – developing clear solutions that prepare for unforeseen challenges and deliver successful project outcomes for clients. Stephen is the Parramatta Office Leader and heads up the Service Excellence working group for the Sydney region.

Project Experience

Industrial

- Bucher Municipal - Sydney Business Park
- Marsden Park Trade Centre
- Yennora Distribution Centre
- ASICS HQ, Marsden Park
- Lindsay Transport, Erskine Park
- Tigerpak – Sydney Business Park
- Axalta - Sydney Business Park
- DB Schenker, QLD
- Northline, QLD
- Toll Larapinta, QLD
- Gore Hill Business Park

Commercial

- Suttons Motors Vehicle Showrooms – Rosebery, Lidcombe, Homebush, Chullora, Mosman, Waitara,
- Holliday Inn Express – Newcastle
- Holliday Inn Express – Macquarie Park

Institutional & Educational

- Lismore Hospital
- Bathurst Correctional Centre
- Cessnock Correctional Centre

Infrastructure

- IC3 West 17 Talavera Road, Macquarie Park

Public Domain & Open Spaces

- Wentworth Park Greyhound Track
- Bourke Street Cycleway
- Cooks River Cycleway
- Grand Pacific Walk
- Trench Reserve Boat Ramp – Penrith
- David Phillips Fields – Daceyville
- Charles Street Square – Parramatta
- Wattamolla Beach Reserve and Parking

Urban Development

- Le Windsor, Castle Hill
- Fern Creek Road and Orchard Street, Warriewood
- Rosewood Estate, Kellyville
- Sandstone Ridge, Marsden Park
- Seymour Residences – Roseville
- 10 Gilroy Ave Turramurra
- 5 – 15 Lamond Ave Turramurra
- Mirrabell Apartments, Turramurra
- Wagga Wagga Planning Study
- Campbelltown Overland Flow Path Rectification

- The Ponds Public & High School
- Wagga Wagga High School
- Catherine Fields High School
- Liverpool Catholic Club
- Campsie RSL Expansion

Jindabyne Education Precinct - SSD15788005 Condition B19

Stephen Fryer
To Volker Georgi

Reply | Reply All | Forward

Fri 28/10/2022 2:24 PM

221264_CR01Rev21_Erosion & Sediment Report.pdf 7 MB
221264_Erosion & Sediment Control Plan.pdf 3 MB
221264_Erosion & Sediment Control DETAILS.pdf 1 MB

Hi Volker,

Nice to meet with you last week.

I am sending this email regarding Condition B19 of SSD 15788005 which directs consultation with Council regarding the preparation of the erosion and sediment control plan. The condition is as follows:

B19. The Applicant must prepare a Construction Soil and Water Management Sub-Plan (CSWMSP) and the plan must address, but not be limited to the following:

(a) be prepared by a suitably qualified expert, in consultation with Council;

(b) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the site;

(c) describe all erosion and sediment controls to be implemented during construction, including as a minimum, measures in accordance with the publication Managing Urban Stormwater: Soils & Construction (4th edition, Landcom 2004) commonly referred to as the 'Blue Book';

(d) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site);

(e) detail all off-site flows from the site; and

Attached is a copy of the proposed erosion and sediment control plan and supporting report.

Feel free to discuss any aspect with me.

Regards

Stephen Fryer
Principal | Civil Engineer | Parramatta Office Leader

Northrop Consulting Engineers Pty Ltd
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D 02 9156 3029
Level 2, 3 Horwood Place Parramatta NSW 2150
www.northrop.com.au

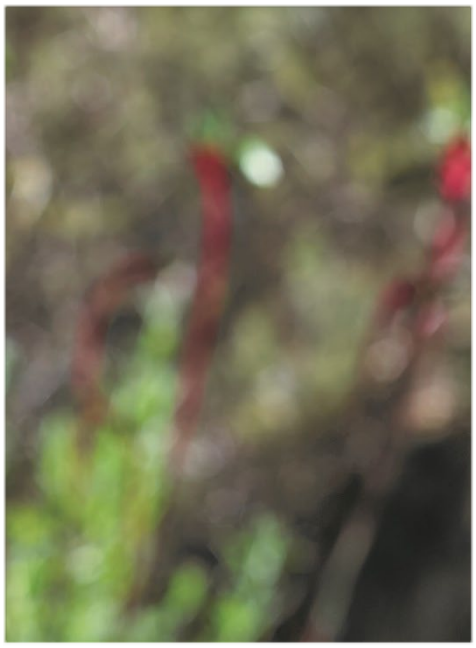
A.9 Aboriginal Cultural Heritage Management Sub-plan (ACHMSP)

Aboriginal Cultural Heritage Management Sub-Plan

Jindabyne Education Campus

November 2022

Project Number: 22-437



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Document verification

Project Title:	Heritage Management Plan Jindabyne Education Campus
Project Number:	22-437
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Revision	Date	Prepared by	Reviewed by	Approved by
Draft v1.0	21/10/2022	Tessa Bryant	Kirsten Bradley	Kirsten Bradley
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Acronyms, abbreviations and definitions

Aboriginal object	Has the same meaning as the definition of the term in section 5 of the *National Parks and Wildlife Act* 1974
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHCRP	Aboriginal Cultural Heritage Consultation Requirements for Proponents
ACHMSP	Aboriginal Cultural Heritage Management Sub-Plan
AHIMS	Aboriginal Heritage Information Management System
Archaeological Salvage	A program of salvage excavation/s (as required) to recover information and/or objects from identified archaeological sites
ASIRF	Aboriginal Site Impact Recording Form
ATR	Archaeological Technical Report
CEMP	Construction Environmental Management Plan
Certifier	Means a council or accredited certifier or in the case of Crown development, a person qualified to conduct a Certification of Crown Building work
Code of Practice	Code of Practice for Archaeological investigation of Aboriginal Objects in NSW (DECCW NSW 2010)
Construction	All physical work to enable operation including (unless specifically excluded by a condition) but not limited to the demolition and removal of buildings, the carrying out of works for the purposes of the development, including bulk earthworks, and erection of buildings and other infrastructure permitted by this consent, but excluding the following: • building and road dilapidation surveys; • investigative drilling or investigative excavation; • archaeological salvage; • establishing temporary site offices (in locations identified by the conditions of this consent); • installation of environmental impact mitigation measures, fencing, enabling works; and • minor adjustments to services or utilities However, where heritage items, or threatened species or threatened ecological communities (within the meaning of the Biodiversity Conservation Act 2016 or Environment Protection and Biodiversity Conservation Act 1999) are affected or potentially affected by any physical work, that work is construction, unless otherwise determined by the Planning Secretary in consultation with EHG or DPE Fisheries (in the case of impact upon fish, aquatic invertebrates or marine vegetation)
CCP	Community Consultation Plan
CEMP	Construction Environmental Management Plan
DECCW	(Former) Department of Environment, Climate Change and Water (NSW) (now DPE)

DPE	Department of Planning and Environment (NSW)
EIS	Environmental Impact Statement for Jindabyne Education Campus dated December 2021 as amended by: • New Education Campus at 207 Barry Way, Jindabyne Submissions Report dated 8 June 2022; • additional information provided by the Applicant to the Department dated 21 June 2022
ha	hectares
Head contractor	Hansen Yuncken Pty Ltd
Heritage Act	*Heritage Act 1977* (NSW)
HSE	Health Safety and Environment
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 Note: "material harm" is defined in this consent
km	kilometres
LALC	Local Aboriginal Land Council
LGA	Local Government Area
m	metres
Material harm	Is harm that: a) involves actual or potential harm to the health or safety of human beings or to the environment that is not trivial; or b) 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)
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
NGH	NGH Pty Ltd
Non-compliance	An occurrence, set of circumstances or development that is a breach of the Development Consent but is not an incident
NPW Act	*National Parks and Wildlife Act 1974* (NSW)
NSW	New South Wales
Operation	The carrying out of the approved purpose of the development upon completion of construction
PAD	Potential Archaeological Deposit
Principal	NSW Department of Education

RAP	Registered Aboriginal Party. Means the Aboriginal persons identified in accordance with the document entitled “Aboriginal cultural heritage consultation requirements for proponents 2010” (DECCW)
RtS	Response to Submission Report
WHSE Officer	Work Health, Safety and Environment Officer
SSD	State Significant Development
The Project	Jindabyne Education Campus
WMS	Work Method Statements

1. Introduction

Development Consent was granted on the 10th of August 2022 for the construction and operation of a new educational facility at 207 Barry Way, Jindabyne (part of Lot 101 DP 1019527) in the Snowy Monaro Local Government Area (LGA) by the delegate for the Minister for Planning.

The Jindabyne Education Campus ('the Project') is a State Significant Development (SSD) (SSD 15788005) for the construction of a new education campus at Jindabyne, New South Wales (NSW) comprising of a new primary school and a new high school. The purpose of this Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) is to describe how impacts on Aboriginal heritage will be minimised and managed during construction and operation of the Project. The ACHMSP is part of the Construction Environmental Management Plan (CEMP) for the Project.

A draft Aboriginal Cultural Heritage Assessment Report (ACHAR) was prepared for the Jindabyne Education Campus (NGH 2021), which was included as part of the Jindabyne Education Campus Environmental Impact Statement (EIS) (Mecone 2021). The EIS summarised the key findings of the ACHAR including impacts to Aboriginal heritage and any proposed mitigation measures to minimise impacts, noting sub-surface testing was in progress. A final ACHAR and Archaeological Technical Report (ATR) (NGH 2022) including the results of sub-surface testing was included in the Response to Submissions Report (RtS) (Mecone 2022) which detailed proposed mitigation measures including the archaeological salvage of Aboriginal sites proposed to be impacted by the development of the Jindabyne Education Campus.

Hansen Yuncken Pty Ltd has been engaged as the construction Head contractor for the Project by the Proponent and Principal, the NSW Department of Education.

1.1 Context

The CEMP prepared for the Project complies with the consent, issued by the delegate for the NSW Minister for Planning and all applicable legislation, for the construction and operation of the Project.

This ACHMSP is part of the Principal and their Head contractor's environmental management framework for the Project, as described in the overall CEMP. This ACHMSP has been prepared to address the requirements of the mitigation and management measures listed in the Development Consent relevant for Aboriginal Heritage during the construction and operation of the Project.

This ACHMSP has been prepared by suitably qualified, independent, and experienced archaeologists Dr Tessa Bryant and Kirsten Bradley from NGH. This ACHMSP will be finalised in consultation with the Registered Aboriginal Parties (RAPs) for the Project.

1.2 Environmental Management Strategic Framework

The ACHMSP is part of the Principal and their Head contractor's environmental management framework for the Project, as described in the CEMP. This ACHMSP forms part of the CEMP for the Project and is to be read in conjunction with the overarching CEMP. It is applicable to all staff, contractors and sub-contractors associated with the construction and operation of the Project.

Mitigation and management measures identified in this plan will be incorporated into the site induction and Work Method Statements (WMS), as outlined in the CEMP, where applicable.

All Project personnel, contractors and sub-contractors will undertake a site induction prior to commencing work on the Project site and will sign to acknowledge they have understood the contents of the induction. Additionally, all personnel undertaking a task governed by a work method statement must have signed that they have participated in a toolbox training on the work method statement, and that they have read and understood their obligations prior to commencing work.

Used together, the CEMP, management measures, procedures, site induction and WMS form management guides that clearly identify required environmental management actions for reference by the personnel, contractors and sub-contractors for the Project.

As a subplan of the CEMP, the review and document control processes for this plan will be undertaken in line with standard document control policy and procedures.

Further information about the nature of works to be completed and details on the Project can be found in the overarching CEMP.

2. Purpose and Objectives

2.1 Purpose and Objectives

The purpose of this ACHMSP is to provide a consistent and transparent process for the management of Aboriginal cultural heritage and to describe how impacts on Aboriginal heritage will be minimised and managed during construction and operation of the Project in line with the following document.

- Aboriginal Cultural Heritage Assessment Jindabyne Education Campus (NGH 2022)

In addition, the ACHMSP provides guidance for the management of any unexpected Aboriginal heritage objects that may be encountered during works for the Project. This ACHMSP applies specifically to proposed activities carried out within Project designated area in the Site Boundary.

The key objective of the ACHMSP is to ensure that impacts to Aboriginal heritage items which are known to be present within the Project area are minimised and that any impacts are within the scope permitted by the planning approval. To achieve this objective, the following will be undertaken:

- Ensure appropriate controls and procedures are implemented during construction and operation activities to avoid (where necessary) or minimise potential adverse impacts to Aboriginal heritage in the Site Boundary.
- Ensure appropriate measures are implemented to address the mitigation measures as detailed in the Development Consent, RtS and Aboriginal Cultural Heritage Assessment Jindabyne Education Campus (NGH 2022).
- Ensure appropriate measures are implemented to comply with all relevant legislation and other requirements as described in Section 3 of this plan.

2.2 Targets

The following targets have been established for the management of Aboriginal heritage impacts during the construction and operation of the Project:

- To promote the safeguarding and protection of all Aboriginal cultural heritage in the area.
- To ensure that Aboriginal cultural heritage management measures are fully implemented, and no incidents occur.
- Ensure full compliance with the relevant legislative requirements, the Development Consent, RtS and the Aboriginal Cultural Heritage Assessment Jindabyne Education Campus (NGH 2022).
- Ensure avoidance to the known artefact site Jindabyne Campus AFT 2 by works for this Project.
- Follow correct procedure and ensure notification of any previously unidentified Aboriginal objects/places uncovered during construction and operation of the Project.

3. Environmental Requirements

3.1 Legislative and Other Environmental Management Requirements

Legislation

Legislation relevant to heritage management includes:

- *Environmental Planning and Assessment Act 1979 (EP&A Act)*
- *National Parks and Wildlife Act 1974 (NPW Act)*
- *National Parks and Wildlife Regulations 2019*
- *Native Title Act 1994 (NSW)*
- *Native Title Act 1993 (Commonwealth)*
- *Environment Protection Biodiversity Conservation Act 1999 (EPBC Act) (Commonwealth)*
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Commonwealth)*

Relevant provisions of the above legislation are explained in the register of legal and other requirements included in the CEMP

Guidelines and Standards

The main guidelines, specifications, and policy documents relevant to this sub plan include:

- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011)*;*
- *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW NSW 2010a)*;*
- *Aboriginal cultural heritage consultation requirements for proponents 2010 (ACHCRP)* (DECCW NSW 2010b)*.*

3.2 Permits and licences

There are no licences or permits directly relevant for the Project in respect to the management of Aboriginal heritage. Further details regarding permits and licences are provided in the CEMP.

3.3 Development Consent

Development Consent was issued by delegate for the Minister of Planning on the 10th of August 2022. Details of the Development Consent in relation to Aboriginal heritage are summarised in Table 3-1 below.

A detailed list of heritage control measures to be implemented to ensure compliance with the Development Consent, RtS and Aboriginal Cultural Heritage Assessment Jindabyne Education Campus (NGH 2022) for the Project is detailed in Section 7 of this document. As noted in the Development Consent, in addition to meeting the specific performance measures and criteria of the Project consent, all reasonable and feasible measures must be implemented to prevent and/or minimise any material harm to the environment that may results from the construction and operation

of the development is noted, this includes harm to Aboriginal heritage objects. This document outlines how this is to be achieved.

Table 3-1 Project conditions of consent relevant to the ACHMSP.

Condition	Condition of Consent	Location of Relevant Information
A1 of Schedule 2	In additional to meeting the specific environmental performance criteria established under this consent, all reasonable and feasible measures to prevent, and, if prevention is not reasonable and feasible, minimise any material harm to the environment that may result from the construction and operation of the development.	This document and Section 7.
A2 of Schedule 2	The development may only be carried out: a) in compliance with the conditions of this consent; b) in accordance with all written directions of the Planning Secretary; c) generally in accordance with the EIS and Response to Submissions and Supplementary Response to Submissions; d) in accordance with the approved plans	This document
A8 of Schedule 2	**Evidence of Consultation** Where conditions of this consent require consultation with an identified party, the Applicant must: a) Consult with the relevant party prior to submitting the subject document for information or approval; and b) Provide details of the consultation undertaken including: i) The outcome of that consultation, matters resolved and unresolved; and ii) Details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	This document, Section 4 and Appendix B.
A28 of Schedule 2	**Compliance** The Applicant must ensure that all of its employees, contractors (and their sub-contractor) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect to the developments.	Section 8

Condition	Condition of Consent	Location of Relevant Information
A29 of Schedule 2 A30 of Schedule 2	**Incident Notification, Report and Response** The Planning Secretary must be notified through the major projects portal immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident. Subsequent notification must be given and reports submitted in accordance with the requirements set out in Appendix 2.	Section 8.6
A31 of Schedule 2 A32 of Schedule 2 A33 of Schedule 2	**Non-Compliance Notification** The Planning Secretary must be notified through the major projects portal within seven days after the Applicant becomes aware of any non-compliance. The certified must also notify the Planning Secretary through the major projects portal within seven days after they identify any non-compliance. The notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section 8.6
A34 of Schedule 2	**Revision of Strategies, Plans and Programs** Within three months of: a) the submission of a compliance report b) the submission of an incident report under condition A30; c) the submission of an Independent Audit under condition C41 or C42; d) the approval of any modification of the conditions of this consent; or e) The issue of a direction of the Planning Secretary under condition A2 which requires a review, the strategies, plans and programs required under this consent, must be reviewed, and the Certifier must be	Section 8 and 9

Condition	Condition of Consent	Location of Relevant Information
A35 of Schedule 2	notified in writing that a review is being carried out. If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans, programs or drawing required under this consent must be revised, to the satisfaction of the Certifier. Where revisions are required, the revised document must be submitted to the Certified for information within six weeks of the review. *Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*	
B15 of Schedule 2	Prior to the commencement of construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary for information. The CEMP must include, but not be limited to: c) an unexpected finds protocol for Aboriginal heritage and associated communications procedure d) mitigation measures in accordance with: v) Aboriginal Cultural Heritage Management Sub-Plan (see condition B20)	CEMP and this document Appendix D This document
B20 of Schedule 2	The Aboriginal Cultural Heritage Management Sub-Plan (ACHMSP) must address, but not be limited to, the following: a) be prepared by a suitable qualified and experiences expert in consultation with the Registered Aboriginal Parties; b) describe the measures to protect the known artefact Jindabyne Campus AFT 2 in perpetuity c) implement recommendations made in the Aboriginal Cultural Heritage Assessment for Jindabyne Education Campus dated 23 May 2022 prepared by NGH Pty Ltd	This document
C9 of Schedule 3	**Implementation of Management Plans** The Applicant must carry out the construction of the development in accordance with the most recent version of the CEMP (including Sub-Plans).	CEMP and this document, Section 9

Condition	Condition of Consent	Location of Relevant Information
C27 of Schedule 3 C28 of Schedule 3	**Aboriginal Cultural Heritage** Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Assessment Report prepared by NGH Pty Ltd dated 23 May 2022. A representative of the Local Aboriginal Land Council must be invited to observe works associated with condition B20 undertaken on the site. Any invitation must be provided at least 14 days prior to the works occurring and reasonable arrangements agrees for the observation of the works where an invitation is accepted. In the event that any unexpected finds are discovered, any direction form the Local Aboriginal Land Council representative and the procedures outlined in condition C29 must be followed.	This document, Section 7 and Appendix D
C29 of Schedule 3	**Unexpected Finds Protocol – Aboriginal Heritage** In the event that surface disturbance identifies a new Aboriginal object: a) all works must halt in the immediate area to prevent any further impacts to the object(s); b) a suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects; c) the site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW under Department of Premier and Cabinet and the management outcome for the site included in the information provided to AHIMS; d) the Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites; and e) works may only recommence with the written approval of the Planning Secretary	Section 8.5.1 and 8.5.2 Appendix D

Condition	Condition of Consent	Location of Relevant Information
	Independent Environmental Audit	Section 8.4
C40 of Schedule 3	Proposed independent auditors must be agreed to in writing by the Planning Secretary prior to the commencement of an Independent Audit	
C41 of Schedule 3	Independent Audits of the development must be conducted and carried out in accordance with the Independent Audit Post Approval Requirements	
C42 of Schedule 3	The Planning Secretary may require the initial and subsequent Independent Audits to be undertaken at different times to those agree to above, upon giving at least 4 weeks' notice to the Applicant of the date or timing upon which the audit must be commenced.	
C43 of Schedule 3	In accordance with the specific requirements in the Independent Audit Post Approval Requirements, the Applicant must: a) review and respond to each Independent Audit Report prepared under Condition C40 of this consent, or condition C42 where notice is given; b) submit the response to the Planning Secretary; and c) make each Independent Audit Report and response to it publicly available within 60 days after submission to the Planning Secretary.	
C44 of Schedule 3	Independent Audit Reports and the applicant/ proponent's response to audit findings must be submitted to the Planning Secretary within two months of undertaking the independent audit site inspection as outlined in the Independent Audit Post Approval Requirements unless otherwise agreed by the Planning Secretary.	
C45 of Schedule 3	Not withstanding the requirements of the Independent Audit Post Approval Requirements, the Planning Secretary may approve a request for ongoing independent operational audits to be ceased, where it has been demonstrated to the Planning Secretary's satisfaction that an audit has demonstrated operational compliance.	
Appendix 2: Written Incident Notification and Reporting	**Written Incident Notification Requirements** 1. A written incident notification addressing the requirements set out below must be emailed to the Planning Secretary through the major projects	Section 8.6

Condition	Condition of Consent	Location of Relevant Information
Requirements	portal within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition A9 or, having given such notification, subsequently forms the view that an incident has not occurred. 2. Written notification of an incident must: (a) identify the development and application number; (b) provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident); (c) identify how the incident was detected; (d) identify when the applicant became aware of the incident; (e) identify any actual or potential non-compliance with conditions of consent; (f) describe what immediate steps were taken in relation to the incident; (g) identify further action(s) that will be taken in relation to the incident; and (h) identify a project contact for further communication regarding the incident. 3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested. 4. The Incident Report must include: (a) a summary of the incident; (b) outcomes of an incident investigation, including identification of the cause of the incident; (c) details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and (d) details of any communication with other stakeholders regarding the incident.	

The Aboriginal heritage items within the development area and the mitigation recommendations from the ACHAR for the Project are listed below for easy reference. AHIMS# 62-1-0392/ Jindabyne Campus AFT 2 (an isolated find) is listed in the Development Consent condition B20 must not be harmed (Table 3-2). This site is outside of the development footprint. The Development Consent condition B20 also requires the recommendations from the ACHAR which was completed by NGH Pty Ltd dated May 2022 be implemented.

Table 3-2 Aboriginal heritage item listed in the Development Consent and ACHAR to not be harmed by the development.

AHIMS	Name	Type	Mitigation
62-1-0392	Jindabyne Campus AFT 2	Isolated Find	No harm allowed, protect in perpetuity

Aboriginal heritage items where mitigation is required prior to impact if these sites are unable to be avoided by the development are listed in Table 3-3 as noted in the ACHAR (NGH 2022).

Table 3-3 Aboriginal heritage items listed in the ACHAR (NGH 2022) for salvage prior to impact.

AHIMS	Name	Type	Mitigation
62-1-0385	Jindabyne Campus AFT 1/ PAD 1	Artefact Scatter + Potential Archaeological Deposit	Community collection surface salvage and Subsurface (archaeological) salvage
62-1-0386	Jindabyne Campus AFT 3/ PAD 3	Artefact Scatter + Potential Archaeological Deposit	Community collection surface salvage
62-1-0387	Jindabyne Campus AFT 4	Isolated Find	Community collection surface salvage

No mitigation was recommended for Jindabyne Campus PAD 2.

4. Consultation for the ACHMSP

Condition B20(a) of Schedule 2 of the Development Consent requires the ACHMSP be prepared in consultation with the Registered Aboriginal Parties (RAPs).

The consultation process for this Project began in 2021 for the ACHAR. The consultation with Aboriginal stakeholders was undertaken in accordance with clause *80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010* following the consultation steps outlined in the ACHCRP guide.

The Project is located within the boundaries of the Bega Local Aboriginal Land Council (Bega LALC).

As a result of this process, there are twenty Registered Aboriginal Parties (RAPs) for this Project, as listed below and outlined in Appendix B.

- Bega LALC
- Ngarigo and Djiringanj people and elders (John Dixon)
- Wagonga Local Aboriginal Land Council (Wagonga LALC)
- Ngarigu Brajerak
- PD Ngunawal Consultancy
- Yurwang Gundana Cultural Heritage Services
- Gulgunya Ngunawal Heritage Aboriginal Consultancy (GNHAC)
- Didge Ngunawal Clan
- Clive Freeman
- Ngunawal Heritage Aboriginal Corporation
- Ngarigo Nation Indigenous Corporation
- Muragadi Heritage Indigenous Corporation
- Murri Bidgee Mullangari Aboriginal Corporation
- Merrigarn Indigenous Corporation
- Wolgalu Umbe Traditional Custodians Corporation
- Redacted Group #1
- Redacted Group #2
- Redacted Group #3
- Redacted Group #4
- Redacted Group #5

The five redacted groups who registered an interest in the project have requested that their details are not released.

As per Condition A8, B20(a) and C29 of the Development Consent, consultation with the Project RAPs is required and ongoing during the implementation of the Plan. A log of consultation will be kept by the Project's Environmental Representative. Consultation with the RAPs will generally be provided in writing via email by the Project's Environmental Representative as required.

For this ACHMSP, additional consultation during the development of this document was undertaken with the RAPs as required by the Development Consent. A copy of this draft sub plan was sent via

email to all RAPs for comment on the 25th of October 2022. Any comments on the draft ACHMSP were requested o be provided within 7 days of the sub plan being provided to the RAPs.

Comments on the draft ACHMSP, were received from four of the RAPs over the 31st of October 2022 and 1st of November 2022. A copy of these responses is held by NGH which can be provided on request to consenting authority and/or Certifier. As a number of the responses have come from RAPs whose details are redacted in public documents for this Project, as a courtesy all responses to the draft ACHMSP have been redacted in this plan.

No issues or concerns were raised about the draft ACHMSP from the RAPs who provided a response and this document which subsequently finalised.

On the 7th of November 2022 verbal comments were provided to NGH by John Dixon- Ngarigo and Djiringanj people and elders. It was specially noted that C28 of Schedule 3 of the Development Consent (as issued on the 10th of August 2022) must be reworded to ensure the opportunity to be involved in mitigation works and events of unexpected finds for this project state Aboriginal custodian rather than specially identifying the LALCs involvement in works for this project. Subsequent, to the modification of this condition this plan should be updated accordingly however it was stressed that regardless of this condition an opportunity to participate in the mitigation works should be provided to the appropriate representatives for the Aboriginal custodians of the land on which the project is being built. These comments were requested to be included into this plan. Where possible these comments have been incorporated into version Final v1.1 however NGH note that this plan is currently bounded by the existing conditions of the Development Consent.

On the 8th of November 2022 verbal comments were provided to NGH by an individual who represents Redacted Group #1 and Redacted Group #2. It was specially noted that C28 of Schedule 3 of the Development Consent (as issued on the 10th of August 2022) must be reworded to ensure the opportunity to be involved in mitigation works and events of unexpected finds for this project state Aboriginal custodian/ Traditional Owners rather than specially identifying the LALCs involvement in works for this project. It was stressed that regardless of the wording of this current condition of the Development Consent for this project that an opportunity to participate in the mitigation works should be provided to the appropriate Aboriginal representatives of the Country on which the project is being built not just the LALC. As these comments were inline with those provided by another RAP and the changes made for v1.1 of this plan no further changes were determined to be warranted as Section 7 and Appendix C had previously been updated to take into account similar comments.

5. Existing Heritage

As part of the EIS, NGH Pty Ltd (2021) prepared a draft ACHAR for the proposed Jindabyne Education Campus that detailed the findings of the survey of the Project area and recommended subsurface investigation of four areas which were determined to have potential archaeological deposits (PAD). The findings of the draft ACHAR (2021) which did not include the results of the subsurface investigations were summarised within the EIS (Mecone 2021). The subsurface testing results were presented in an Archaeological Technical Report (ATR) (NGH 2022b) which was submitted as part of the documents provided in the response to submission. The final ACHAR (NGH 2022a), which included a summary of the results of the subsurface test excavation, was also included in the response to submission for the Project. A brief summary of the results of the Aboriginal heritage assessments undertaken for the Project is included below.

The assessment included a review of relevant information relating to the landscapes within the Project area. It was noted that no Aboriginal sites had previously been recorded within the Project area. The Project area is situated to the west of a second order drainage channel of Lees Creek and an unnamed tributary of Lees Creek to the north. Lees Creek flows into Stinky Bay, Lake Jindabyne 1km to the east but would have joined with the Snowy River approximately 2km away prior to the construction of the dam. The Project area comprises rolling hills and dissected plateaus. Areas of elevated level terrain within the Project area were identified to have higher archaeological potential.

Based on previous archaeological investigations and Aboriginal site modelling for the region the Project area was noted as having the possibility of containing archaeological sites, especially given that Aboriginal people have lived in the region for tens of thousands of years. This would most likely be in the form of stone artefacts. A low potential for burials to occur was also noted as burial sites have been identified within the local Jindabyne area.

Despite the variable visibility encountered during the survey, four PAD areas, one low density artefact scatter and three isolated finds were recorded. Jindabyne Campus PAD 1 was in the southwest, PAD2 in the central west, PAD3 in the central north and PAD 4 in the eastern central portion of the Project area (NGH 2021). Jindabyne Campus AFT1 was a single quartz flake (isolated find) considered to be in situ which was located in a small exposure at the base of a mature tree on flat ground in the southwest of the Project area. Jindabyne Campus AFT2 was a quartz flaked piece (isolated find) in a small exposure at the base old a former golf tee built up from fill in the southwest of the Project area and was considered unlikely to be in situ. Jindabyne Campus AFT3 comprised three artefacts, two quartz flakes and one volcanic flake fragment that were eroding from a gravelly substrate below the steep bank of an elevated golf tee, in a disturbed area in the central west of the Project area. Jindabyne Campus AFT4 was a quartz flake fragment (isolated find) on the steeper base on a knoll in an eroded area, which was unlikely to be *in situ* in the northeast of the Project area.

Subsequent to the survey, a limited program of subsurface test excavation of the PADs was undertaken following the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (NGH 2022a & 2022b). A total of 20 test pits were excavated across the four PADs within the Project area, with seven test pits excavated in PAD 1, seven test pits excavated in PAD 2, four test pits excavated in PAD 3 and two test pits excavated in PAD 4. A total of eight artefacts were recovered from the test excavation, with six stone artefacts recovered from PAD 1, one stone artefact recovered from PAD 2 and one stone artefact from PAD 3. As no cultural material was recovered from PAD 4 it was determined not to be a site.

Within PAD 1 four artefacts came from TP 1, and one artefact each from TP 5 and TP6, this cultural material was determined to be associated with the site Jindabyne Campus AFT1 / PAD 1. One artefact came from TP 5 in PAD 2 which was recorded as the site Jindabyne Campus PAD2 and one from TP 1 in PAD 3 which was determined to be associated with the site Jindabyne Campus AFT3 / PAD 3. The artefacts recovered from the testing were mostly silcrete and quartz flakes and flake fragments with one volcanic asymmetric backed artefact and one volcanic flake also recovered. The test excavation results were indicative of a low density background scatter associated with the transient use of the surrounding landscape.

Table 5-1 below lists the identified risks to known Aboriginal sites within the Project area and the mitigation measures as recommended in the final ACHAR. It was also noted that it should also be considered that the campus acknowledges the presence of the Aboriginal sites in some way.

Table 5-1 Identified risks to known Aboriginal sites within the Project area as noted in the ACHAR (NGH 2022).

AHIMS #	Site name	Site Type	Type of harm	Degree of harm	Consequence of harm	Recommendation
62-1-0385	Jindabyne Campus AFT 1 / PAD 1	Artefact Scatter	Indirect	Total	Total loss of value	Limited subsurface salvage and salvage of surface objects prior to development. Salvage would occur in a minimum of one open area of 2m x 2m around the location of TP1. Additional options for a second open area or expansion of the first should also be included in the methodology.
62-1-0392	Jindabyne Campus AFT 2	Isolated Find	Indirect	Partial	Partial loss of value	As the site is outside of the Proposal Area and will not be impacted, a barricade will need to be erected to form a 5m buffer around the site to ensure it remains intact.
62-1-0386	Jindabyne Campus AFT 3 / PAD 3	Artefact Scatter	Direct	Total	Total	Salvage surface objects prior to development
62-1-0387	Jindabyne Campus AFT 4	Isolated Find	Direct	Total	Total	Salvage surface objects prior to development
62-1-0410	Jindabyne Campus PAD 2	Isolated Find	Direct	Total	Total	No further mitigation required
NA	Jindabyne Campus PAD 4	Not a site	NA	NA	NA	No further mitigation required

6. Heritage Mapping

Mapping of the heritage items and recommended mitigation for the Project are shown in Figure 6-1.

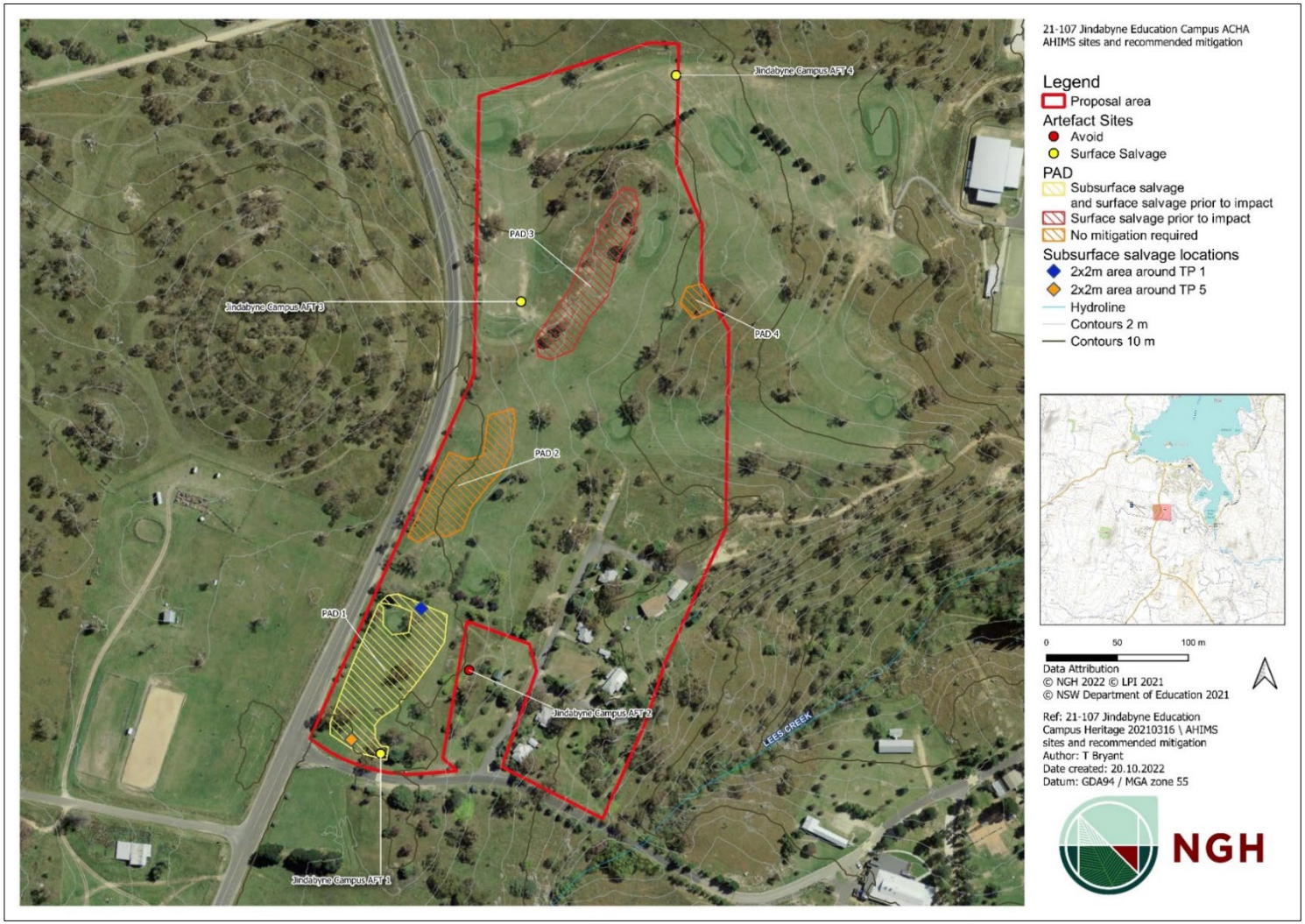


Figure 6-1 Location of known Aboriginal sites with the Project area and required mitigation measures.

7. Heritage Control Measures

A range of mitigation requirements and control measures are identified in the Development Consent, EIS, RtS and heritage assessments undertaken for the Project. Specific measures and requirements to address impacts to heritage values are outlined in Table 7-1. The measures have been listed to cover broad activities and as such there may be some repetition of mitigation measures. This table also specifically includes recommendations made in the Aboriginal Cultural Heritage Assessment for the Jindabyne Education Campus dated 23 May 2022 prepared by NGH Pty Ltd.

Table 7-1 Aboriginal Heritage control measure for the Project.

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
General				
All reasonable and feasible measures must be implemented to prevent and/or minimise any material harm to the environment, including Aboriginal objects, that may result from the construction and operation of the development.	This document	Pre-construction Construction Operational	Head contractor Project Manager	This document
Ensure the development does not cause any direct or indirect impacts on the Aboriginal heritage items identified in the Development Consent (Jindabyne Campus AFT 2) as sites to avoid impacting or other sites located outside the approved development footprint.	This document Development Consent	Pre-construction Construction Operational	Principal Head contractor Project Manager	This document Development Consent ACHAR
Implementation of approved Aboriginal Cultural Heritage Management Sub-Plan prior to the commencement of construction as part of the submission of the CEMP to the Certifier and provided to the Planning Secretary for information.	This document CEMP Development Consent	Pre-construction	Head contractor Project Manager	This document
A copy of the ACHMSP should be kept on site during construction and operation of the Project and be readily available for reference if and as required.	This document	Pre-construction Construction Operational	Head contractor Environmental Officer	This document

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
Training will be provided to all personnel involved in construction and management phases of the Project, including relevant sub-contractors on Aboriginal heritage requirements from this sub plan through inductions, toolboxes, and targeted training.	Induction package Toolbox training material Targeted training material	Pre-Construction Construction Operational	Project Manager Environmental Officer Head contractor	This document Section 8.2 and
All employees, contractors and utility staff working on site will receive Aboriginal Cultural Heritage Awareness Training. It will be provided to all personnel in the form of an induction before they begin work on site. A record of this training will be kept.	Induction package	Pre-construction Construction Operational	Project Manager Head contractor Environmental Officer	This document Section 8.2
A strategy for the long-term management of any items or material that are salvaged would be developed in consultation with the registered Aboriginal parties. It is recommended that the artefacts recovered during salvage would be relocated and buried in a safe location within the Project area outside the approved development footprint such as at or near the location of Jindabyne Campus AFT 4, however long-term management may include options such as: a. Buried in accordance with Requirement 26 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* in a safe location away from development. b. Kept as a display in the school campus or for teaching purposes. This would require the completion of a Care Agreement under Section 85 of the NPW Act. c. Consultation with the RAPs regarding their preference for storage and management of any collected artefacts should continue.	Development Consent ACHAR This Plan	Pre-construction Construction	Project Manager Head contractor Environmental Officer Project Archaeologist	This document Appendix C and Section 7.2
The location of all Aboriginal sites which are not approved for impacts (Jindabyne Campus AFT 2) and/or proposed to be avoided by impacts based on the final design should be clearly shown on all relevant construction maps and plans.	Construction mapping and plans	Pre-construction Construction Operational	Head contractor Project Manager	This document and construction mapping and plans

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
Further archaeological assessment would be required if the Project activity extends beyond the areas assessed to date. This would include consultation with the registered Aboriginal parties and may include further field survey and subsurface testing.	Heritage reports Development Consent	Design Pre-construction Construction Operational	Principal	Development Consent Heritage reports This document
A formal modification to the development consent would be required if any activity were proposed to extend beyond the area assessed and granted for development approval.	Development Consent	Design Pre-construction Construction Operational	Principal	Development Consent
Aboriginal heritage must be included within any major environmental audit for the Project	Development Consent This document	Pre-construction Construction Operational	Independent Auditor Project Manager	This document Section 8.4
The Principal must notify the owner of the land at the location of Jindabyne Campus AFT 2 of the presence of this Aboriginal site and that it is noted in the conditions of this project as a site which must be avoided in perpetuity.	Development Consent Heritage Assessments	Design Pre-construction Construction Operational	Principal	Development Consent Heritage reports This document
To ensure that there are no impacts to the location of Jindabyne Campus AFT 2 (in perpetuity) by activities associated with the education campus, the Principal should consider the erection of permanent fencing of the lands managed by the Principal for this Project in proximity of this location, ensuring the avoidance of Jindabyne Campus AFT 2.	Development Consent Heritage Assessments	Design Pre-construction Construction Operational	Principal	Development Consent Heritage reports This document
PRE-CONSTRUCTION				
Temporary fencing will be placed around the school site during construction to ensure all works are within the approved area and to ensure no impacts to the site Jindabyne Campus AFT 2 during construction works.	RtS	Pre-construction Construction	Head contractor Environmental Officer	This document

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
Delineation and signage of Aboriginal sites that will not be impacted by the proposed development works within the Project area will be put in place prior to any construction works commencing with a minimum 5 metre no go area fenced to ensure no inadvertent impacts during construction can occur.	ACHAR ACHMSP Development Consent	Pre-construction Construction Operational	Head contractor Environmental Officer	This document Section 8.3 Table 5-1
Delineation and signage of the artefact relocation site/s will also occur (if construction works are still occurring) once the relocation has occurred if reburial of the material is the chosen long term management option selected by the RAPs for any salvaged material and the objects previously recovered from test excavation which are in the temporary care of NGH. A minimum 5 m buffer zone is required to be placed around the artefact relocation site/s (if construction works are still occurring) to ensure they will not be impacted into the future. No future works can occur which will impact the relocation site.	ACHAR This document	Pre-construction Construction	Head contractor Environmental Officer	This document
Temporary storage of any recovered salvaged material may be temporarily stored with NGH in a secure locked cabinet at the NGH Canberra office with the material previously recovered from testing, until a suitable reburial location and/or the long term management of material is agreed upon with the RAPs and Principal. This may occur post construction and will occur within 2 years of the completion of the construction works.	This document	Pre-construction Construction Operational	Principal	This document
A representative of the appropriate Local Aboriginal Land Council (the Bega LALC) must be invited to observe works associated with delineation of Aboriginal sites that will not be impacted, salvage and unexpected finds (or any works undertaken as part of Condition B20). Any invitation must be provided at least 14 days prior to the works occurring and reasonable arrangements agreed for the observation/participation of the works where an invitation is accepted. This opportunity should, where possible ,also be extended to a representative for the Aboriginal Custodians/Traditional Owners of the land.	Development Consent	Pre-construction Construction	Head contractor Environmental Officer Project archaeologist	Development Consent This document
A minimum 5 m buffer must be observed around all sites with stone artefacts until salvage of these heritage items/sites is undertaken as recommended by the ACHAR and approved by the Development Consent.	ACHAR ACHMSP	Pre-construction Construction	Head contractor Environmental Officer	This document Table 5-1

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
A new site card/s must be completed on the AHIMS database for the relocated/reburial location of the salvage sites. This must occur within 3 months of the actions being completed for the reburial of the salvaged sites.	Code of Practice	Pre-construction	Head contractor Project Manager Project archaeologist	Code of Practice Section 7.2
Any salvage works would be conducted by an archaeologist with representatives of the Registered Aboriginal Parties, including with at a minimum one representative of the Bega LALC invited to participate. The invitation the RAP/s selected by Principal and/or Head contractor to participate in salvage works must be provided at least 14 days' notice prior to the works occurring.	Code of Practice ACHAR ACHMSP Development Consent	Pre-construction Construction	Head contractor Project Manager Project archaeologist	This document Appendix C Development Consent
The salvage of Aboriginal objects approved for impacts must occur prior to construction works commencing at these locations if impacts to these sites cannot be avoided. Community collection of surface artefacts will be incorporated into the pre-construction phase. All reasonable attempts to relocate the surface artefacts facing potential harm in the Project area if they are unable to be avoided will be undertaken to the stratification of the RAPs and archaeologist who participate in this work. The Community Collection program would be undertaken by a qualified archaeologist and RAP representative/s (as selected by the Principal and/or Head contractor).	Heritage Assessments This Plan RtS	Pre-construction	Head contractor Project Manager Project archaeologist	This document Section 3.3 Appendix C
Salvage excavation is required prior to construction works commencing at the location of PAD 1 if the area cannot be avoided by impacts. Salvage excavation would be incorporated into the pre-construction phase. Salvage excavation would occur in a minimum of one open area of 2m x 2m around the location of TP1 (where the highest density of artefacts was recorded) if impacts to this location cannot be avoided. Options for additional expansion or opening of a second area are to be included in the salvage methodology and implement if determined to be warranted.	Code of Practice ACHAR ACHMSP Development Consent RtS	Pre-construction	Head contractor Project Manager Project archaeologist	This document Appendix C
An Aboriginal Site Impact Recording Form will be required to be completed and submitted to AHIMS for any site harmed or destroyed from salvage and/or construction works. Artefact disposition and storage must be done in accordance with Requirement 26 of the Code of Practice (DECCW 2010:35-6).	Code of Practice Aboriginal Site Impact Recording Form	Pre-construction	Head contractor Project Manager Project archaeologist	Code of Practice Section 7.2

Measure/Requirement	Resources Needed	When to Implement	Responsibility	References
Construction				
Construction must be undertaken in accordance with the recommendations of the Aboriginal Cultural Heritage Assessment Report prepared by NGH Pty Ltd dated 23 May 2022.	Development Consent	Construction	Head contractor	This document AHCAR
Where any additional, unrecorded Aboriginal or non-Aboriginal objects are encountered during works within the approved development footprint (Appendix A of this Plan) the Unexpected Finds Procedure will be followed.	Unexpected Finds Procedure Site Plan Development Consent	Construction Operational	Head contractor Project Manager Environmental Officer All personnel	This document Unexpected Finds Procedure Appendix D
If human remains are discovered on site, then all work surrounding the area must cease immediately, the area must be secured and NSW Police notified. The Unexpected Finds Procedure will be followed to notify Heritage NSW as soon as possible. Work must not recommence in the area until this is authorised by Heritage NSW and/or NSW Police.	Unexpected Finds Procedure	Construction Operational	Head contractor Project Manager Environmental Officer All personnel	This document Unexpected Finds Procedure Appendix D .1 Section 8.5.1
Operational				
The campus once constructed acknowledges the presence of the Aboriginal sites in some way. It may be possible for example to have site locations marked, the school entrance to acknowledge the Ngarigo community and use of the land, or even to display some artefacts. These measures would need to be considered and discussed with the RAPs to ensure their agreement and to obtain any suitable images, wording or other materials used is approved.	Heritage Assessments	Operational	Principal	Development Consent Heritage reports This document

7.1 Temporary/short term storage of artefacts

As part of the ACHAR (NGH 2022a), a subsurface test excavation was undertaken. All artefacts recovered from the subsurface testing program for this Project are currently in temporary care in a locked cabinet at NGH Canberra office.

The Aboriginal artefacts recovered from the surface collection and archaeological excavation salvage program, which is required to be undertaken prior to any constructions works if these sites cannot be avoided by works, may be temporarily held in a secure locked cabinet at the NGH Canberra office with the material previously recovered from testing, until a suitable reburial location and/or the long term management of material is agreed upon with the RAPs and Principal. The temporary storage of these objects is intended to not exceed within 2 years of the completion of the construction works.

7.2 Long term management and relocation of salvaged artefacts

The relocation site for the Aboriginal artefacts which will be salvaged via the surface collection salvage program, salvage excavation and those previously recovered from the subsurface testing program (which are currently in temporary care of NGH Canberra office) would need to be agreed to by the Principal and RAPs and be outside the any areas proposed future impacts. A strategy for the long-term management of any items or material that are salvaged would be developed in consultation with the registered Aboriginal parties but may include options such as:

a. Buried in accordance with Requirement 26 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW in a safe location away from development.
b. Kept as a display in the school campus or for teaching purposes. This would require the completion of a Care Agreement under Section 85 of the NPW Act.
c. Consultation with the RAPs regarding their preference for storage and management of any collected artefacts should continue.

The site/s for the relocation of salvaged Aboriginal objects would be noted by submission of site card/s to the Aboriginal Heritage Information Management System (AHIMS) and/or undertaken in line with an approved Care Agreement under Section 85 of the NPW Act.

If the material is buried a new AHIMS sites card would be submitted as legally required within 3 months from the reburial/relocation of the salvaged Aboriginal objects.

An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage and/or construction works. Representatives from the RAPs (as selected by the Principal and/or Head contractor) would be provided with the opportunity to assist the Project Archaeologist with the salvage program and the relocation of the salvaged objects. Generally, a minimum of two representatives from the RAPs would be invited to participate in the salvage program and the relocation of the Aboriginal salvaged objects. If Aboriginal representatives are available to participate in the relocation of the Aboriginal salvaged objects, they will be asked to conduct a ceremony (i.e. smoking) for the relocation site and artefacts if they wish to and if it is safe to do so. If representatives from the RAPs are not available to participate and all reasonable opportunities

have been afforded, the salvage and relocation of Aboriginal objects, would continue as scheduled by the Project Archaeologist.

Following the relocation of the Aboriginal objects, which have been salvaged as per the Development Consent, the site location/s will also be provided to the Principal and Head contractor to ensure the site/s are protected during the construction and operation of the Project. Following the relocation of salvaged Aboriginal objects, the mapping within the ACHMSP would be updated to show and/or include the relocation site/s. It is intended that this would occur within 3 months of the relocation of the sites. A minimum 5 m buffer zone is required to be placed and delineated around the artefact relocation site/s if burial occurs during the construction phase to ensure they won't be impacted into the future.

It may be possible post construction, during the landscaping phase of works for the Project, to determine with the RAPs and Principal a suitable location to install a small concrete box (with or without an open base) which can be sealed over with a concrete lid for the long term storage of cultural material within the Project Area. This location would be incorporated into a garden bed surrounding by plantings of native vegetation and may include a plaque or information board providing acknowledgement of Country. These measures would need to be considered and discussed with the RAPs to ensure their agreement. The images below show one possibility incorporation of such an option for reburial of cultural material within the Project area. This option would ensure that into the future there is a location within the school grounds which can be used for the long term storage of cultural material that won't be impacted by future works.

Plate 1. Image of the sequence of possible reburial option within the grounds of the Project which shows a concrete box and lid which can be incorporated into a garden area.

7.3 Ground disturbance protocol

A ground disturbance permit process will be implemented during construction. The ground disturbance permit process is integral to communicate the distinction between Aboriginal heritage sites which must be avoided and the ground disturbance footprints in which Head contractor will be working.

The ground disturbance permit process will be managed by the Health, Safety and Environment (HSE) Manager and/or the Work Health, Safety and Environment Officer (WHSE Officer). The steps that will be implemented are detailed below:

- Contractors are informed in their contract and site induction that all ground disturbing activities require them to obtain a ground disturbance permit prior to starting the work.

- The ground disturbance permit must be submitted to the HSE Manager / WHSE Officer via email at least 48 hours before the work is commenced.
- The HSE Manager /WHSE Officer will compare the proposed ground disturbance area to the project footprint detailed in the current approved design and the heritage shape files.
- The HSE Manager/ WHSE Officer will visit the site to ensure the delineation of the Project Area and any *in situ* heritage sites in the vicinity of the proposed ground disturbance permit which are not proposed for impacts.
- The HSE Manager/ WHSE Officer will either issue the permit unamended or contact the contractor for further clarification.
- Once the permit has been issued, the Head contractor may commence ground works as per their contract.
- Once the work has been completed (date specified in the permit), the HSE Manager/ WHSE Officer may be required to inspect the site, request any additional clean up or remediation activities and sign-off that the conditions of the permit have been met.
- If no *in situ* Aboriginal sites are present within the vicinity (within 50 m) of the works area the permit may be approved without a site inspection.

An example of a ground disturbance permit form is provided in Appendix E.1.

7.4 Heritage site status database

Prior to any works occurring onsite a database of all previously recorded Aboriginal heritage sites will be established. This database will include a GIS shape file showing the location and status of all recorded sites and as a minimum the following information:

- AHIMS number of the site;
- Site name;
- Development Consent for the site;
- Status of the site;
- Date status of site updated on AHIMS; and
- Comments.

This database will be updated by the WHSE Officer within 1 month following the salvage of a site and submission of impact site cards and/or if any new site cards within the Project area are submitted to AHIMS. An example of the Heritage site statue database for this Project is provided in Appendix E.2. The WHSE Officer and site survey team coordinate access, updating and status of the shape files.

7.5 Protection and delineation of Aboriginal heritage sites

The boundaries of the Project area approved for disturbances will be clearly marked with temporary fencing installed around the school site during construction to ensure all works are within the approved area. This will ensure no impacts to the site Jindabyne Campus AFT 2 and any other Aboriginal cultural heritage sites that may be located outside of the areas of approved works.

Aboriginal cultural heritage sites within the Project area that are not be disturbed will be demarcated (by the Head contractor) using the appropriate coloured barricading or bunting for environmentally sensitive area in accordance with the CEMP and signed as no-go zones. These 'no go' exclusion zones will be in place for the duration of construction unless salvage works as noted in this plan and as approved under the Development Consent has been undertaken at the Aboriginal sites which will be impacted.

Temporary fencing will be installed within 24 hours around the immediate location of any unexpected find and stay in place until an appropriate outcome is determined in line with the unexpected find procedure as outline in Appendix D.

Specifically, Jindabyne Campus AFT 2 will not be impacted by the works and the Project boundary fencing near this site will be marked as a no-go zone. The fencing of the area and the Aboriginal sites which are not approved to be impacted will be undertaken a minimum of 7 days prior to any construction works occurring.

A ground disturbance permit process as noted in Section 7.3 will be implemented during construction. The ground disturbance permit process is integral to communicate the distinction between heritage sites which must be avoided and the ground disturbance footprints in which construction contractors will be working.

7.6 Salvage collection and salvage excavation

Salvage collection of surface artefacts will be carried out prior to construction occurring at the following Aboriginal sites if they are unable to be avoided by works:

- AHIMS# 62-1-0385 Jindabyne Campus AFT 1/ PAD 1
- AHIMS# 62-1-0386 Jindabyne Campus AFT 3/ PAD 3
- AHIMS# 62-1-0387 Jindabyne Campus AFT 4

The salvage collection methodology is outlined in Appendix C.

Salvage excavation will be carried out prior to construction occurring at the following Aboriginal site if it is unable to be avoided by works:

- AHIMS# 62-1-0385 Jindabyne Campus AFT 1/ PAD 1

The salvage excavation methodology is outlined in Appendix C.

The findings of any salvage works will be reported on with a copy of the report provided to all RAPs and Heritage NSW.

8. Compliance Management

8.1 Structure and Responsibility

The organisational structure and overall roles and responsibilities, including those for contractors and sub-contractors, are outlined in the CEMP. Specific responsibilities for the implementation of Aboriginal Heritage controls in this document are summarised in Table 7-1 and the roles and responsibilities relevant to this sub plan are outlines in Table 8-1 below. Further details regarding specific responsibilities for the implementation of environmental and heritage controls are detailed in the CEMP.

Table 8-1 Roles and responsibilities

Role	Responsibility	Authority and accountability
Project Manager	• Ensure resources are made available to enable works to comply with CEMP and other environmental management requirements. • Ensure that all procedures are followed adequately. • Ensure appropriate approvals and licences are held. • Ensure all staff and contractors are aware of environmental compliance requirements and environmental controls. • Responsible for reporting incidents and non-compliance with the conditions of consent. • Ensure all non-conformance events are investigated and corrected.	• Order Stop-work for an activity that may cause material or environmental harm. • Order Stop work or otherwise mitigate effects of an activity that is causing harm to Aboriginal objects and/or sites. • Release of environmental hold points, if required. • Recommend Stop-work for an activity that may cause harm to an Aboriginal object.
Head contractor	• Ensure contractors are working in accordance with the requirements of the CEMP, as required under the construction contract. • Undertake site visits during construction to monitor compliance with CEMP requirements. • Report and raise any issues that arise that may have an environmental impact. • Report and raise the discovery of any Aboriginal heritage objects or places and cease work until the matter has been addressed.	• Report any issues that may have the potential to cause material or environmental harm. • Report any incidents or near-misses that may impact on the environment or breach conditions set-out in this sub plan of the CEMP. • Recommend Stop-work for an activity that may cause harm to Aboriginal objects

Role	Responsibility	Authority and accountability
	• Ensure that any changes to the schedule of works are communicated to the WHSE OFFICER /HSE in a timely manner, if environmental aspects are likely to become affected. • Ensure works proceed with all necessary approvals. • Ensure that all site personnel and subcontractors are aware of their responsibilities.	
Health Safety and Environment (HSE) Advisor and Work Health, Safety and Environment Officer (WHSE Officer)	• Maintaining all environmental management documents. • Identifying where environmental measures are not meeting the targets and where improvements can be achieved. • Monitoring and reporting environmental compliance. • Reviewing Project environmental documents. • Reporting of incidents. • Motivate compliance with this sub plan • Confirm that all necessary cultural heritage controls are implemented and maintained for the duration of the construction works • Assist with investigation of all non-conformance events and ensure any such events are investigated and corrected.	• Recommend Stop-work for an activity that may cause material or environmental harm. • Release of environmental hold points, if required. • Recommend Stop-work for an activity that may cause harm to Aboriginal objects
Employees and Subcontractors	• Stop work immediately when an unexpected heritage find is encountered. Cordon off area until SEA advises that work can recommence.	• Follow the unexpected find procedure
Project archaeologist	• Acting as an environmental subcontractor, specialist work as required. • Operate as instructed by the Project Manager/ Principal / Head contractor in compliance with all environmental requirements.	• Undertake salvage works of sites as approved in the Development Consent and subsequent reporting, including impact site cards if applicable. • Inspection of unexpected finds as required.

8.2 Training

To ensure that this ACHMSP is effectively implemented, each level of management is responsible for ensuring that all personnel reporting to them are aware of the requirements of this plan. The Health Safety and Environment (HSE) personnel will coordinate the environmental training in conjunction with other training and development activities (e.g., safety). A record of this training will be maintained by the HSE personnel.

All employees, contractors, sub-contractors and utility staff working on site will receive Aboriginal Cultural Heritage Awareness Training. It will be provided to all personnel in the form of an induction before they begin work on site. This training will address elements related to Aboriginal cultural heritage management including:

- Aboriginal Heritage obligations under the Project Development Consent and Relevant legislation
- Existence and requirements of this management plan
- Roles and responsibilities for Aboriginal cultural heritage management
- Location of any identified no-go areas and management measures
- Procedure to follow in the event of an unexpected Aboriginal cultural heritage item find or discovery of human remains during works

Where possible any training and/or cultural awareness will involve the Registered Aboriginal Parties and/or the local Aboriginal community. and provided to before commencing work on-site.

Targeted training in the form of toolbox talks or specific training will also be provided to personnel with a key role in Aboriginal heritage management. Examples of training topics include:

- Unexpected finds procedure
- No-go areas around heritage items.

A refresher induction and/or additional training will be implemented following any incident that involves Aboriginal heritage. If future revision of the ACHMSP occurs consideration must be given as to whether a refresher induction and/or additional training will be undertaken.

Further information regarding staff induction and training are outlined in the CEMP.

8.3 Inspections and Monitoring

Periodic inspection of the Aboriginal heritage site/s located within the Project area which are not approved to be impacted, as per the Development Consent and noted in this subplan, will take place for the duration of construction of the Project. The Aboriginal site/s which are not approved to be impacted, will be identified by the Project Archaeologist and/or the WHSE Officer and marked by fencing to ensure there are no inadvertent impacts during the construction of the Project. The fencing of the Aboriginal site/s which are not approved to be impacted will be undertaken a minimum of 7 days prior to any construction works occurring. Inspection of these sites will occur fortnightly during construction by the WHSE Officer. Requirements and responsibilities in relation to monitoring and inspections are documented in the CEMP.

The objective of inspections and monitoring will be to validate the impacts predicted for the Project, to measure the effectiveness of the heritage controls and implementation of the CEMP, and to address specific obligations. The Principal and Head contractor will respond in a timely manner to any requests relating to monitoring or the effectiveness of heritage/environmental controls and their implementation raised by NSW Government Agencies.

The report provided by the Project Archaeologist following the completion of the salvage programme would also provide comment on the effectiveness of heritage controls relevant to the salvage programme.

Any stone artefacts collected and/ or recovered during the salvage program will be relocated and buried at a safe location outside the approved development footprint within the Project area, or other long term management option as agreed to by the registered Aboriginal parties. The relocation site/s of the salvaged stone artefacts and subsurface artefacts recovered during the subsurface testing program will also be subject to fencing, monitoring and inspection to ensure there are no inadvertent impacts during the construction of the Jindabyne Education Campus. Inspection of the relocation site/s will occur fortnight during construction by the WHSE Officer . All inspections of heritage sites will be undertaken following a reporting checklist.

8.4 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, compliance with this sub plan and other relevant approvals, licenses, and guidelines.

Aboriginal heritage must be included within any major environmental audit of impacts undertaken during the construction and operation phases of works for the Project.

Audit requirements are detailed in the CEMP and must comply with the Development Consent Schedule 3 Conditions C40 to C45.

8.5 Contingency Plan and Reporting

Contingency plan and reporting requirements and responsibilities are documented in the CEMP and would comply with the Development Consent.

8.5.1 Contingency Plan and Reporting Human Remains

If any human remains or suspected human remains are discovered during any works, all activity in the area must cease immediately and the Unexpected Finds Protocol which is provided in Appendix D of this sub plan must be followed to report the find. The NSW Police must be notified immediately.

Details of the location and nature of the human remains must be provided to the relevant local police (Jindabyne Police Station). If there are reasonable grounds to believe that the remains are Aboriginal, Heritage NSW must also be contacted as soon as practicable, and you must provide any available details of the remains and their location. Heritage NSW Environment Line can be contacted on 131 555. If the find is determined to be Aboriginal Heritage NSW will provide advice on any additional reporting requirements. Works at the immediate location of the find may only recommence with the written approval of the Planning Secretary.

8.5.2 Contingency Plan and Reporting Unexpected Finds

If any previously unidentified heritage items are found the Unexpected Finds Protocol which is provided in Appendix D of this sub plan must be followed to report the find. The Unexpected Finds Protocol as noted in the Development Consent Schedule 2 Conditions C29 as noted below must be followed.

In the event that surface disturbance identifies a new Aboriginal object:

a) all works must halt in the immediate area to prevent any further impacts to the object(s);

b) a suitably qualified archaeologist and the registered Aboriginal representatives must be contacted to determine the significance of the objects;

c) the site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) which is managed by Heritage NSW and the management outcome for the site included in the information provided to AHIMS;

d) the Applicant must consult with the Aboriginal community representatives, the archaeologists and Heritage NSW to develop and implement management strategies for all objects/sites; and

e) works may only recommence with the written approval of the Planning Secretary.

8.6 Incident and Non- Compliance Notification and Reporting

Non-compliance is defined in the Development Consent as an occurrence, set of circumstances or development that is a breach of the consent but is not an incident.

An incident is defined in the Development Consent a 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 harm that:

- involves actual or potential harm to the health or safety of human beings or to ecosystems 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)

Instances of non-compliance and/or incident notification will be recorded and raised with the relevant authorities as per the Development Consent conditions A28 to A33. These conditions note that the Planning Secretary must be notified by email through the major projects portal immediately after one becomes aware of an incident and within seven (7) days after a non- compliance issue.

The notification to the Planning Secretary via the major projects portal must identify the development (including the development application number) and set out the location and nature of the incident. A non-compliance that has been notified as an incident does not need to also be notified as a non-compliance.

Subsequent notification requirements must be given, and reports submitted in accordance with the requirements set out in Development Consent Appendix 2 which have the steps outlined below for Heritage non- compliance and incidents.

1. Written incident notification must be submitted to the Planning Secretary by email through the major projects portal within seven (7) days after the incident is known about. Written notification of an incident must identify the development and application number and the following items:
    - Provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
    - Identify how the incident was detected and when you became aware of the incident;
    - Identify any actual or potential non-compliance with the Development Consent;
    - Describe what immediate steps were taken in relation to the incident and identify further action(s) that will be taken in relation to the incident; and

- Identify a project contact for further communication regarding the incident.

2. Within 30 days of the date on which the incident occurred (or as otherwise agreed to by the Planning Secretary), an incident report will be provided to the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary). The Incident Report must include:
    - A summary of the incident;
    - Outcomes of an incident investigation, including identification of the cause of the incident;
    - Details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
    - Details of any communication with other stakeholders regarding the incident.

9. Review and Improvement

9.1 Continuous Improvement

Continuous improvement of this sub plan will be achieved when opportunities for improvement are identified. Any proposed improvement and/or changes to this sub plan are required to be approved by the Planning Secretary prior to implementation.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of environmental management and performance.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any non-conformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

9.2 ACHMSP Update and Amendment

During the Project, a hard copy of the most recent version of this sub plan will be stored at the main site compound. It is the responsibility of the Environmental Officer to ensure this hard copy is the most recent version and to remove older versions of the plan once they are superseded at the main site compound.

The processes and plans described in the CEMP may result in the need to update or revise this Plan. Any revision of the ACHMSP is to ensure it incorporates any recommended measures to improve the environmental performance of the development. Any proposed changes to this sub plan are required to be approved by the Planning Secretary prior to implementation.

A copy of the updated ACHMSP with any changes, once approved by the Planning Secretary, will be distributed to all relevant stakeholders in accordance with the approved document control procedure (refer to the CEMP) and to the RAPs (as noted in Section 4 of this Plan).

In the instance of any modification to the Development Consent which changes any element of this sub plan the ACHMSP will be reviewed within three (3) months and if revisions of the sub plan is required this sub plan will be submitted to the Planning Secretary for approval and comply with the Development Consent Schedule 2 condition A13 (Staging, Combining and Updating Strategies, Plans or Programs) and Condition A34 and A35 (Revision of Strategies, Plans and Programs).

In the instance of an incident report (Development Consent Schedule 2 condition A30) or an audit report (Development Consent Schedule 2 condition C41 or C42) which notes non-compliance for Heritage the ACHMSP will be reviewed within three (3) months and if revisions of the plan is required the revised sub plan will be submitted to the Planning Secretary for approval and comply with the Development Consent Schedule 2 Condition A34 and A35 (Revision of Strategies, Plans and Programs) and Development Consent Schedule 2 Condition A13 (Staging, Combining and Updating Strategies, Plans or Programs).

10. General Project Communications

The CEMP and associated Community Consultation Plan (CCP) details the processes that will be used to keep the local community and relevant agencies informed about the operation and environmental performance of this Project. The main point of contact with DPE for this Project will be via the major projects portal at the website listed below.

https://pp.planningportal.nsw.gov.au/major-projects/projects/new-education-campus-jindabyne-new-primary-and-high-school

While a number of steps will be implemented in order to engage with the community and other stakeholders throughout the various stages of the development as detailed in the CEMP and CCP, one of the main portals for community engagement will be via the NSW Department of Education- School Infrastructure website. The website will be used to provide general updates as relevant about the progress of the Jindabyne Education Campus development. The website can be accessed at:

https://www.schoolinfrastructure.nsw.gov.au/projects/j/jindabyne-education-campus.html

The NSW Department of Education- School Infrastructure website for this Project will be regularly updated throughout all stages of the proposed development and include information such as:

- Layout and general overview of the development.
- How complaints about the development can be made and a complaints handling procedure.
- Contact details of the Proponent or online contact form.

A link to the Major Projects website is also provided, which contains information relating to:

- Assessments undertaken for the Project
- Current statutory approvals for the development.

The procedures for dispute resolution will be undertaken in accordance with the Complaint's Procedure which is detailed in the CEMP. All complaints received via post, phone, email or the project website during construction will be recorded and responded to. It is the intention of the Principal and Head contractor to maintain an open and clear relationship with all stakeholders to prevent complaints from arising. Should the resolution of a complaint not be able to be reached by both parties, following presentation of investigation results to the complainant, either party may refer the dispute to an independent mediator and/or follow the steps outlined in the complaints procedure as detailed in the CEMP.

11. References

DECCW NSW 2010a, *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*.

DECCW NSW 2010b, *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*.

NGH Pty Ltd, 2021, *Aboriginal Cultural Heritage Assessment Jindabyne Education Campus Draft*, Unpublished report for Mecone.

NGH Pty Ltd, 2022a, *Aboriginal Cultural Heritage Assessment Jindabyne Education Campus*, Unpublished report for Mecone.

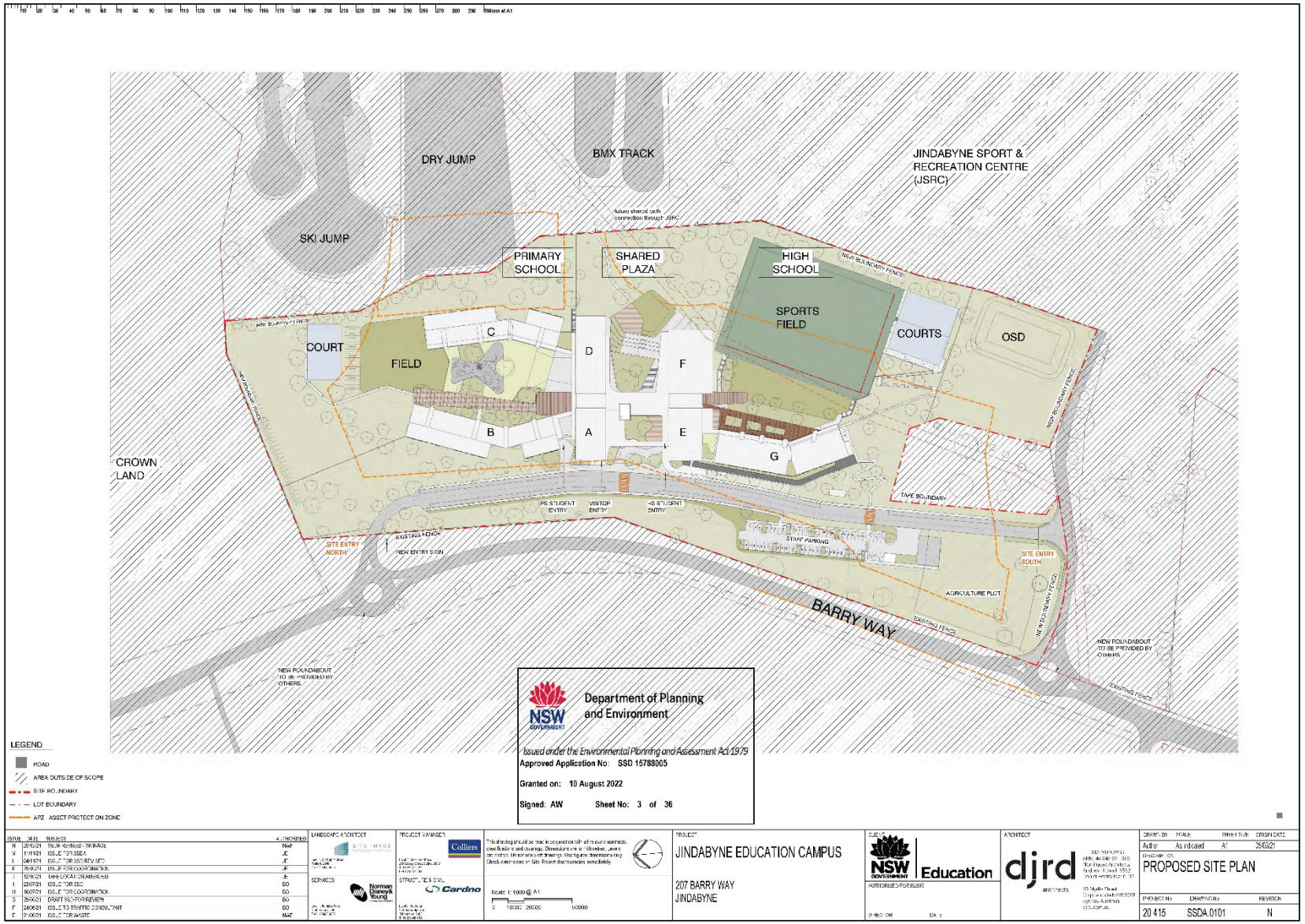
NGH Pty Ltd, 2022b, Archaeological Technical Report Jindabyne Education Campus - Subsurface Testing Assessment. Unpublished report for Mecone.

Mecone, 2021. *Environmental Impact Statement Jindabyne Education Campus (SSD 15788005)*, Prepared on behalf of NSW Department of Education.

Mecone, 2022, *Submissions Report New Education Campus at 207 Barry Way, Jindabyne SSD-15788005*, Prepared on behalf of NSW Department of Education.

OEH 2011, *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW*.

Appendix A Approved Layout of Development


DRY JUMP
BMX TRACK
JINDABYNE SPORT & RECREATION CENTRE (JSRC)
SKI JUMP
PRIMARY SCHOOL
SHARED PLAZA
HIGH SCHOOL
SPORTS FIELD
COURTS
OSD
COURT
FIELD
C
D
F
B
A
E
G
CROWN LAND
PS STUDENT ENTRY
VISITOR ENTRY
HS STUDENT ENTRY
SITE ENTRY NORTH
EXISTING FENCE
NEW ENTRY SIGN
STAFF PARKING
SITE ENTRY SOUTH
AGRICULTURE PLOT
BARRY WAY
NEW ROUNDABOUT TO BE PROVIDED BY OTHERS
Department of Planning and Environment
Issued under the Environmental Planning and Assessment Act 1979
Approved Application No: SSD 15788005
Granted on: 10 August 2022
Signed: AW Sheet No: 3 of 36
LEGEND
ROAD
AREA OUTSIDE OF SCOPE
SITE BOUNDARY
LOT BOUNDARY
APZ ASSET PROTECTION ZONE
JINDABYNE EDUCATION CAMPUS
207 BARRY WAY
JINDABYNE
Education
djrd
PROPOSED SITE PLAN
20 415
SSDA 0101
N

Appendix B Stakeholder Consultation

The Registered Aboriginal Parties for this project are listed below. Please note this does not include the details of the six RAPs who did not want their details released. To obtain these details this consultation must go through the Project Archaeologist and/or permission granted to by these RAPs to have their details held confidentially by the Environmental Officer.

Organisation	Contact Name	Email
Ngarigo and Djiringanj people and Elders	John Dixon	begadel@yahoo.com
Wagonga Local Aboriginal Land Council	Cheryl Moreton	wlalc@bigpond.net.au wagongalandscouncil@gmail.com
Ngarigu Brajerak	Ellen Mundy	ngarigubrajerak@gmail.com
PD Ngunawal Consultancy	Tammy Muscat	pd.ngunawalconsultancy@gmail.com
Yurwang Gundana Cultural Heritage Services	Dean Bell	Yurwang.Gundana.C.H.S@outlook.com
Gulgunya Ngunawal Heritage Aboriginal Consultancy (GNHAC)	Glen Freeman	gulgunyaNHAC@hotmail.com
Didge Ngunawal Clan	Lilly Carroll	didgengunawalclan@yahoo.com.au
Clive Freeman	Clive Freeman	clive.freeman@y7mail.com
Ngunawal Heritage Aboriginal Corporation	Dean Deplonte	ngunawalhac@gmail.com
Ngarigo Nation Indigenous Corporation	Michelle Francis	ngarigonation@gmail.com
Muragadi Heritage Indigenous Corporation	Jesse Johnson	muragadi@yahoo.com.au
Murri Bidgee Mullangari Aboriginal Corporation	Darleen Johnson	murrabidgeemullangari@yahoo.com.au
Merrigarn Indigenous Corporation	Shaun Carroll	merrigarn@hotmail.com
Bega Local Aboriginal Land Council	Glenn Willcox	ceo_begalalc@commander.net.au
Wolgalu Umbe Traditional Custodians Corporation	Olivia Williams	Wolgaluumbe@outlook.com
Redacted Group #1	Not publicly available	Not publicly available
Redacted Group #2	Not publicly available	Not publicly available
Redacted Group #3	Not publicly available	Not publicly available
Redacted Group #4	Not publicly available	Not publicly available
Redacted Group #5	Not publicly available	Not publicly available

Appendix C Salvage Methodology

C.1 Surface Collection

Each Aboriginal site with surface artefacts that cannot be avoided within the approved development footprint as listed in Section 7.6 of this sub plan will need to be salvaged via surface collection prior to construction works for the Project commencing at each site location. We would also take the opportunity to examine the immediate surrounds of the recorded sites to identify any other artefacts that may be present within the approved development footprint that are associated with the sites approved for impact. The salvage collection fieldwork would be carried out with representatives of the Aboriginal community as selected by the Head contractor and/or Principal. As a minimum and in line with the Development Consent the Bega LALC would be invited to participate. This opportunity should, where possible, also be extended to a representative for the Aboriginal Custodians/Traditional Owners of the land.

The surface collection of the stone assemblage for each Aboriginal site within the approved development footprint as per the recommendations of the ACHAR and approved by the Development Consent, would be undertaken through the following process.

- All reasonable attempts would be made to relocate the originally recorded surface stone artefacts however it is acknowledged that changes in the visibility and standard taphonomy and other environmental factors may impede the relocation of all of the previously recorded stone artefacts.
- Walk across the site areas (within the approved development footprint), use ‘pin’ flags to identify and mark artefacts.
- Photograph site area.
- If considered necessary, construct a collection grid of 2 m x 2 m or 5 m x 5 m or similar as appropriate to the size of the site, only larger sites or sites with higher densities of artefacts will have this strategy.
- As an alternative, GPS plot artefacts if required, this is suitable for smaller sites (~<20).
- Collect artefacts. At each collection site the artefacts will be recorded, bagged and labelled in accordance with their collection position, that is either individual number and/or their collection grid.
- Recording of stone artefacts will be conducted in line with standard archaeological practice to include raw material, type, dimensions and any other characteristics considered relevant and in accordance with the Code of Practice. Photos of particularly rare items only or those asked to be photographed by the Aboriginal representatives onsite would be taken.
- The salvaged Aboriginal objects may be temporarily stored until the long-term management and relocation of the salvaged objects can occur.
- The site of the relocated salvaged Aboriginal objects would be noted by the submission of site cards to the Aboriginal Heritage Information Management System (AHIMS) as legally required.
- An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage.

C.2 Salvage Excavation

The salvage excavation will be undertaken by hand excavation to retrieve a suitable sample of Aboriginal stone artefacts in up to two open areas which had the highest density of subsurface artefacts recovered from PAD 1 during the initial subsurface test excavations undertaken by NGH. Salvage excavation would occur in a minimum of one open area of 2m x 2m around the location of PAD 1 TP1 where the highest density of artefacts was recorded during the testing if impacts to this location cannot be avoided. Options for additional expansion or opening of a second area for salvage excavation (likely near PAD 1 Test Pit 5) if determined to be warranted by the archaeologist in consultation with the RAPs onsite has been provided as a provision in this methodology.

The excavation would aim to "follow" any high density artefactual presences to enable as much of a sample of stone artefacts to be recovered as possible prior to impacts for the site Jindabyne Campus AFT 1/PAD 1. The salvage excavation will occur in a minimum of one open excavation areas of a minimum 2m x 2m centred around the locations of PAD 1 TP 1 with the option to open an additional 2 x 2m area near TP 5 PAD1 within the approved disturbance footprint of the Jindabyne Education Campus (as shown in the figure below). All excavations and sieving should be undertaken with the assistance of a minimum of two representatives from the registered Aboriginal Parties (as selected by the Principal, Project Manager and/or Principal Construction company).

Where a sufficient number of artefacts continue to be recovered, excavation would continue up to a point where a maximum $8m^2$ area is achieved across the site Jindabyne Campus AFT 1/PAD 1. Where artefacts were not found or where density numbers consistently drop below comparative pits, excavation would cease at the completion of the salvage providing a at least one area with a minimum of 2m x 2m area has been excavated within the site Jindabyne Campus AFT 1/PAD 1.

Soil samples and charcoal may be retained for analyses where it is considered warranted to answer questions about the taphonomy of the site and the relationship of cultural finds.

Hand excavation will proceed in the open area/s through the following standard excavation methodology:

- Set out grid of 1 m squares, excavation will proceed in one square metre units, each of which will be assigned an alpha-numeric identifier;
- All excavation will be carried out using manual hand tools including shovels, crowbar, mattocks and trowels.
- All excavation units will be in 10 cm spits down to either clay, a culturally sterile depth as determined by previous test excavation, the base of extant A horizon or until excavation is unable to continue deeper by hand (whichever occurs first).
- If encountered, charcoal and or other organic material deemed suitable for radiocarbon dating will be collected using best practice guidelines.
- Pit stratigraphy for each excavation unit will be recorded using standard recording forms, terminology and methods.
- Dry sieving or wet sieve, as deemed to be appropriate by an archaeologist, would be undertaken with all material processed through either a 5 mm or 3 mm sieve;
- Artefacts recovered from sieving will be retained in plastic zip lock bags and labelled with the appropriate provenance data
- Representative and otherwise notable soil profiles if present will be photographed and drawn to scale as the excavation progresses.

- Once completed a photographic record of the entire excavation will be made and an overall site plan produced;
- All excavation units if required will be backfilled upon completion of the salvage program if required to be warranted by the Principal , project manager, construction company and/or landowner. If backfilling after wet sieving (if undertaken) is warranted this would be facilitated by the Principal , project manager and/or construction company.
- Analyse finds in lab to confirm if Aboriginal artefacts and then fully record Aboriginal stone objects in line with standard archaeological practice and in accordance with the Code of Practice.

Location of test pit 1 and 5 in PAD1 which were recommended for salvage excavation.

C.3 Management of recovered material and Reporting

The salvaged objects may be temporarily held at secure locked cabinet at the NGH Canberra office for analysis and recording until an appropriate time as they can be arranged to be relocated and the long term management undertaken and/or implemented. The temporary storage of salvaged objects, if required, is not intended to exceed 24 months from the conclusion of the construction of the education campus.

If the long term management is determined to be burial of the material the relocation site for the Aboriginal objects salvaged and those recovered from the subsurface test excavation which are currently in temporary care of the NGH Canberra office would need to be agreed to by the Principal , Project Archaeologists and RAPs and be outside any areas of proposed future works. The site/s for the relocation of salvaged Aboriginal objects would be noted by submission of site cards to the Aboriginal Heritage Information Management System (AHIMS) as legally required.

An Aboriginal Site Impact Recording Form must be completed and submitted to AHIMS following harm for each site collected or destroyed from salvage and/or construction works. Representatives from the RAPs would be provided with the opportunity to assist the Project Archaeologist with the salvage programme and the relocation of the salvaged objects. Generally, a minimum of two representative from the RAPs would be invited to participate in the salvage programme and the relocation of the Aboriginal salvaged objects. If representatives from the RAPs are not available to participate and all reasonable opportunities have been afforded, the collection and relocation of Aboriginal objects, would continue as scheduled by the Project Archaeologist.

The recording and relocation of artefacts will be compliant with the Code of Practice for Archaeological Investigations http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf

A brief salvage report will be prepared outlining the steps taken above. The report will also be provided as a minimum to Heritage NSW and the RAPs. The report would document the salvage program and its results. The report may also be used to inform the independent environmental audit, which would include Aboriginal heritage.

The salvage report would include, as applicable, the following:

- Introduction
- Purpose and objective
- Aboriginal involvement and consultation
- Surface collection salvage
    - Surface collection methodology
    - Surface collection results
    - Surface collection Discussion
- Salvage excavation (if required)
    - Salvage excavation methodology
    - Salvage excavation results
    - Salvage excavation discussion
- Relocation and burial of salvaged objects and/or temporary storage information
- Conclusions

Appendix D Unexpected Finds Protocol

Introduction

This unexpected find protocol has been developed to provide a method for managing unexpected Aboriginal heritage items identified during the construction and operation of the Project. The unexpected find protocol has been developed to ensure the successful delivery of the Project while adhering to the NSW *National Parks and Wildlife Act 1974* (NPW Act) and the Development Consent.

All Aboriginal heritage objects are protected under the NPW Act Under Part 6 of the Act, though in a State Significant Development (SSD) Development Consent may be issued that allows for conditional harm to Aboriginal objects. However, there are some circumstances where despite undertaking appropriate heritage assessment prior to the commencement of works Aboriginal cultural heritage items are encountered that were not anticipated that may be of scientific and/or cultural significance.

Therefore, it is possible that unexpected heritage items may be identified during construction, operation, and maintenance works. If this happens the following unexpected find protocol will be implemented to avoid breaching obligations under the NPW Act. This unexpected find protocol provides guidance as to the circumstances under which finds may occur and the actions subsequently required.

What is an Unexpected Find?

An unexpected heritage find is defined as any possible Aboriginal heritage object or place, that was not identified or predicted by the Projects heritage assessment and is not covered by appropriate permits or development consent conditions. Such finds have potential to be culturally significant and may need to be assessed prior to development impact.

Unexpected Aboriginal heritage finds may include:

- Aboriginal stone artefacts, shell middens, modified trees, mounds, hearths, stone resources, rock shelters, rock art and stone arrangements; and
- Human skeletal remains.

Aboriginal Heritage places or objects

All Aboriginal objects are protected under the NSW *National Parks and Wildlife Act 1974* (NPW Act).

An Aboriginal object is defined as:

Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons on non-Aboriginal extraction and includes Aboriginal remains.

All Aboriginal objects are protected, and it is an offence to harm or desecrate an Aboriginal object or place.

Unexpected find management protocol

In the event that any unexpected Aboriginal heritage places or objects are discovered during the Project, the following management protocols will be implemented. These protocols are in line with the unexpected finds protocol – Aboriginal heritage (condition C29 of the Development Consent). **Note: this process does not apply to human or suspected human remains. Follow *Section D.1 Human Skeletal Remains* below if remains or suspected remains are encountered.**

In the event that surface disturbance identifies a new Aboriginal object:

1. All works must halt in the immediate area of the heritage item to prevent any further impacts to the object(s). Personnel should notify their supervisor of the find, who will notify the project manager.
2. A suitably qualified archaeologist (or the Project Archaeologist) and the registered Aboriginal representatives must be contacted to determine the significance of the objects.
3. The site is to be registered in the Aboriginal Heritage Information Management System (AHIMS) and the management outcome for the site included in the information provided to AHIMS.
4. Aboriginal community representatives, the archaeologists and Heritage NSW must be consulted to develop and implement management strategies for all objects/sites
5. Works may only recommence with written approval of the Planning Secretary.

D.1 Unexpected Human Skeletal Remains

If any human remains or suspected human remains are discovered during any works, all activity in the area must cease immediately. The following plan describes the actions that must be taken in instances where human remains, or suspected human remains are discovered. Any such discovery at the activity area must follow these steps.

Discovery:

- If any human remains or suspected human remains are found during any activity, works in the vicinity **must** cease and the Project Manager must be contacted immediately.
- The remains must be left in place and protected from harm or damage. To protect the remains until their origins can be determined high visibility markers or temporary fencing which will not cause ground disturbance must be immediately placed a minimum of 10 m around the location of the human remains or suspected human remains by site personnel. A minimum no work buffer zone radius of 50 m must be implemented around the remains by taping off the area as an environmental sensitive zone.
- All personnel should then leave the fenced off area immediately.
- The Environmental Officer is responsible to ensure that these temporary measures are implemented onsite within 24 hours of identification.

Notification:

- The NSW Police must be notified immediately. Details of the location and nature of the human remains must be provided to the relevant authorities.
- If there are reasonable grounds to believe that the remains are Aboriginal, the following must also occur:

a. Heritage NSW must be contacted as soon as practicable, and you must provide any available details of the remains and their location. Heritage NSW Environment Line can be contacted on 131 555.
b. The relevant Aboriginal community groups must be notified immediately when the remains are confirmed to be Aboriginal, as advised by Heritage NSW.
c. The relevant Project Archaeologist may be contacted to facilitate communication between the police, Heritage NSW and Aboriginal community groups.

Process:

- If the remains are considered to be Aboriginal by the Police and Heritage NSW no work can recommence at the particular location unless authorised in writing by Heritage NSW and the Planning Secretary
- Recording of Aboriginal ancestral remains must be undertaken by, or be conducted under the direct supervision of, a specialist physical anthropologist or other suitably qualified person.
- Archaeological reporting of Aboriginal ancestral remains must be undertaken by, or reviewed by, a specialist physical anthropologist or other suitably qualified person, with the intent of using respectful and appropriate language and treating the ancestral remains as the remains of Aboriginal people rather than as scientific specimens.
- If the remains are considered to be Aboriginal by the Police and Heritage NSW, an appropriate management and mitigation, or salvage strategy will be implemented following further consultation with the Aboriginal community and Heritage NSW.

Appendix E Sample registers

E.1 Ground disturbance permit - Heritage

Project: Jindabyne Education Campus	**Project No:**
Requested By:	
Start Date:	**Expected Completion Date:**

CLEARING LOCATIONS – ATTACH DRAWINGS / SKETCHES IF NECESSARY

Location	Comments

This section will be completed by either the Health, Safety and Environment (HSE) Manager or the Work Health, Safety and Environment Officer (WHSE Officer), with reference to constraints mapping.

Are there any recorded Aboriginal Heritage sites within the vicinity (within 50 m) of the works?	☐ Yes ☐ No
Has salvage of the Aboriginal Heritage sites within the vicinity (within 50 m) of the works previously been completed to date.	☐ Yes ☐ No ☐ N/A
State the AHIMS number of the site/s present in the vicinity (within 50 m) of the works if not salvaged to date.	
Are the Aboriginal Heritage site/s listed as do not impact in the Development Consent for the Project?	☐ Yes ☐ No ☐ N/A
Has the site been appropriately buffered and delineated if it remains in *situ*?	☐ Yes ☐ No ☐ N/A
Have relevant workers been given toolbox talks about working near *in situ* Aboriginal Heritage sites and the heritage unexpected finds protocol?	☐ Yes ☐ No ☐ N/A
Is a site inspection of the work area required by the HSE or WHSE Officer (heritage sites within 50 m of the works)?	☐ Yes ☐ No
Is a sign-off of this form required once works have been completed (heritage sites within 50 m of the works)?	☐ Yes ☐ No
Comments:	

APPROVALS

Site Inspection completed by HSE or WHSE Officer (if required): Signature Required	**Date:**
Approval by HSE or WHSE Officer: Signature Required	**Date:**

IS A SIGN-OFF (ONCE WORKS COMPLETED) REQUIRED ☐ Yes ☐ No

Have the conditions of the permit been met if a sign off is required? HSE or WHSE Officer Signature Required	☐ Yes ☐ No **Date:**

Note: Sign off required if works within 50m of a heritage site or if other matters are raised.

E.2 Heritage site status database example

AHIMS#	Site name	Development Consent for site	Site Status	Date status of site updated on AHIMS	Comments
62-1-0385	Jindabyne Campus AFT 1 / PAD 1	Subsurface and surface salvage prior to impact	Active		
62-1-0386	Jindabyne Campus AFT 3 / PAD 3	Surface salvage prior to impact	Active		
62-1-0387	Jindabyne Campus AFT 4	Surface salvage prior to impact	Active		
62-1-0392	Jindabyne Campus AFT 2	Outside Project Area. Establish 5m no-go zone to ensure no inadvertent impacts	Active		
62-1-0410	Jindabyne Campus PAD 2	No mitigation required prior to impact	Active		

A.10 Biodiversity Management Sub-plan (BMSP)

School Infrastructure NSW

May 2023

Biodiversity Management Plan

Jindabyne Education Campus

wsp

Question today
Imagine tomorrow
Create for the future

Biodiversity Management Plan
Jindabyne Education Campus

School Infrastructure NSW

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Newcastle NSW 2300
PO Box 1162
Newcastle NSW 2300

Tel: +61 2 4929 8300
Fax: +61 2 4929 8382
wsp.com

REV	DATE	DETAILS
A	20/10/2022	Draft for review
B	21/10/2022	Final
C	03/11/2022	Final based on additional comments provided on 3/11/2022
D	24/5/2023	Revised BMP based on approved modification 1

	Name	Date	Signature
Prepared by:	Lucy Gill	24/5/2023	
Reviewed by:	Selga Harrington	24/5/2023	
Approved by:	Toby Lambert	24/5/2023	

WSP acknowledges that every project we work on takes place on First Peoples lands.
We recognise Aboriginal and Torres Strait Islander Peoples as the first scientists and engineers and pay our respects to Elders past and present.

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