

9 Mahogany Avenue, Macquarie Park NSW 2113
Building C2 – Village Green and Community Centre

SSD 15822622

Construction Compliance Report # 3

Job No:6410

February 2026



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REVISION HISTORY

Description	Revision	Date
Pre-Construction Compliance Report	Rev 1 – Draft	August 2024
Pre-Construction Compliance Report	Rev 2	August 2024
Construction Compliance Report # 1	Rev 3	February 2025
Construction Compliance Report # 2	Rev 4	August 2025
Construction Compliance Report #3	Rev 5	February 2026

1. Introduction

The Construction Compliance Report (CCR) has been prepared for the work occurring under SSD15822622, at 9 Mahogany Avenue, Macquarie Park NSW 2113, Building C2 – Village Green and Community Centre (the Project).

The project is located within Ivanhoe Estate, Macquarie Park (The Site) near the corner of Epping Road and Herring Road within the Ryde Local Government Area (LGA). Building C2 is located centrally within the Ivanhoe Estate; and will be situated between Buildings C1 & C3.

1.1 Project Description

The Works will involve a Design and Construct Contract (AS4902 modified) for the Design and Construction Works of a Community Centre, local café, gym and pool facilities, and a local village green park area including:

- Construction of plant room areas.
- Construction of cold-shell gym tenancies on the ground floor plane.
- Construction of pool and adjoining facilities
- Landscape works are to include park areas and playground areas
- Public domain areas located on the ground plane adjacent to the C2 building boundary.
- An extension of the neighboring residential tower noted as Building C1 which was subject to a respective FEBQ and FER.
- Utilities Services and Infrastructure

1.2 Background:

Project Application Number:	SSD 15822622
Project Name:	Ivanhoe Estate, Macquarie Park
Description of Project:	Construction of Building C2 – Village Green and Community Centre
Project Address:	1 Ivanhoe Place Macquarie Park NSW
Date of Construction Commencement:	23.08.2024

1.3 Purpose of this report

The Construction Compliance Report (CCR) is an updated version of the Pre-Construction Compliance Report which addresses all requirements needing to be satisfied prior to the commencement of Construction and in accordance with Compliance Reporting Post-Approval Requirements. The requirements of the CCR related to planning conditions B8 to B9 are provided below in Table 1. The PCCR and 6 monthly CCR was previously submitted per requirements B6 to B9.

Table 1 – Compliance Reporting

Condition	Condition Requirement	How Addressed
B8.	<p>Construction Compliance Reports must be submitted to the Department at compliance@planning.nsw.gov.au for information every six months from the date of the commencement of construction, for the duration of construction. The Construction Compliance Reports must provide details on the compliance performance of the development for the preceding six months and must be submitted within one month following the end of each six-month period for the duration of construction of the development, or such other timeframe as required by the Planning Secretary.</p>	<p>Record Keeping System for submission to Planning Secretary</p>
B9.	<p>The Construction Compliance Reports must include:</p> <ul style="list-style-type: none"> (a) a results summary and analysis of environmental monitoring. (b) the number of any complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints. (c) details of any review of the CEMP and the Environmental Management Strategy and associated sub-plans as a result of construction carried out during the reporting period. (d) a register of any modifications undertaken and their status. (e) results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit. (f) a summary of all incidents notified in accordance with this consent; and (g) any other matter relating to compliance with the terms of this consent or requested by the Planning Secretary. 	<p>Record Keeping System for submission to Planning Secretary</p>

1.3 Staging of the Works

The Works are being carried out in a single stage with relation to Building C2 while maintaining access for works undertaken on the remainder of the site and ensuring an efficient construction methodology.



Site Location Plan

Below is an indicative program for Crown Certificates/Construction Certificates (CC) in line with the construction program:

Table 2 – CC Application Program

Construction Certificate No.1 - 23.08.2024
Piling, earthworks, stormwater and demolition
Construction Certificate No.2A – 18.11.2024
Full above ground Structure to Lower Ground, base build services
Construction Certificate No.2B - 10.02.2025
Full above ground Structure to Roof, base build services
Construction Certificate No.3 – 16.05.2025
Façade, external works, public domain and landscaping and updates to BCA, DDA & FER & JV3 as required
Construction Certificate No.4 – 17.12.2025
Pool Reception Layout Changes

1.4 Key Project Personnel

All employees, contractors (and their sub-contractors) have been made aware of, and have been instructed to comply with, the conditions of consent relevant to activities they carry out in respect of the development as per Condition A2.

Organisation	Position	Representative	Contact Details
Head Contractor Grindley	Construction Manager	Evan Graves	0404321756 egraves@grindley.com.au
Head Contractor Grindley	Project Manager	Peter Wilson	0414 914 514 pwilson@grindley.com.au

1.5 Reporting Timing

This Compliance Report is to be submitted to the Planning Secretary every 6 Months from Commencement of works. Construction works for the Project were previously notified to be commencing August 2024.

A Pre-Construction Compliance Report was submitted for the first Construction Certificate in August 2024 from the granting of consent on the 28th of November 2022 to the proposed notified date of commencement of Construction.

The Schedule of Compliance reporting is presented in Table 3 below.

Table 3 - Compliance Reporting Program

Report	Timing	Anticipated Lodgment Date
Pre-Construction Compliance Report (B6)	Completed	CC1 Issued 23 rd August 2024
Construction Compliance Report #1	6 Months from date of commencement of construction	Issued February 2025
Construction Compliance Report #2	6 Months from date of previous Compliance Report	August 2025
Construction Compliance Report #3	6 Months from date of previous Compliance Report (THIS REPORT)	February 2026
Construction Compliance Report #4 (if required)	6 Months from date of previous Compliance Report	No later than TBC Pending Project Completion. Likely Not applicable
Pre-Operation Compliance Report (B28b)	Prior to the commencement of Operation	No later than 16 th January 2026 (Pending expected OC)
Operations Compliance Reports	At intervals, no greater than 52 weeks from the date of commencement of operations	*Operation date to be confirmed. 10 th January 2027

Note 1: Condition B5: notification 48 hours prior to construction start is 23.08.2024.

Note 2: Works are assumed to be completed 'target' program 20.3.26.

Note 3: The anticipated date of Compliance Reporting is the approximate date nominated for lodgment of the Compliance Reports and may vary according to any changes in date of commencement of Construction and date of commencement of Operation.

2 Previous Reports Actions

This Construction Compliance Report is the 3rd compliance Report for SSD 15822622 as set out in Compliance Monitoring and Reporting Program. Revision History as below:

Description	Revision	Details
Pre-Construction Compliance Report	Rev 1 – Draft	Report Creation
Pre-Construction Compliance Report	Rev 2	Minor Updates for Submission
Construction Compliance Report # 1	Rev 3	Minor updates to Body. Updates to Appendix A Compliance Table for status.
Construction Compliance Report # 2	Rev 4	Minor updates to Body. Updates to Appendix A Compliance Table for status. Additional information as requested in Department review of Report #1.
Construction Compliance Report #3	Rev 5	Minor Updates to Compliance Status Summary, Complaint details, Environmental Monitoring, Noise and Vibration Monitoring, Site Plans and Photographs.

3 Modifications Undertaken

One modification has been lodged since consent was granted. Documents relating to the assessment and determination of the Project and its modifications are located at the Department's major projects website, refer <https://www.planningportal.nsw.gov.au/major-projects/projects/mod-2-amendments-building-c2-and-stratum-subdivision-updates-conditions-consent>

SSD-15822622-Mod-2 approval includes the following changes:

Location	Item
Basement	Basement layout revised and extent of excavation reduced.
Lower Ground	Curved glazing and circular stair removed. Stairs relocated around lift.
Lower Ground - Gym	Gym sliding glass doors replaced with fixed windows.
Lower Ground - Gym	Gym amenities layout revised.
Lower Ground - Pool	Pool amenities layout revised.
Lower Ground - Pool	Pool sliding glass doors replaced with fixed windows.
Lower Ground - Pool	Pool shifted west to reduce extent of pool by one bay and increase landscaping.
Lower Ground - Landscape	Reflective pond and fence removed to be replaced with bioswale.
Upper Ground - Cafe	Skylight removed.
Upper Ground - Cafe	Glazed hob replaced with solid upstand at North and East facades.
Upper Ground - Community	Community Room 1 facade revised glazed hob replaced with solid upstand.
Upper Ground - Community	Community Room 2 facade revised to have less glazing and more solid.
Upper Ground - Gardens	Extent of balcony planters above pool reduced.
Roof - Pergola	Pergola extent reduced.
Roof - Pergola	Pergola planter and maintenance walkway removed.
Roof - Plant	Rooftop plant lift access replaced with stair access only.
Roof - Lift	Reduce height of lift structure.

4 Compliance Status Summary

Details and Status of Compliance to each of the Conditions of Consent are recorded in the Table of Compliance provided in Appendix A.

Table 3 – Summary of Status Descriptors

Status	Descriptor
Compliant	The proponent has collected sufficient verifiable evidence to demonstrate that all elements of the requirement have been complied with.
Non-Compliant	The proponent has identified a non-compliance with one or more elements of the requirement.
Not Triggered	A requirement has an activation or timing trigger that has not been met at the phase of the development when the compliance assessment is undertaken, therefore an assessment of compliance is not relevant

Table 4 – Detail of Non-Compliance

CC ID	Date of Non-compliance	Condition Requirement	Reason for Non-Compliance	Action / recommendation	Reportable Agencies

5 Incidents

A register of all incidents, as defined by the conditions of consent, is to be maintained with the following information:

- The cause and nature of the incident, the date it occurred and the date it was identified.
- Location of the incident.
- How the incident was identified.
- The agency, or agencies to whom the incident was reported.
- Details of any corrective and preventative action required by agencies and any undertaken by the proponent; and
- The response to the incident, including details of timing for undertaking such actions (i.e., that corrective and preventative action is not required, has commenced or is completed).

6 Complaints

Getting in touch

Call: 1800 870 351

Email: midtowncommunityfeedback@frasersproperty.com.au

Visit: 1 Ivanhoe Place, Macquarie Park NSW 2086

A list or table of complaints received, as defined by the Conditions is to be maintained with the following information:

- The number of complaints received; and
- A summary of the main areas of the complaint.

The below table will be maintained for all complaints received.

Date of Complaint	Date of Response	Method	Nature of Complaint	Project Response Complaint	Complaint Status
12/12/24	17/12/24	Email	Sediment Control	A complaint was received in relation to sediment control measures implemented to the road network and surrounds for the works and other surrounding projects. Sediment control measures were in place and operational, however certain areas required additional measures to reduce risk of sediment entering the stormwater system. A clean up of	Closed.

				sediment build up around sediment control was also required.		
27/03/25	01/04/25	Email	Noise Complaint	<p>The Department of Planning, Housing, and Infrastructure have received a noise complaint in relation to Stage 2 works but have not been provided with any specific details in relation to this matter.</p> <p>As there are currently multiple building site operating within the vicinity it is unknown which Contractor caused the noise disruption. The department attended a site inspection on 1/4/25 to have a look at the works in the precinct. We note Taylor Construction site operating adjacent as well as Ausgrid Infrastructure upgrades on Mahogany Av.</p> <p>Based on extremely limited information provided it was not possible to determine the source or location of the alleged noise and no further mitigation action is required.</p>	Closed.	
05/01/2026	14/01/2026	Email	Lighting Complaint	The builder has been advised and a timer has been set on the lights.	Open	

In accordance with Condition B11– A complaints register will be maintained and updated monthly on the Project website.

7 Construction Environmental Management plan (CEMP) Condition B9 (c)

The Construction Environmental Management Plan has been reviewed and has not required any updates within the reporting period.

8 Results and Analysis of Environmental monitoring

Grindley hereby confirm the requirements of Environmental Monitoring - Sediment

8.1 Sediment Control

Due to the excess and unprecedented rainfall during the construction timeframe, Grindley have constructed a temporary sediment basin, which is frequently flocked and tested prior to removal from site.



Photo of sediment retention basin before flocking agent



Photo of testing tube after flocculent agent added to sediment basin



Photo of sediment basin after flocculent agent and has been pumped out from site

Refer to appendix C, for technical data sheet of flocculent agent used on this project.

8.2 Noise and Vibration Monitoring

Grindley Construction engaged Pulse White Noise Australia to undertake vibration monitoring of the adjacent existing residential building (Building C1). The vibration monitoring was installed on a structural wall inside the C1 building and remained in place from September 2024 through to December 2024. PWNA confirmed the Vibration levels experienced on the structure was within the nominated limitations and were compliant with the project construction criteria.

Pulse White Noise Acoustics (PWNA) has been engaged to undertake unattended vibration monitoring for construction of the Ivanhoe Precinct in Macquarie Park. The vibration monitor (serial number: WONEFA) was installed on the 12th of September 2024, and removed on the 16th of December

Unattended monitoring around the site includes one (1) vibration monitor as shown in Figure 1 below. The monitoring is being undertaken in accordance with the British Standards (BS 7385-2:1993) – *Evaluation and measurement for vibration in buildings*.

All measured vibration levels were compliant with the project construction vibration criteria.

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

Regards,

Liam Biddle
Junior Acoustic Engineer
PULSE WHITE NOISE ACOUSTICS PTY LTD

Screenshot from PWNA Vibration Monitoring Report, noting compliance with the PWNA Noise and Vibration Monitoring Requirements inline with Appendix 3 of the Construction Environmental Monitoring Plan

8.3 Noise & Vibration Monitoring – Reporting Period Requirements

Grindley Construction hereby confirm that our Noise and Vibration Monitoring is only required to be undertaken during commencement of rock breaking or sawing from the site, and in response to any ongoing complaints received from neighbours. This is detailed in Section 6.4 of Appendix D of the Construction Noise and Vibration Monitoring Report Prepared by Pulse White Noise

Due to Grindley not undertaking any rock breaking or sawing, nor have any ongoing complaints being received in relation to noise and vibration, confirming there was no monitoring undertaken during the timeframe setout within the reporting period.

Refer to Appendix D for full Vibration Monitoring December 2024 report.

And Refer to Appendix E for the Construction Noise and Vibration Management Plan

9 Actions from Previous Reports

The **actions from Compliance Report #1** which was issued to the Department of Planning in February this year and comments made in April are as follows:

For future Construction Compliance Reports please include the following information:

- 1.1 A separate section containing a consolidated results summary and analysis of environmental monitoring within the main body of the report.
- 1.2 Include more detailed figures/plans of the development and locality, and photographs of development underway during the reporting period.
- 1.3 Include a separate section detailing any actions from the previous report and or audits.
- 1.4 Include a separate section in the report that lists non-compliances and incidents. If there are none to report, clearly state this detail in this section of the report.
- 1.5 Include a development phase column in the compliance table.

The **actions from Compliance Report #2** which was issued to the Department of Planning in August 2025 and comments made in February 2026 are as follows:

- 2.1 **Compliance Status Summary** – While Section 4 and Table 4 are empty due to no non-compliances being identified, please ensure that additional columns are included to record dates of when non-compliances occurred/were identified and details of the agencies that the non-compliances were reported to, if any are identified in future reports.
- 2.2 **Complaint details (Section 6)** – Please ensure that further information and evidence is provided for the close-out of complaints where no further action is required, and that there is consistency across the project’s publicly available complaints register, communications to NSW Planning, members of the local community, and the project’s submitted reporting. A review of the complaints register has identified discrepancies in the information provided in CCR#2 and the project website in relation to the noise complaint received on 27/03/2025.
- 2.3 **Results and Analysis of Environmental monitoring – Sediment Control (Section 8)** – While this section does provide a brief overview of the activities that have occurred on-site and product/compound information in relation to the project’s sediment controls, please include water quality testing results (pH, turbidity readings) that have been taken prior to the dewatering of sediment retention basins, as required by Condition B9(a) of the consent and the testing, treatment and discharge procedures detailed in Section 5.1.4 of the Integrated Project Management Plan, Revision 0 dated July 2024

(CSWMSP), provided as Appendix 6 to the project's Construction Environmental Management Plan (CEMP) under Conditions B35 and B40 of the consent.

2.4 Results and Analysis of Environmental monitoring – Noise and Vibration Monitoring (Section 8) -

Please include any noise and vibration monitoring results undertaken during the reporting period. If no monitoring was conducted, please provide further details as to why, noting that Section 6.2.2 of the Construction Noise and Vibration Management Sub-Plan (CNVMSP), provided as Appendix 3 to the CEMP recommends noise monitoring be conducted at the start of any new phase of ground works and when noise complaints are received.

Grindley confirm that no noise and vibration monitoring undertaken, Refer to Section 8 (Noise & Vibration Monitoring – Reporting Period Requirements, for more information

2.5 Site Plans and Photographs (Appendix B) – Where photographs and site plans are used to illustrate

the project's status during the reporting period, please include dates and location information.

Appendix A

Compliance Table

Please see the below Compliance Table.

ITEM	CONDITION	EVIDENCE/ COMMENTS	COMPLIANCE STATUS	DEVELOPMENT PHASE
PART A - ADMINISTRATIVE CONDITIONS				
OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT				
A1	In addition to meeting the specific performance measures and criteria in this consent, all reasonable and feasible measures must be implemented to prevent, and if prevention is not reasonable and feasible, minimize, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Contained within current Management Plans. Commitment that Management plans will be complied with throughout the duration of works under this Consent, with evidence to be provided throughout works such as: Monitoring records, Site Inspection Records Environmental Action Registers, Incident reports, Management plan/s review tracking, and Audit results and close outs	Compliant	See section 8 of this report
TERMS OF CONSENT				
A2	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) in accordance with the EIS, Response to Submissions and additional information. (d) in accordance with the approved plans in the table below. (e) in accordance with the following modification applications: (i) the Section 4.55(1A) application prepared by Ethos Urban dated 13 September 2023 appendices. (ii) the Section 4.55(1A) application prepared by Ethos Urban dated 14 September 2023, as modified by the submission's reports dated 6 February 2024 and 19 April 2024.	a) Construction Compliance Reports (this Report) Refer to details contained within this table for Compliance to Conditions b) Record of written direction No directions received from the Planning Secretary to date. c) Current Management plans and Sub-plans in accordance with the EIS and Response to Submissions d) Check of Current Plans Approved plans are in place for Construction	Compliant	Works are in accordance with the consent conditions and S4.55
A3	Consistent with the requirements in this consent, the Planning Secretary may make written directions to the Applicant in relation to: (a) the content of any strategy, study, system, plan, program, review, audit, notification, report or correspondence submitted under or otherwise made in relation to this consent, including those that are required to be, and have been, approved by the Planning Secretary; and (b) the implementation of any actions or measures contained in any such	Record of Written direction. Record of implementation of any written direction and or response to written direction	Not Triggered	Not Triggered

	document referred to in Condition. A3(a).			
A4	The conditions of this consent and directions of the Planning Secretary prevail to the extent of any inconsistency, ambiguity or conflict between them and a document listed in Condition A2(c) or Condition A2(d). In the event of an inconsistency, ambiguity or conflict between any of the documents listed in Condition A2(c) and Condition A2(d), the most recent document prevails to the extent of the inconsistency, ambiguity or conflict.	Review & Cross Check Requirements (General Note)	Compliant	No inconsistency, ambiguity or conflict exists
LIMIT OF CONSENT				
A5	This consent will lapse five years from the date of the consent unless the works associated with the development have physically commenced.	Front page of SSD 15822622 with evidence of date of the Works associated with the development.	Compliant	Works have commenced on site within the required time period
PRESCRIBED CONDITIONS				
A8	The Applicant must comply with all relevant prescribed conditions of development consent under Part 6, Division 8A of the EP&A Regulation.	a) Erection of Site Signage – Erected signage b) Residential building work – Note. c) Entertainment venues – N/A d) Signage for maximum number of persons – N/A e) Shoring and adjoining properties Sandstone crescent has shoring walls which are adjacent to road, this road is owned by the person having the benefit of the development consent. This condition is not applicable.	Compliant	Not applicable to these works
LONG SERVICE LEVY				
A9	For work costing \$25,000 or more, a Long Service Levy must be paid. For further information please contact the Long Service Payments Corporation on their Helpline 13 1441.	LSL paid - Refer to Receipt L0000156469 on 27.6.24	Compliant	No further action required
LEGAL NOTICES				
A10	Any advice or notice to the consent authority must be served on the Planning Secretary.	No legal notices to date	Not Triggered	Not Triggered
EVIDENCE OF CONSULTATION				
A11	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 to the Planning Secretary for 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.	Record keeping for communications with Certifier. Record keeping for communications with Council and Transport for New South Wales	Compliant	Record keeping continues throughout the construction phase as required

STRUCTURAL ADEQUACY				
A12	All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development, must be constructed in accordance with the relevant requirements of the BCA/NCC.	Structural Design Certificates confirming design to BCA issued by Van Der Meer Engineers for Construction Certificates	Compliant	Construction is being undertaken in line with the regulated designs
DESIGN INTEGRITY				
A13	Necessary arrangements must be implemented by the Applicant to ensure Chrofi (Building C2), Studio Johnston (Building C3) and Cox Architecture (Building C4) are engaged in the design documentation phase to ensure the integrity design quality of the development is maintained through the construction phase to completion of the building works.	General note - Verification Letter provided	Compliant	Chrofi remain engaged for construction phase services for the duration of the project
OPERATION OF PLANT AND EQUIPMENT				
A14	All plant and equipment used on site, or to monitor the performance of the development must be: (a) maintained in a proper and efficient condition; and (b) operated in a proper and efficient manner.	Plant equipment records to be maintained. Plant assessments, checks and authorisation with evidence of plant operator competence (tickets, licenses etc.). All record kept in project management software.	Compliant	All records continue to be stored in project management software

APPLICABILITY OF GUIDELINES				
A15	References in the conditions of this consent to any guideline, protocol, Australian Standard or policy are to such guidelines, protocols, Standards or policies in the form they are in as at the date of this consent.	Record keeping systems for communications with the Planning Secretary. Management Plans e.g., CEMP contain guidelines, AS and protocols as current to date of this Consent.	Compliant	All current documents in the planning portal are current and up to date
A16	However, consistent with the conditions of this consent and without altering any limits or criteria in this consent, the Planning Secretary may, when issuing directions under this consent in respect of ongoing monitoring and management obligations, require compliance with an updated or revised version of such a guideline, protocol, Standard or policy, or a replacement of them.	Note	Compliant	Note
MONITORING AND ENVIRONMENTAL AUDITS				
A17	Any condition of this consent that requires the carrying out of monitoring or an environmental audit, whether directly or by way of a plan, strategy or program, is taken to be a condition requiring monitoring or an environmental audit under Division 9.4	Note	Compliant	Note

	of Part 9 of the EP&A Act. This includes conditions in respect of incident notification, reporting and response, non-compliance notification and independent environmental auditing.			
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INCIDENT NOTIFICATION, REPORTING AND RESPONSE

A18	The Department must be notified in writing to compliance@planning.nsw.gov.au 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.	No Incident to date	Not Triggered	Not Triggered
A19	Subsequent notification must be given, and reports submitted in accordance with the requirements set out in Appendix 1.	No Incident to date	Not Triggered	Not Triggered

NON-COMPLIANCE NOTIFICATION

A20	The Department must be notified in writing to compliance@planning.nsw.gov.au within seven days after the Applicant becomes aware of any non-compliance. The Certifying Authority must also notify the Department in writing to compliance@planning.nsw.gov.au within seven days after they identify any non-compliance.	No Non-Compliance to date	Not Triggered	Not Triggered
A21	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.	No Non-Compliance to date	Not Triggered	Not Triggered
A22	A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	No Non-Compliance to date	Not Triggered	Not Triggered

REVISION OF STRATEGIES, PLANS AND PROGRAMS

A23	Within three months of: (a) the submission of a compliance report under Condition B6 and B8. (b) the submission of an incident report under Condition A18. (c) the approval of any modification of the conditions of this consent; or (d) the issue of a direction of the Planning Secretary under Condition A3 which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Department must be notified in writing that a review is being carried out.	Notification to Department and Certifier, that a review is being undertaken. Any change to be provided to the satisfaction of the Certifier. No Changes to Date. This report issued as per B8.	Compliant	No changes to date
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A24	If necessary to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review.	Notification to Department and Certifier, that a review is being undertaken. Any change to be provided to the satisfaction of the Certifier.	Not Triggered	Not Triggered
A25	SWIMMING POOL The public swimming pool must be designed, installed and operated in accordance with the: (a) Swimming Pools Act 1992 & Swimming Pools Regulation 2018 (b) Australian Standard AS 1926.1-2012 Swimming Pool Safety (c) Public Health Act 2010 & Public Health Regulation 2012	Addressed in CC3 for design components.	Compliant	Design and construction are in line with required legislation and standards

PART B - PRIOR TO COMMENCEMENT OF WORKS

CROWN BUILDING WORK

B1	Crown building work cannot be commenced unless the relevant Crown Building work is certified by or on behalf of the Crown to comply with the technical provisions of the State's building laws in force as at: (a) the date of the invitation for tenders to carry out Crown building work; or (b) in the absence of tenders, the date on which the Crown building work commences, or a Construction Certificate is issued.	Note - CC1, CC2a, CC2b & CC3 issued.	Compliant for CC's issued to date.	All CC issues issued
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NOTIFICATION OF COMMENCEMENT

B2	The Department must be notified in writing of the dates of commencement of physical work and operation at least 48 hours before those dates.	Department has been notified in writing	Compliant	Department has been notified in writing.
B3	If the construction or operation of the development is to be staged, the Department must be notified in writing at least 48 hours before the commencement of each stage, of the date of commencement and the development to be carried out in that stage.	Building C2 Works only. Not staged	Not Triggered	Not Triggered

BUILDING CODE OF AUSTRALIA COMPLIANCE

	The approved works must comply with the applicable performance		Compliant	Design Certificates
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B4	<p>requirements of the BCA/NCC to achieve and maintain acceptable standards of structural sufficiency, safety (including fire safety), health and amenity for the ongoing benefit of the community. Compliance with the performance requirements can only be achieved by:</p> <p>(a) complying with the deemed to satisfy provisions; or</p> <p>(b) formulating an alternative solution which:</p> <p>(i) complies with the performance requirements; or</p> <p>(ii) is shown to be at least equivalent to the deemed to satisfy provision; or</p> <p>(iii) a combination of (a) and (b).</p>	Design Certificates confirming design to BCA issued by Consultants and Engineers issued for Construction Certificates.		confirming design to BCA issued by Consultants and Engineers issued for Construction Certificates.
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B5	<p>At least 48 hours before the commencement of construction until the completion of all works under this consent, or such other time as agreed by the Planning Secretary, the Applicant must:</p> <p>(a) make the following information and documents (as they are obtained or approved) publicly available on its website:</p> <p>(i) the documents referred to in condition A2 of this consent.</p> <p>(ii) all current statutory approvals for the development.</p> <p>(iii) all approved strategies, plans and programs required under the conditions of this consent.</p> <p>(iv) regular reporting on the environmental performance of the development in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.</p> <p>(v) a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs.</p> <p>(vi) a summary of the current stage and progress of the development.</p> <p>(vii) contact details to enquire about the development or to make a complaint.</p> <p>(viii) complaints register, updated monthly.</p> <p>(ix) audit reports prepared as part of any independent environmental audit of the development and the Applicant's response to the recommendations in any audit report.</p> <p>(x) any other matter required by the Planning Secretary; and</p> <p>(b) keep such information up to date, to the satisfaction of the Planning Secretary.</p>	Measures in place for Record keeping and communications with the Certifier.	Compliant	Measures in place for Record keeping and communications with the Certifier.
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B6	A Pre-Construction Compliance Report must be prepared for the development and submitted to the Certifying Authority for approval before the commencement of construction. A copy of the endorsed compliance report must be provided to the Department at compliance@planning.nsw.gov.au before the commencement of construction.	The pre-construction compliance report was issued to the Department of Planning	Compliant	No further action required
B7	The Pre-Construction Compliance Report must include: (a) details of how the terms of this consent that must be addressed before the commencement of construction have been complied with; and (b) the expected commencement date for construction.	A Pre-Construction Compliance Report was submitted to the Planning Secretary prior to commencement of construction i.e. CC1 works.	Compliant	No further action required.
B8	Construction Compliance Reports must be submitted to the Department at compliance@planning.nsw.gov.au for information every six months from the date of the commencement of construction, for the duration of construction. The Construction Compliance Reports must provide details on the compliance performance of the development for the preceding six months and must be submitted within one month following the end of each six-month period for the duration of construction of the development, or such other timeframe as required by the Planning Secretary.	Completed as per this compliance report 6 months after the date of commencement.	Compliant	With issue of this report, requirements continue to be met
B9	The Construction Compliance Reports must include: (a) a results summary and analysis of environmental monitoring. (b) the number of any complaints received, including a summary of main areas of complaint, action taken, response given and proposed strategies for reducing the recurrence of such complaints. (c) details of any review of the CEMP and the Environmental Management Strategy and associated sub-plans as a result of construction carried out during the reporting period. (d) a register of any modifications undertaken and their status. (e) results of any independent environmental audits and details of any actions taken in response to the recommendations of an audit. (f) a summary of all incidents notified in accordance with this consent; and (g) any other matter relating to compliance with the terms of this consent or requested by the Planning Secretary.	Record Keeping System for submission to Planning Secretary. Include as part of the 6 monthly compliance report submission in this report.	Compliant	With issue of this report, requirements continue to be met.
B10	The Applicant must ensure that all of its employees, contractors (and their sub-contractors) are made aware of, and are instructed to comply with, the conditions of this consent relevant to activities they carry out in respect of the development.	Instructions to comply with the conditions included in the tender process. Consent conditions included in tender packages	Compliant	Instructions to comply with the conditions included in the tender process. Consent conditions included in tender packages.

B11	<p>Prior to the commencement of construction works for each building, or as otherwise agreed by the Planning Secretary, the following must be made available for community enquiries and complaints for the duration of construction:</p> <p>(a) a toll-free 24-hour telephone number(s) on which complaints and enquiries about the carrying out of any works may be registered.</p> <p>(b) a postal address to which written complaints and enquiries may be sent; and</p> <p>(c) an email address to which electronic complaints and enquiries may be transmitted.</p>	Refer to complaints section of this report for details.	Compliant	Refer to complaints section of this report for details.
B12	<p>A community Communication Strategy must be prepared to provide mechanisms to facilitate communication between the Applicant, the relevant Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.</p>	Complaints and enquiries procedure set up. Record keeping system for the development to be ongoing. Refer to complaints section of this report for details	Compliant	Complaints and enquiries procedure set up. Record keeping system for the development to be ongoing. Refer to complaints section of this report for details.
B13	<p>The Community Communication Strategy must:</p> <p>(a) identify people to be consulted during the design and construction phases.</p> <p>(b) include the telephone number, postal address and email required in Condition B11</p> <p>(c) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development.</p> <p>(d) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development.</p> <p>(e) set out procedures and mechanisms:</p> <p>(i) through which the community can discuss or provide feedback to the Applicant.</p> <p>(ii) through which the Applicant will respond to enquiries or feedback from the community; and</p> <p>(iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.</p>	Complaints and enquiries procedure set up. Record keeping system for the development to be ongoing. Refer to complaints section of this report for details	Compliant	Complaints and enquiries procedure set up. Record keeping system for the development to be ongoing. Refer to complaints section of this report for details
B14	<p>Details demonstrating compliance with Condition B11 and Condition B12 must be submitted to the Certifying Authority and the Planning Secretary no later than one month before the commencement of any work.</p>	Record Keeping System for submission to Planning Secretary and Certifying Authority no later than one month before the commencement of any work.	Compliant	No further action required
B15	<p>The external walls of all buildings must comply with the relevant requirements of the BCA/NCC.</p>	Record keeping for communications with the Certifier. Condition addressed in CC3.		Construction works in line with regulated design

B16	Before the issue of a Crown Building Works Certificate or Construction Certificate and an Occupation Certificate, the Applicant must provide the Certifying Authority with documented evidence that the products and systems proposed for use or used in the construction of external walls including finishes and claddings such as synthetic or aluminum composite panels comply with the requirements of the BCA/NCC.	Condition addressed in CC3	Compliant	No further action required.
B17	The Applicant must provide a copy of the documentation given to the Certifying Authority to the Planning Secretary within seven days after the Certifying Authority accepts it.	Documentation uploaded to Planning Portal for CC3	Compliant	All documentation has been uploaded to the Planning Portal
B18	The Applicant is to engage a suitably qualified structural engineer to prepare a Pre-Construction Dilapidation Report, detailing the current structural condition of all existing adjoining buildings, infrastructure and roads, being Building C1 and the surrounding road network, noting that if they remain under construction at the time of the preparation of such report, that the report will provide a record of the condition of the building/road at that point in time. The report shall be submitted to the Certifying Authority and Council, prior to issue of a Crown Building Works Certificate or Construction Certificate, or any works commencing, whichever is earlier.	Report submitted to Certifying Authority and Council	Compliant	No further action required.
B19	The GFA of Building C2 must not exceed 1,527 m ² . Details confirming compliance must be submitted to the Certifying Authority prior to the issue of any Crown Building Works Certificate or Construction Certificate for each building.	Confirmation submitted to confirm the GFA to the Certifying Authority.	Compliant	No further action required.
B20	Prior to the issue of the first Crown Building Works Certificate, or the first construction certificate, for the Community Facility the Applicant must provide the Certifying Authority with evidence that demonstrates, to the satisfaction of the Certifying Authority, that the GFA of the Community Facility across both Building C1 (approved under SSD 8903) and Building C2 will be at least 700 m ² .	Confirmation submitted to confirm the GFA to the Certifying Authority	Compliant	No further action required.
B21	The maximum height of Building C2 must not exceed RL 64.7 m AHD. The measurement of maximum height excludes plant and lift overruns, communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like. Details confirming compliance must be submitted to the Certifying Authority prior to the issue of any Crown Building Works Certificate or Construction Certificate.	Elevations submitted to confirm the maximum height of Building C2 does not exceed RL 64.7 m AHD., to the Certifying Authority.	Compliant	No further action required.
	The maximum height of Building C3 must not	Not applicable for C2 Building.		Not Triggered

B22	exceed RL. 105.9 m AHD. The measurement of maximum height excludes plant and lift overruns, communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like. Details confirming compliance must be submitted to the Certifying Authority prior to the issue of any Crown Building Works Certificate or Construction Certificate.			
B23	The maximum height of Building C4 must not exceed RL 101.4 m AHD to the top of the north-western tower, RL 121.6 m AHD to the top of the south-eastern tower, and RL 58.68 m AHD to the top of the three-story townhouses. The measurement of maximum height excludes plant and lift overruns, communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like. Details confirming compliance must be submitted to the Certifying Authority prior to the issue of any Crown Building Works Certificate or Construction Certificate.	Not applicable for C2 Building.		Not Triggered
B24	A minimum of 280 new trees are to be planted comprising: (a) 90 trees within the Building C2 and Village Green site (b) 20 trees within the Building C3 site. (c) 170 trees within the Building C4 site. Details demonstrating compliance must be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 design & certificates for Building C2. Building C3 and C4 by others	Compliant	No further action required.
B25	Prior to the commencement of works for each building, a list of the final schedule of materials shall be submitted to the Planning Secretary. The Applicant shall also submit a copy of the schedule of materials to the Certifying Authority with the application for the relevant Crown Building Works Certificate or Construction Certificate for each building.	Record keeping system for submission to the Certifying Authority and Planning Secretary. Condition addressed in CC3	Compliant	No further action required.
COMPLIANCE WITH ACOUSTIC ASSESSMENT				
B26	All performance parameters, requirements, engineering assumptions and recommendations contained in the Acoustic Assessment, prepared by Acoustic Logic, dated 16 July 2021, revision 7, must be implemented as part of the detailed design assessment and implemented into the design drawings for each building. Details demonstrating compliance must be submitted to the Certifying Authority.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC's from Architect and Acoustic consultant.	Compliant	No further action required.
B27	Prior to the commencement of construction work for each building, plans shall be submitted to the Certifying Authority demonstrating compliance with the recommendations of the Environmental Noise Impact Assessment (prepared by Acoustic Logic, reference number	Record keeping system for submission to the Certifying Authority. Issued in CC2	Compliant	No further action required.

	2021325.1/1607AR7/GW, dated 16 July 2021) with regard to construction methodology.			
B28	Prior to the commencement of relevant construction work for each residential building, plans shall be submitted to the Certifying Authority demonstrating compliance with the recommendations of Environmental Wind Tunnel Study, prepared by SLR, reference number 610.30337-R02-v1.0, dated 24 December 2021.	Not applicable to C2 Building		Not Triggered
B29	The detailed design of the development must incorporate the environmental sustainability objectives, measures and initiatives outlined in the Midtown Stage 2 Sustainability Report, prepared by Frasers Property, dated July 2021. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 by Architect and ESD Consultant.	Compliant	No further action required.
B30	The Applicant must submit to the satisfaction of the Certifying Authority evidence demonstrating that the development will achieve a minimum 5 Star Green Star rating in accordance with the Green Star Design and As- Built V.1.3 (Green Building Council Australia). Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 by Architect and ESD Consultant.	Compliant	No further action required.
B31	Prior to the commencement of construction work, a copy of the final Aboriginal Cultural Heritage Assessment Report must be provided to all Registered Aboriginal Parties.	Copy of records/ certificates of Compliance. Record Keeping for communications with Aboriginal Parties.	Compliant	No further action required.
B32	The visible light reflectivity from building materials used for each building shall reflect the assumptions made within the Solar Reflection Screening Analysis prepared by RWDI (dated 8 July 2021) being a maximum of 20% for glazing, between 20% and 80% for glass railings and other materials having negligible specular reflectivity and shall be designed to minimise glare. A report/documentation demonstrating compliance with these requirements is to be submitted to the Certifying Authority prior to the commencement of the relevant works for each building.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 by Architect	Compliant	No further action required.
B33	All outdoor lighting within the site shall comply with, where relevant, AS/NZ1 58.3. 1999 Pedestrian Area (Category P) Lighting and AS4282: 1997 Control of the Obtrusive Effects of Outdoor Lighting. Details demonstrating compliance with these requirements are to be	Lighting strategy Occupation Certificate issuance. Submission to the Certifying	Compliant	No further action required.

	submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.	Authority. Condition addressed in CC3 design certificate by Lighting Consultant.		
B34	Where required, a Road Occupancy License (ROL) must be obtained from the relevant road authority under section 138 of the Roads Act Y993 for any activity that may impact on the operation of the road network. The ROL allows the Applicant to use a specified road space at approved times, provided certain conditions are met. The Applicant must allow a minimum of 10 working days for processing ROL applications. Traffic Control Plans are to accompany each ROL application(s) for any such activities.	Acquire Road Occupancy Permit. Issue TCP with submission. Not applicable for C2 Project.	Not Triggered	Not Triggered
B35	Prior to the commencement of any works, the Applicant shall prepare and implement a Construction Environmental Management Plan (CEMP) for the development and be submitted to the Certifying Authority. The CEMP must be prepared in consultation with Council.	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier.	Compliant	No further action required.
B36	Prior to the commencement of any works, a Construction Pedestrian and Traffic Management Plan (CPTMP) prepared by a suitably qualified person shall be endorsed by TfNSW (Sydney Coordination Office) and submitted to the Certifying Authority. The CPTMP must be prepared in consultation with Council, TfNSW (Sydney Coordination Office), and TfNSW (RMS).	Construction Traffic & Pedestrian Management Plan prepared in accordance with condition requirements. Record of communications with Council & TfNSW. Issued to Certifier, Council & TfNSW.	Compliant	No further action required.
B37	Prior to the commencement of any works, a Construction Noise and Vibration Management Plan (CNVMP) prepared by a suitably qualified person shall be submitted to the Certifying Authority. The CNVMP must be prepared in consultation with, and address the relevant requirements of the EPA.	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier.	Compliant	No further action required.
B38	Prior to the commencement of any works, an Air Quality and Outdoor Management Plan (AQOMP) must be prepared and submitted to the Certifying Authority. The AQOMP must recommend measures to minimise and manage any odors arising from excavation, stockpiling and removal of contaminated soils.	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier.	Compliant	No further action required.
B39	Prior to the commencement of any works and prior to the issue of any Crown Building Works Certificate or Construction Certificate for each building, the Applicant must prepare a Construction Waste Management Plan (CWMP). A copy of the plan must be provided to the Certifying Authority and Council. The CWMP must include, but is not limited to, the following information:	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier and council.	Compliant	No further action required.

B40	A Construction Soil and Water Management Plan (CSWMP) must be prepared prior to the commencement of works to manage soil and water impacts during construction of the development. The CSWMP must be prepared in consultation with Council and a copy provided to Council, prior to the issue of a Crown Building Works Certificate or Construction Certificate for each building.	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier and council.	Compliant	No further action required.
B41	B41. The development of Building C3 and Building C4 involves the construction of subsurface structures and excavation that has potential to adversely impact neighboring property if undertaken in an inappropriate manner. To ensure there are no adverse impacts arising from such works, the Applicant must engage a suitably qualified and practicing Engineer having experience in the geotechnical and hydrogeological fields, to design, certify and oversee the construction of all subsurface structures associated with the development.	Not applicable to C2 Building	Not Triggered	Not Triggered
B42	Any proposed retaining wall must be designed in accordance with the requirements of the detailed geotechnical report. All proposed retaining walls including the footings, shall be located within private property and not be located within any proposed public road corridor. Details confirming compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.	Copy of records/ certificates of Compliance. Record Keeping for communications with certifier and council.	Compliant	No further action required.
B43	Prior to the commencement of work for each building, the Applicant is to negotiate with the utility authorities (e.g., Ausgrid and Telecommunications Carriers) in connection with the relocation and/or adjustment of the services affected by the construction of the underground structure, if required.	Compliance Certificate for water and sewerage infrastructure servicing of the site under section 73.	Compliant	No further action required.
B44	Prior to the commencement of work for each building, written advice or certified designs must be obtained from the electricity supply authority, an approved telecommunications carrier and an approved gas carrier (where relevant) stating that satisfactory arrangements have been made to ensure provision of adequate services.	Record keeping for communications with the Certifier & and other agencies as relevant.	Compliant	No further action required.
B45	To minimise the opportunity for crime in accordance with CPTED principles, the recommendations provided in the CPTED Report, prepared by Ethos Urban, dated July 2021, shall be incorporated in the architectural plans prior to the prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.	Copy of records/ certificate of compliance. Condition addressed in CC3 by Architect Design Certificate	Compliant	No further action required.

B46	Prior to the commencement of any works, an Unexpected Contamination Finds Protocol (UFP), prepared by a suitably qualified and experienced expert, shall be provided to the Certifying Authority. The UFP must be implemented for the duration of construction works.	Addressed in Grindley Site specific management plan	Compliant	No further action required.
B47	Prior to the issue of a Subdivision Works Certificate, Crown Building Works Certificate or Construction Certificate if required, the Applicant must obtain a Work Permit to occupy the public way, footpaths, road reserves and the like, which must not be obstructed by any mobile cranes, materials, vehicles, refuse, skips or the like, under any circumstances, unless in accordance with the Works Permit. Non-compliance with this requirement will result in the issue of a notice by the Authority to stop all work on the site.	Record keeping for communications with the Certifier & Council and other agencies as relevant.	Compliant	No further action required.
B48	The development must be implemented, and all BASIX commitments thereafter maintained in accordance with: (a) Building C3: BASIX Certificate No. 1207739M 05 (b) Building C4: BASIX Certificate No. 1199962M 06. An updated certificate must be issued if amendments are made. The BASIX certificate must be submitted to the Certifying Authority with all commitments clearly shown on the Crown Building Works Certificate or Construction Certificate plans for each building.	Not applicable to C2 Building	n/a	n/a
B49	An application shall be made to Sydney Water for a Certificate under Part 6, Division 9, section 73 of the Sydney Water Act 1994 (Compliance Certificate) prior to the issue of any Crown Building Works Certificate or Construction Certificate for each building,	Application completed	Compliant	No further action required.
B50	All toilets installed as part of the approved works must be of water efficient dual-flush capacity with at least 4-star rating under the Water Efficiency and Labelling Scheme (WELS). The details must be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 for design. OC Certificate to be provided for installation.	Compliant	OC Certificate to be provided for installation.
B51	All taps and shower heads installed as part of the approved works must be water efficient with at least a 3- star rating under the Water Efficiency and Labelling Scheme (W ELS), where available. The details must be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 for design. OC Certificate to be provided for installation.	Compliant	OC Certificate to be provided for installation.

B52	New urinal suites, urinals and urinal flushing control mechanisms installed as part of the approved works must demonstrate that products have been selected with at least a 4-star rating under the Water Efficiency and Labelling Scheme (WELS). The details must be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 for design. OC Certificate to be provided for installation.	Compliant	OC Certificate to be provided for installation.
B53	Urinals must include 'smart controls' to reduce unnecessary flushing in publicly accessible bathrooms. Continuous flushing urinal systems are not approved. Details demonstrating compliance with the requirement are to be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 for design. OC Certificate to be provided for installation.	Compliant	OC Certificate to be provided for installation.
B54	The Applicant shall ensure that the provision of sanitary facilities for disabled persons complies with Section F2.4 of the BCA/NCC. Plans demonstrating compliance with this condition shall be submitted to the Certifying Authority prior to the commencement of the relevant works.	Record keeping system for submission to the Certifying Authority. Condition addressed in CC3 Design Certificate	Compliant	No further action required.
B55	Prior to issue of the relevant Crown Building Works Certificate or Construction Certificate for each building, the Certifying Authority is to ensure that the overall Stage 2 development has been designed to accommodate a minimum of 5% adaptable residential apartments/dwellings (excluding social dwellings) and that the requirements are referenced on the relevant Crown Building Works Certificate drawings. In addition, information shall be provided confirming: (a) the required number of units are able to be adapted for people with a disability in accordance with the BCA/NCC; and (b) compliance with Australian Standard A54299 — Adaptable Housing.	Not applicable to C2 Building		
B56	Access and facilities for people with disabilities must be designed in accordance with the BCA/NCC. Prior to the commencement of the relevant works, a certificate certifying compliance with this condition from an appropriately qualified person must be provided to the Certifying Authority.	Record keeping system for submission to the Certifying Authority. Addressed as part of CC3 via Access Report.	Compliant	No further action required.
B57	All mechanical ventilation systems shall be designed and installed in accordance with the BCA/NCC and shall comply with Australian Standards AS1668.2 and AS3666 – Microbial Control of Air Handling and Water Systems of Building, to ensure adequate levels of health and amenity to the occupants of the buildings and to ensure environment protection. Details demonstrating compliance shall be submitted to the Certifying Authority prior to the commencement of relevant works.	Submission of information for occupation certificate. Record keeping system for submission to the Certifying Authority. Design signed off in CC3	Compliant	No further action required.

B58	A minimum of 19 car parking spaces are to be provided for Building C2 within the Building C1 basement approved under SSD 8903, consisting of 12 car parking spaces for the pool and gym and 7 car parking spaces for the community facility. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Not applicable to C2 Building	n/a	Not Triggered
B59	A maximum of 145 residential car parking spaces, 8 visitor car parking spaces and 10 retail car parking spaces are to be provided for Building C3. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Not applicable to C2 Building	n/a	Not Triggered
B60	A maximum of 396 residential car parking spaces (263 market and 108 social), including 25 visitor car parking spaces are to be provided for Building C4. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Not applicable to C2 Building	n/a	Not Triggered
B61	The layout of the proposed car parking areas within each residential building (including, driveways, grades, turn paths, sight distance requirements in relation to landscaping and/or fencing, aisle widths, aisle lengths, and parking bay dimensions) must be in accordance with AS 2890.1- 2004, AS2890.6-2009 and AS 2890.2 — 2018. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.	Not applicable to C2 Building	n/a	Not Triggered
B62	The minimum number of bicycle parking spaces to be provided for the development shall comply with the table below. Details confirming the bicycle parking numbers must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate.	Submission of information for occupation certificate. Record keeping system for submission to the Certifying Authority. Addressed as part of CC3.	Compliant	No further action required.
B63	The layout, design and security of bicycle facilities either on-street or off-street must comply with the minimum requirements of Australian Standard AS 2890.3 – 2015. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.	Submission of information for occupation certificate. Record keeping system for submission to the Certifying Authority. Addressed as part of CC3.	Compliant	No further action required.
	The waste storage rooms within each residential building shall be constructed to comply with all the relevant provisions of Council's Development	Not applicable to C2 Building	n/a	Not Triggered

B64	<p>Control Plan 2014, including:</p> <p>(a) the size being large enough to accommodate all waste generated on the premises, with allowances for the separation of waste types and bulky materials.</p> <p>(b) the floor being graded and drained to an approved drainage outlet connected to the sewer and having a smooth, even surface, coved at all intersections with walls.</p> <p>(c) the walls being cement rendered to a smooth, even surface and coved at all intersections.</p> <p>(d) cold water being provided in the room with the outlet located in a position so that it cannot be damaged and a hose fitted with a nozzle being connected to the outlet.</p> <p>(e) the room shall be adequately ventilated (either natural or mechanical) in accordance with the Building Code of Australia.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.</p>			
B65	<p>All garbage chutes must be designed in accordance with the requirements of the BCA/NCC and the Department of Environment and Climate Change Better Practice Guide for Waste Management in Multi-Unit Dwelling 9</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each residential building.</p>	Not applicable to C2 Building	n/a	Not Triggered
B66	<p>The method of disposal of pumped water shall be nominated (i.e., reinjection, drainage to the stormwater system or discharge to sewer) and a copy of the written permission from the relevant controlling authority shall be provided in a report to be provided to NRAR with the application for the authorisation. The disposal of any contaminated pumped groundwater (sometimes called "tailwater") must comply with the provisions of the Protection of the Environment Operations Act 1997 and any requirements of the relevant controlling authority.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.</p> <p>Contaminated groundwater—i.e., constituent concentrations above appropriate National</p>	Ground water not anticipated for C2 Building, Record keeping for communications to the satisfaction of the Certifier.	Compliant	No further action required.

	<p>Environment Protection (Assessment of Site Contamination) Measure (NEPM 2013) thresholds—shall not be reinjected into any geological formation. The reinjection system design, if proposed, and treatment methods to remove contaminants shall be nominated and included in a report to be provided to NRAR with the application for the authorisation. The quality of any pumped water that is to be reinjected must be demonstrated to be compatible with, or improve, the intrinsic or ambient groundwater in the vicinity of the reinjection site.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.</p>			
B67	<p>Water access licenses and sufficient water entitlements must be held prior to the commencement of any works which would result in the groundwater take exceeding 3ML exemption limit. This includes both permanent entitlements for ongoing water take, and entitlements for any additional lake during construction.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	<p>Ground water not anticipated for C2 Building, Record keeping for communications to the satisfaction of the Certifier.</p>	Compliant	No further action required.
B68	<p>A Bush Regenerator shall review the proposed planting palettes/schedules for the development to ensure the site landscaping/planting associated with Building C2, Building C3 and Building C4 uses native species of local provenance.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	<p>Record keeping for communications to the satisfaction of the Certifier. Addressed as part of CC3.</p>	Compliant	No further action required.
B69	<p>Detailed landscape plans and details drawn to scale, and technical specification, by a registered landscape architect must be prepared and submitted to the Planning Secretary.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	<p>Record keeping for communications to the satisfaction of the Certifier. Addressed as part of CC3.</p>	Compliant	No further action required.
	<p>The vertical transportation services within Building C4 shall be designed to comply with the average waiting times and handling capacities as</p>	<p>Not applicable for C2 building.</p>	n/a	Not Triggered

B70	<p>summarised in the Traffic Analysis Outcome Performance Levels for Building C4 table, prepared by Donnelley Simpson Cleary, dated 5 August 2020, reference 8162/AB1.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>			
B71	<p>Prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate, amended architectural plans for Building C4, prepared in consultation with the Government Architect NSW, shall be submitted to and approved by the Planning Secretary, addressing the following:</p> <p>(a) centrally locate the office/reception desk in Lobby B of Building C4.2, to provide a direct line of sight from the lobby entrance.</p> <p>(b) amend the structural wall in Lobby A of Building C4.2 to columns, to provide greater flexibility and use of space.</p> <p>(c) provide a breakout area from the corridor on Levels 4, 7, 10, 13, 16, 19, 20 of Building C4.1, to improve the amenity of the corridor.</p> <p>(d) provide high level glazing to the bathrooms of Building C4.2 at the north/west brick blade element with consideration of public artwork.</p> <p>(e) provision of a covered communal open space on the rooftop of Building C4.2</p> <p>(f) investigate opportunity to improve access to the office/reception desk in Lobby B, for residents in the northern side of Building C4.2</p> <p>(g) include sliding screens and/or fencing to the terraces of Unit C4.2-LG.03 and Unit C4.2-GF.02 to provide visual privacy and screening for the occupants of the studio units.</p> <p>(h) include sliding screens and/or fencing to the terrace of Unit C4.2-LG.01 to provide visual privacy and screening from the central courtyard and pathways.</p> <p>(i) include details of landscape buffering to provide visual screening and privacy to the ground floor units. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	Not applicable for C2 building.	n/a	Not Triggered
	<p>Prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate, amended plans and amended Waste Management Plans, prepared in consultation with Council, shall be submitted to and approved by the Planning Secretary, addressing the following:</p> <p>(a) Provide a bin holding room for bins awaiting collection adjacent to the loading dock of Building C3, that does not impede truck access and/or maneuvering.</p>	Not applicable to C2 Building	n/a	Not Triggered

B72	<p>(b) Details of where bulky waste material will be stored in Building C3 when awaiting collection and how bulky waste material will be taken up to the loading dock for collection.</p> <p>(c) Provide a bin holding room for bins awaiting collection capable of accommodating the required bin allocation for Building C4.</p> <p>(d) Provide two rooms on each floor of the Market Tower of Building C4.</p> <p>(e) Detail where bulky waste material will be stored while awaiting collection on Basement Level 1 for the Market Tower of Building C4.</p> <p>(f) Detail where the tug will be stored in Building C4. Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate</p>			
B73	<p>Prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate, a Public Art Plan will be submitted to and approved by the Planning Secretary.</p> <p>The Public Art Plan will explore opportunities for public art within the Village Green and Building C4 with reference to the Connecting with Country Strategy (prepared by The Fulcrum Agency, dated 21 June 2021, revision C).</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	Plan prepared and submitted and closed	Compliant	No further action required.
B74	<p>All public domain areas are subject to the standards and requirements of Council’s DCP 2014 Part 4.5 Macquarie Park Corridor and Part 8.5 Public Civil Works, and Council’s Public Domain Technical Manual Section 6 – Macquarie Park Corridor. In the event of any inconsistency, the Concept Approval, and the approved plans under Stage 1 SSD 8903 and Stage 2 SSD 15822622 are to prevail.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate.</p>	Record keeping for communications with Certifier, Council, Planning Secretary and other agencies as relevant. Addressed as part of CC3.	Compliant	No further action required.
B75	For any staging of the Village Green, a detailed construction management and staging plan must be prepared in consultation with Council. Details demonstrating compliance must be submitted to the Certifying Authority and Council prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building or Subdivision Works Certificate.	Record keeping for communications with Certifier, Council, Planning Secretary and other agencies as relevant. Village Green is not staged.	n/a	Not Triggered

B76	<p>Any new vehicle footpath crossings and associated gutter crossover shall be designed for the approved vehicular access location/s. The reconstruction of this infrastructure may be required in order that it has a service life that is consistent with that of the development. The location, design and construction shall be in accordance with Stage 1 Public Domain Drawings and Australian Standard AS2890.1 — 2004 Offs/reel Parking.</p> <p>The drawings shall be prepared by a suitably qualified Civil Engineer using the standard B99 vehicle profile. The drawings shall show the proposed vehicle footpath crossing width, alignment, and any elements impacting design such as service pits, underground utilities, power poles, signage and/or trees. In addition, a benchmark (to Australian Height Datum) that will not be impacted by the development works shall be included.</p> <p>All grades and transitions shall comply with Australian Standard AS 2890.1-2004 Off street Parking. The width of the new crossing shall be sufficient to accommodate turning maneuvers of the largest vehicle requiring access to the site as demonstrated by swept paths submitted to and reviewed by Council. The driveway must be designed without splays and shall be constructed at right angle to the alignment of the kerb and gutter and located no closer than 1m from any power pole and 3m from any street tree.</p> <p>Details demonstrating compliance must be submitted to the Certifying Authority and Council prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate for each building.</p>	Not Applicable to C2 Building	n/a`	Not Triggered
B77	<p>In the case that public infrastructure improvements are required, the developer is to submit a listing of anticipated infrastructure assets to be constructed on Council land or dedicated to Council as part of the development works.</p> <p>The new elements may include but are not limited to new road pavements, new Multi-Function Poles (MFPs), new concrete or granite footways, new street trees and tree pits, street furniture, bus shelters, kerb and gutter and driveways. This information should be presented via the Anticipated Asset Register file available from Council’s Assets and Infrastructure Department. The listings should also include any assets removed as part of the works. The Anticipated Asset Register is to assist with council’s future resourcing to maintain new assets. There is potential for the as-built assets to deviate from the anticipated asset listing, as issues are resolved throughout the public domain assessment and Roads Act Approval process.</p> <p>Following completion of the public infrastructure works associated with the development, a Final Asset Register is to be submitted to Council, based upon the Village Green Works-As-Executed plans.</p>	Record keeping for communications with Certifier, Council, Planning Secretary.	Compliant	Public infrastructure assets shown on CC3 documentation and submitted to the planning portal.

B78	Prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate, detailed landscape drawings (prepared by a registered landscape architect) for the Village Green will be submitted to the Certifying Authority.	Record keeping for communications with Certifier, Council, Planning Secretary. Addressed as part of CC3	Compliant	No further action required.
B79	A certificate from a suitably qualified Chartered Civil Engineer (registered on the NER of Engineers Australia), or equivalent, shall be submitted to the Certifying Authority stating compliance with this condition prior to the issue of the of the relevant Crown Building Works Certificate or Construction Certificate	Record keeping for communications with Certifier.	Compliant	No further action required.
B80	A design certificate from a suitably qualified Chartered Professional Civil Engineer (CPEng) or Registered Professional Civil Engineer (RPEng), or equivalent, shall be provided to the Certifying Authority, prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate, confirming that the site drainage outlet pipe has been designed with a reflux valve in order to stop any backwater effect from Council's stormwater system for events up to the 1% AEP (100-year ARI).	Record keeping for communications with Certifier.	Compliant	No further action required.
B81	The proposed site drainage discharge to the creek shall be made as per the standard detail in Council's DCP (2014) Part 8.2 Stormwater and Stormwater Management Technical Manual. Amended stormwater plans complying with this condition shall be submitted to the Certifying Authority prior to the issue of the relevant Crown Building Works Certificate or Construction Certificate. The plans shall be prepared by a Chartered Professional Civil Engineer (CPEng) or Registered Professional Civil Engineer (RPEng)	Record keeping for communications with Certifier.	Compliant	No further action required.
B82	Council stormwater pits which are being connected into shall be surveyed and confirmed to be capable as being structurally adequate for receiving the upstream connection from the development and satisfy durability requirements. If it is deemed appropriate to replace the pit, kerb inlet pits shall be cast in-situ and conforming to Council's standard drainage pit details. A certificate from a suitably qualified Structural Engineer (registered on the NER of Engineers Australia), or equivalent, shall be submitted to the Certifying Authority, prior to the commencement of any works, certifying compliance with this condition.	Record keeping for communications with Certifier.	Compliant	No further action required.

PART C – DURING CONSTRUCTION				
HOURS OF CONSTRUCTION				
C1	Construction, including the delivery of materials to	Works only undertaken	Compliant	Works continue

	and from the site, may only be carried out between the following hours: (a)between 7.00 am and 7.00 pm, Mondays to Fridays inclusive; and (b)between 8.00 am and 4.00 pm, Saturdays.	during approved hours		to be only undertaken during approved hours.
C2	No work may be carried out on Sundays or public holidays.	Works only undertaken during approved hours and days	Compliant	Works continue to be only undertaken during approved hours.
C3	Activities may be undertaken outside of these hours 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.	Works only undertaken during approved hours and days	Compliant	Works continue to be only undertaken during approved hours.
C4	Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.	Works only undertaken during approved hours and days	Compliant	Works continue to be only undertaken during approved hours.
C5	Rock breaking, rock hammering, sheet piling, pile driving, and similar activities may only be carried out between the following hours: (a)9.00 am to 12.00 pm, Monday to Friday; (b)2.00 pm to 5.00 pm Monday to Friday; and (c)9.00 am to 12.00 pm, Saturday.	Works only undertaken during approved hours and days	Compliant	Works continue to be only undertaken during approved hours.
IMPLEMENTATION OF MANAGEMENT PLANS				
C6	The Applicant shall ensure that the requirements of the management plans required by Part B of this consent are implemented during construction.	Record keeping for communications with Certifier, Council, Planning Secretary.	Compliant	Works continue to be undertaken in line with management plans
CONSTRUCTION NOISE AND VIBRATION MANAGEMENT				
C7	The development must be constructed with the aim of achieving the construction noise management levels detailed in the Interim Construction Noise Guideline (Department of Environment and Climate Change, 2009). All feasible and reasonable noise and vibration mitigation measures shall be implemented and any activities that could exceed the construction noise or vibration management levels shall be identified and managed in accordance with the CEMP and CNVMP.	Works undertaken in accordance with CNVM Plans and CEMP	Compliant	Works continue to be undertaken in accordance with CNVM Plans and CEMP
C8	If the noise from a construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the NSW Industrial Noise Policy), 5 dB(A) must be added to the measured construction noise level when comparing the measured noise with the construction noise management levels	Note	Not Triggered	Not Triggered
C9	The Applicant must schedule intra-day 'respite periods' for construction activities predicted to result in noise levels in excess of the "highly noise affected" levels, including the addition of 5 dB to	Note	Not Triggered	Not Triggered

	the predicted levels for those activities identified in the Interim Construction Noise Guideline as being particularly annoying to noise sensitive receivers.			
C10	Wherever practical, and where sensitive receivers may be affected, piling activities are completed using bored piles. If driven piles are required, they must only be installed where outlined in the CEMP.	Note	Not Triggered	Not Triggered
C11	Vibration caused by construction at any residence or structure outside the subject site must be limited to: (a)for structural damage vibration to buildings (excluding heritage buildings), British Standard BS 7385 Part 2-1993 Evaluation and Measurement for Vibration in Buildings; (b)for structural damage vibration to heritage buildings, German Standard DIN 4150 Part 3 Structural Vibration in Buildings Effects on Structure; (c)for human exposure to vibration, the evaluation criteria presented in British Standard BS 6472- Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80 Hz) for low probability of adverse comment; and (d)these limits apply unless otherwise outlined in the CEMP.	Works undertaken in accordance with CNVM Plans and CEMP	Compliant	Works continue to be undertaken in accordance with CNVM Plans and CEMP
IMPLEMENTATION OF MANAGEMENT PLANS				
C12	Any seepage or rainwater collected on-site during construction shall be either re-used or disposed of, so as not to cause pollution. Seepage or rainwater shall not be pumped to the street stormwater system unless separate prior approval is given in writing by the relevant authority.	Rainwater management in accordance with CEMP submission and approved drawings	Compliant	Works continue to be undertaken in accordance with CEMP.
APPROVED PLANS TO BE ONSITE				
C13	A copy of the approved and certified plans, specifications and documents incorporating conditions of approval and certification must be kept on the Subject Site at all times and must be readily available for perusal by any officer of the Department, Council or the Certifier.	Approved plans located in Site Office	Compliant	Approved plans located in Site Office
SITE NOTICE				
C14	"A site notice(s) must be prominently displayed at the boundaries of the Subject Site for the purposes of informing the public of project details including, but not limited to the details of the Builder, Certifier and Structural Engineer. The notice(s) is to satisfy all, but not be limited to, the following requirements:	Site Notice sign located on Site Entrance fence	Compliant	Site Notice sign located on Site Entrance fence.
CONTAMINATION				
C15	The Applicant is to ensure that any contamination identified as meeting the trigger in the EPA Guidelines for the Duty to Report Contamination is notified in accordance with requirements of section 60 of the Contaminated Land Management Act 1997.	Note	Not Triggered	Not Triggered
C16	The Applicant is to ensure the proposed development does not result in a change of risk in relation to any pre-existing contamination on the site that would result in significant contamination.	Note	Not Triggered	Not Triggered
C17	Should any new information come to light during demolition or construction works which has the potential to alter previous conclusions about site contamination, the Department must be	Note	Not Triggered	Not Triggered

	immediately notified, and works must cease. Works must not recommence on site until the Department confirms works can recommence.			
SAFework NSW REQUIREMENTS				
C18	To protect the safety of work personnel and the public, the work site must be adequately secured to prevent access by 37 personnel, and work must be conducted at all times in accordance with relevant SafeWork NSW requirements.	Site Secured at all times and works in accordance with SafeWork NSW requirements	Compliant	Site Secured at all times and works in accordance with SafeWork NSW 37 requirement.
HOARDING/FENCING REQUIREMENTS				
C19	The following hoarding requirements must be complied with: (a) no third-party advertising is permitted to be displayed on the subject hoarding/fencing; and (b) the removal of all graffiti from any construction hoarding/fencing or the like within the construction area within 48 hours of its application.	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
IMPACT OF BELOW GROUND (SUB SURFACE) WORKS – NON-ABORIGINAL OBJECTS				
C20	If during the course of construction, the Applicant becomes aware of any previously unidentified heritage object(s), all work likely to affect the object(s) must cease immediately and the Heritage Division must be notified immediately and consulted with regard to the recommencement of works. This protocol must be included in the induction for all construction workers on the site.	Not Applicable to date	Not Triggered	Not Triggered
IMPACT OF BELOW GROUND (SUB SURFACE) WORKS – ABORIGINAL OBJECTS				
C21	If, during the course of construction the Applicant becomes aware of any previously unidentified Aboriginal object(s), all work likely to affect the object(s) must cease immediately and EESG informed in accordance with section 89A of the National Parks and Wildlife Act 1974. Relevant works must not recommence until written authorisation from the Heritage Division is received by the Applicant. This protocol must be included in the induction for all construction workers on the site.	Not Applicable to date	Not Triggered	Not Triggered
ABORIGINAL CULTURAL HERITAGE				
C22	All recommendations of the Aboriginal Cultural Heritage Assessment, prepared by Urbis, dated August 2021, are to be implemented during construction.	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
WASTE MANAGEMENT				
C23	Notwithstanding the CWMP referred to in Condition B39, the Applicant must ensure that: (a) all waste generated by the development is classified and managed in accordance with the EPA's Waste Classification Guidelines Part 1: Classifying Waste 2009;	Works in accordance with condition.	Compliant	Works continue in accordance with condition.

	<p>(b)all waste generated by the development is treated and/or disposed of at a facility that has sufficient capacity to and may lawfully accept that waste;</p> <p>(c)any vehicle used to transport waste or excavation spoil from the site is covered before leaving the premises;</p> <p>(d)the wheels of any vehicle, trailer or mobilised plant leaving the site and cleaned of debris prior to leaving the premises.</p>			
LOADING AND UNLOADING DURING CONSTRUCTION				
C24	<p>The following requirements apply:</p> <p>a) all loading and unloading associated with construction must be accommodated on site; and</p> <p>b) a Works Zone is required if loading and unloading is not possible on site. If a Works Zone is warranted an application must be made to the relevant road authority at least 8 weeks prior to commencement of works on the site. Consent for a Works Zone may be given for a specific period and certain hours of the days to meet the particular need for the site for such facilities at various stages of construction. The consent will be reviewed periodically for any adjustment necessitated by the progress of the construction activities.</p>	All loading and unloading from within site.	Compliant	All loading and unloading continues to be done from within site.
DEMOLITION AND CONSTRUCTION VEHICLES				
C25	All demolition and construction vehicles must be wholly contained within the site and vehicles must enter the site before stopping.	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
MANAGEMENT OF CONSTRUCTION WASTE				
C26	Waste materials must be appropriately stored and secured within a designated waste area onsite at all times, prior to reuse or being sent offsite. This includes waste materials such as paper and containers which must not litter the site or leave the site onto neighboring public or private property. Receipts of all waste/recycling tipping must be retained and produced in a legible form to any authorised officer of the Council who asks to see them.	Works in accordance with condition. Site bins utilised and waste reports kept on record.	Compliant	Works continue in accordance with condition.
IDENTIFICATION AND REMOVAL OF HAZARDOUS MATERIALS				
C27	Any hazardous materials, including asbestos, must be identified before demolition work commences and be removed in a safe manner.	Not Applicable to date	Not Triggered	Not Triggered
C28	Removal of asbestos and other hazardous building materials must be undertaken by a suitably licensed contractor and an asbestos clearance certificate must be provided before waste classification, disposal or site validation is undertaken.	Not Applicable to date	Not Triggered	Not Triggered
COVERING OF LOADS				
C29	All vehicles involved in the excavation and / or demolition process and departing from the property with materials, spoil or loose matter must have their loads fully covered before	Works in accordance with condition.	Compliant	Works continue in accordance with

	entering the public roadway.			condition.
VEHICLE CLEANSING				
C30	Prior to the commencement of work and during construction works, suitable measures are to be implemented to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the Site. It is an offence to allow, permit or cause materials to pollute or be placed in a position from which they may pollute waters.	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
STOCKPILE MANAGEMENT				
C31	The Applicant must ensure: (a)stockpiles of material do not exceed 4 metres in height; (b)stockpiles of material are constructed and maintained to prevent cross contamination; and (c)suitable erosion and sediment controls are in place for stockpiles.	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
EROSION AND SEDIMENT CONTROL				
C32	All erosion and sediment control measures are to be effectively implemented and maintained at or above design capacity for the duration of the construction works and until such time as all ground disturbed by the works has been stabilised and rehabilitated so that it no longer acts as a source of sediment.	Works in accordance with condition. Sediment controls in place per approved plans and maintained for duration of works.	Compliant	Works continue in accordance with condition.
DUST CONTROL MEASURES				
C33	Adequate measures shall be taken to prevent dust from affecting the amenity of the neighbourhood during construction. In particular, the following measures should be adopted: (a)physical barriers shall be erected at right angles to the prevailing wind direction or shall be placed around or over dust sources to prevent wind or activity from generating dust emissions; (b)earthworks and scheduling activities shall be managed to coincide with the next stage of development to minimise the amount of time the site is left cut or exposed; (c)all materials shall be stored or stockpiled at suitable locations and stockpiles shall be maintained at manageable sizes which allow them to be covered, if necessary, to control emissions of dust and/or VOCs/odour; (d)the surface should be dampened slightly to prevent dust from becoming airborne but should not be wet to the extent that run-off occurs; (e)all vehicles carrying spoil or rubble to or from the site shall at all times be covered to prevent the escape of dust or other material; (f)all equipment wheels shall be washed before exiting the site using manual or automated sprayers and drive-through washing bays; (g)gates shall be closed between vehicle movements and shall be fitted with shade cloth; and (h)cleaning of footpaths and roadways shall be carried out regularly.	Works in accordance with condition. Dust control measures in place and maintained for duration of works.	Compliant	Works continue in accordance with condition.
GROUNDWATER LICENCING AND MANAGEMENT				
C34	Appropriate authorisation shall be sought through	Groundwater not	Not Triggered	Not Triggered

	the DPE Water to account for any take of groundwater that is likely to exceed 3 ML.	expected in C2 Building		
C35	Groundwater shall not be pumped or extracted for any purpose other than temporary dewatering during the period of construction.	Groundwater not expected in C2 Building	Not Triggered	Not Triggered
GROUNDWATER MONITORING				
C36	Groundwater quality testing of samples taken from outside the footprint of the proposed construction, with the intent of ensuring that as far as possible the natural and contaminant hydrochemistry of the potential dewatered groundwater is understood, shall be conducted on a suitable number of samples and tested at a certified laboratory. An assessment of result must be carried out by suitably qualified persons with the intent of identifying the presence of any contaminants and comparison of the data against accepted water quality objectives or criteria for the intended dewatering purpose. In the event of adverse quality findings, the Applicant must develop a plan to mitigate the impacts of the hydrochemistry on the dewatered groundwater.	Groundwater not expected in C2 Building	Not Triggered	Not Triggered
C37	Daily measurements of water levels from monitoring bores outside basement support walls, weekly measurements of groundwater and discharge water quality, and weekly measurements of pumped volumes shall be recorded by the proponent throughout the construction phase of the development where bulk excavation is within 0.5 m of measured groundwater levels.	Groundwater not expected in C2 Building	Not Triggered	Not Triggered
STORMWATER				
C38	Water quality targets in accordance with Council's DCP 2014 Part 8.2 and all relevant guidelines must be maintained throughout all construction phases. Testing shall be carried out at a frequency of no less than every three (3) months and inspections and certification shall be undertaken by a suitably qualified Chartered Civil Engineer (registered on the NER of Engineers Australia), or equivalent. Certifications demonstrating compliance shall be submitted to the Certifier.	Water quality targets outlined under Ryde City Council's DCP, Part 8.2, are development-based reduction targets and do not relate to construction works. As the targets are a measure of the reduction of pollutants when comparing the post developed site with and without water quality controls this cannot be measured during construction. Water quality will be maintained during construction through the implementation of appropriate erosion and sediment control measures as required under the "Blue Book".	Compliant	Frequent testing and flocking of construction retention swale prior to disposing of site water. All works in accordance with the Blue Bok 
C39	During construction, the following measures should be incorporated with direction from a suitably qualified Chartered Civil Engineer (registered on the NER of Engineers Australia): (a) construction equipment, materials, stockpile,	Sediment and Erosion controls in place. Flood effects not expected on C2	Not Triggered	Not Triggered

	<p>access roads and work platforms should not be sited within floodway's where the distribution of flood flows will be significantly altered and increase flood impacts on adjoining properties</p> <p>(b)hazardous material should be sited so that the risk of such material entering a watercourse during a flood event is minimised</p> <p>(c)appropriate activities and methodologies should be put in place that addresses awareness, preparedness, response and recovery from a flood event in regard to such things as work health and safety, waterway impacts, site impacts and site reestablishment should a flood event occur during construction</p> <p>(d)temporary measures shall be provided and regularly maintained during demolition, excavation and construction to prevent sediment and polluted waters discharging from the site.</p>	Building		
NO OBSTRUCTION OF THE PUBLIC WAY				
C40	<p>Unless otherwise authorised, the public way must not be obstructed by any materials, vehicles, refuse skips or the like, under any circumstances. Non-compliance with this requirement will result in the issue of a notice by the Planning Secretary to stop all work on site.</p>	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
DAMAGE TO THE PUBLIC WAY				
C41	<p>Any damage to the public way, including trees, footpaths, kerbs, gutters, road carriageway and the like, must immediately be made safe and functional by the Applicant.</p>	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
BUNDING				
C42	<p>The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, EPL requirements and/or EPA's Storing and Handling Liquids: Environmental Protection – Participants Handbook.</p>	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
SETTING OUT OF STRUCTURES				
C43	<p>The building shall be set out by a registered surveyor to verify the correct position of the structure in relation to property boundaries and the approved alignment levels. The registered surveyor shall submit a plan to the Certifier certifying that structural works are in accordance with the approved development application.</p>	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
CONTACT TELEPHONE NUMBER				
C44	<p>The Applicant shall ensure that the 24-hour contact telephone number is continually attended by a person with authority over the works for the duration of the development.</p>	Works in accordance with condition.	Compliant	Works continue in accordance with condition.
ACTIVITIES ON WATERFRONT LAND				
C45	<p>Outlets onto the adjacent watercourse should be in accordance with the Guidelines for Controlled Activities (NRAR 2018).</p>	Not Applicable to Building C2	Not Triggered	Not Triggered

PUBLIC UTILITIES AND SERVICE ALTERATIONS				
C46	All mains, services, poles, etc., which require alteration due to works associated with the development, shall be altered at the Applicant's expense. The Applicant shall comply with the requirements (including financial costs) of the relevant utility provider (e.g., Energy Australia, Sydney Water, Telstra, RMS, Council, etc) in relation to any connections, works, repairs, relocation, replacement and/or adjustments to public infrastructure or services affected by the development.	Note	Not Triggered	Not Triggered
WORKS ON PUBLIC ROADS				
C47	Any works performed in, on or over a public road reserve pursuant to this consent must be carried out in accordance with this consent and with the Road Opening Permit issued by Council as required under Sections 138 and 139 of the Roads Act 1993.	Not Applicable to Date. All works within Private lots.	Not Triggered	Not Triggered
STORMWATER - HOLD POINTS DURING CONSTRUCTION – COUNCIL DRAINAGE WORKS				
C48	"Council requires inspections to be undertaken by a suitably qualified Chartered Professional Civil Engineer (CPEng) or Registered Professional Civil Engineer (RPEng), or equivalent, for all Council stormwater drainage works/for all stormwater drainage works in Council's land.	Not Applicable to date. All stormwater connection works within Site Boundary.	Not Triggered	Not Triggered

Appendix B

Site Plans and Photographs



Photo taken from directly above site, February 2026



Photo taken from North-East Corner of site, Looking South-West towards C2, February 2026



Photo taken, August 2025, from Mahogany Avenue, Looking South Towards Building C2

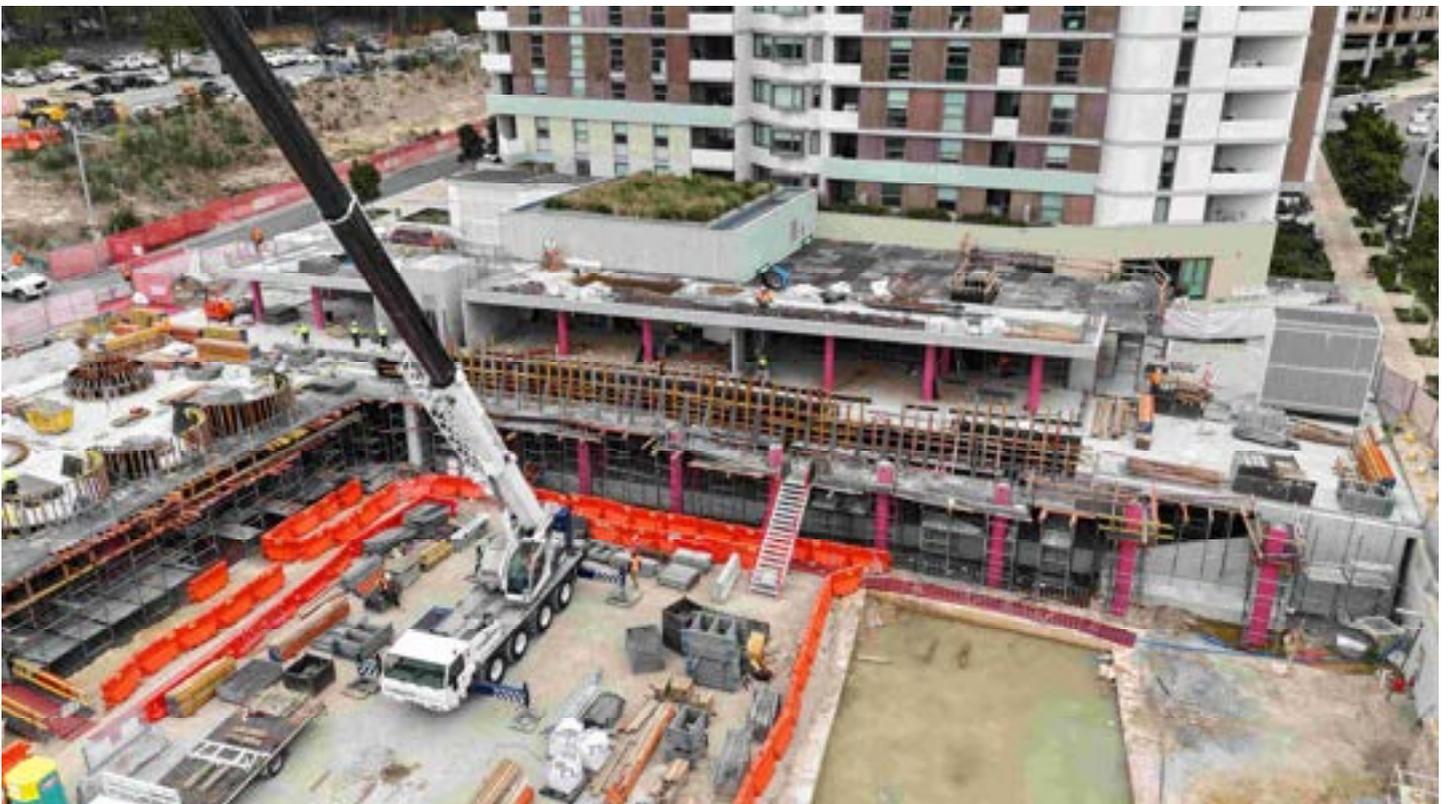
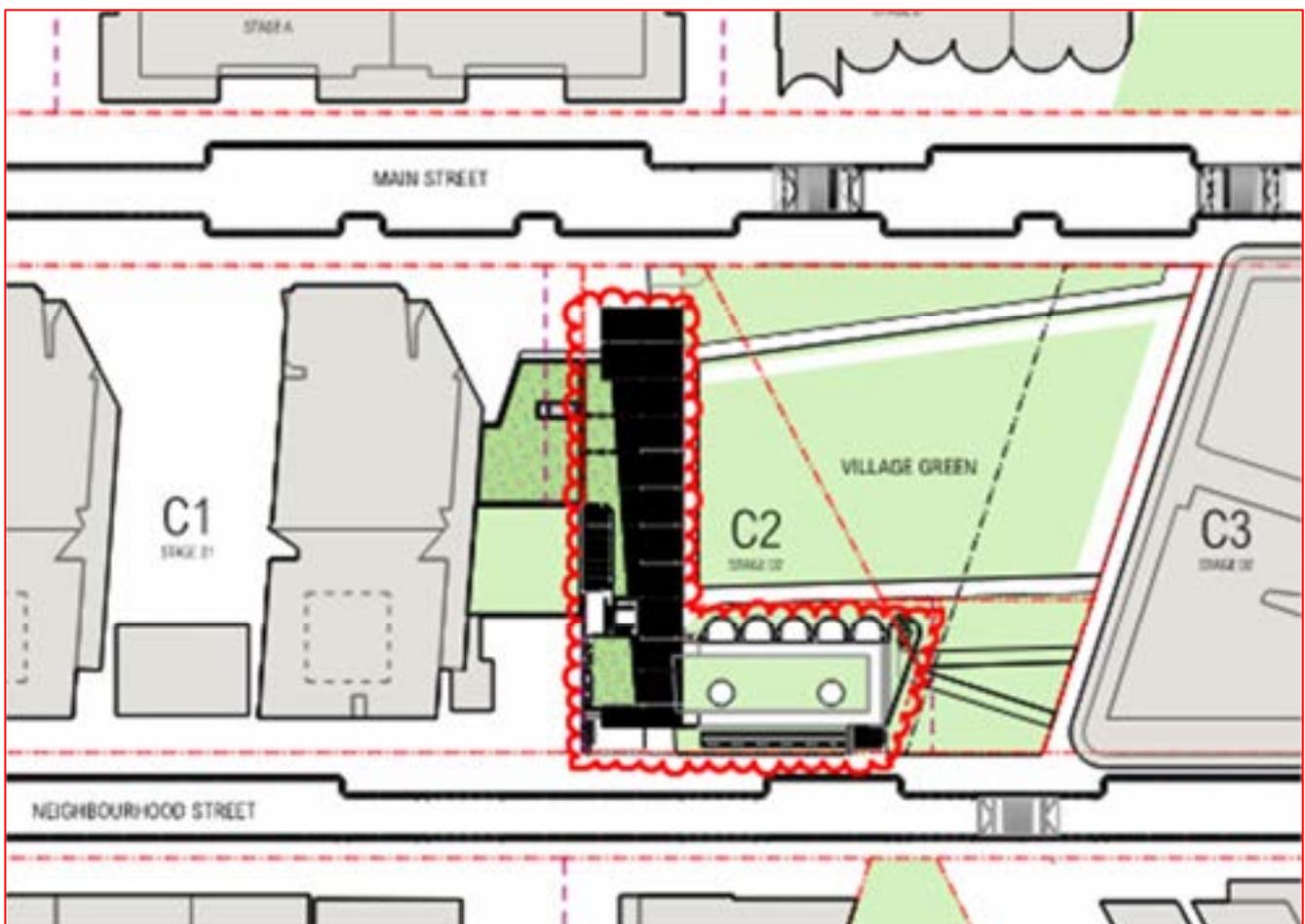


Photo taken, August 2025, from C3 Site Looking West Towards Building C2



Photo taken, August 2025, from Mahogany Avenue, Looking South Towards Building C2



General Site Plan

Appendix C

Flocculent Agent Technical Data Sheet

TECHNICAL DATA Sheet

PROFLOC 450

Profloc 450 solution is a high quality, high-performance liquid aluminum sulphate based primary coagulant.

It is scientifically formulated for treatment of a range of commercial and industrial process waste water and effluents.

Profloc 450 has an excellent performance characteristic make it ideal for use in industrial effluent treatment including waste waters from food, dairy, oil textiles and chemical industries.

Profloc 450 works by neutralizing the charge on suspended impurities to coagulate into larger particles for easily removal by either settlement or floatation processes and promotes more efficient sludge digestion and dewatering.

Profloc 450 solution is not harmful, non-toxic and not carcinogenic.

Profloc 450 solution is an acidic solution therefore is a skin and eye irritant (wear gloves and safety gloves).

APPLICATION:

Profloc 450 has a wide range of applications.

- Industrial effluent treatment waste water from different industries.
- Treatment of potable water and process water
- Paper sizing agent
- Water recycling

The addition of the PROFLOC 450 depends on the contaminated water
Normally 150mL to 200mL of the product /1000Lt

PRODUCT BENEFITS:

- High performance primary coagulant
- Excellent potable and process water treatment
- Promotes more efficient sludge digestion and dewatering
- Reduces chemicals treatment cost.

Appendix D

Vibration Monitoring Results



Ivanhoe Building C2

Vibration Monitoring Results December 2024

Grindley

Report Reference: 240360-1 – Ivanhoe Building C2 – Vibration Monitoring Results December 2024 – R0

Date: 6 January 2025

Revision: R0

Project Number: 240360-1



DOCUMENT CONTROL

Project Name:	Ivanhoe Building C2
Project Number:	240360-1
Report Reference:	240360-1 – Ivanhoe Building C2 – Vibration Monitoring Results December 2024 – R0
Client:	Grindley

Revision	Description	Reference	Date	Prepared	Checked	Authorised
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This report has been prepared by Pulse White Noise Acoustics Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Grindley.

Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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1 INTRODUCTION

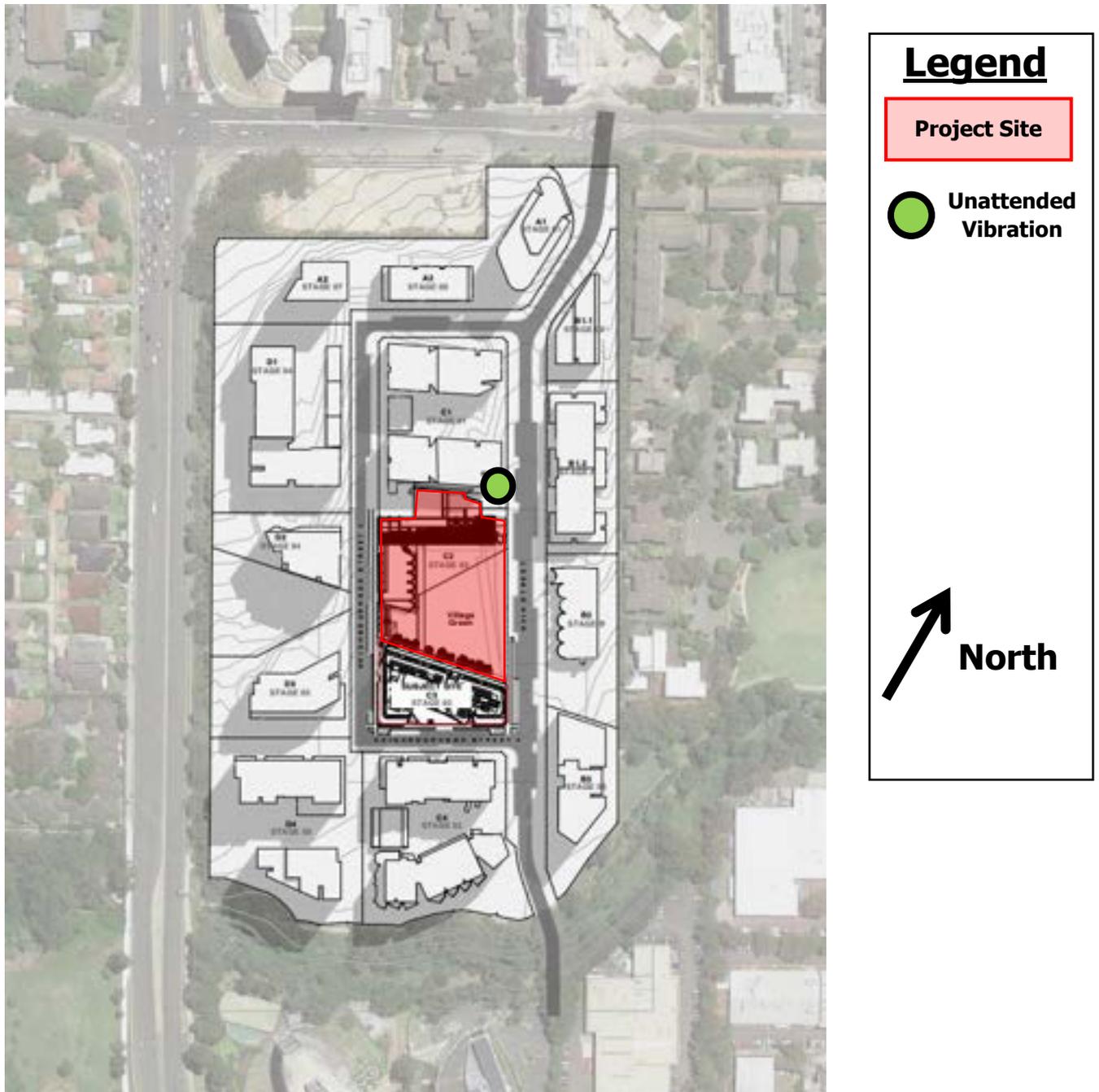
Pulse White Noise Acoustics (PWNA) has been engaged to undertake unattended vibration monitoring for construction of the Ivanhoe Precinct in Macquarie Park.

Unattended monitoring around the site includes one (1) vibration monitor as shown in Figure 1 below. The monitoring is being undertaken in accordance with the British Standards (BS 7385-2 1993) – *Evaluation and measurement for vibration in buildings*.

Monitoring equipment was first installed on Thursday 12th September 2024. The monitoring equipment was removed due to the finishing of earthwork operations on the 16th of December 2024.

This report includes the results for vibration monitoring for the month of December 2024.

Figure 1 Site map, vibration monitor measurement location





2 CONSTRUCTION VIBRATION CRITERIA

Relevant vibration criteria for construction activities are detailed below.

2.1 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. Refer to further discussion in Section 2.1.1.
- Effects on building contents – where vibration can cause damage to fixtures, fittings and other non-building related objects. Refer to further discussion in Section 2.1.2.
- Effects on building structures – where vibration can compromise the integrity of the building or structure itself. Refer to further discussion in Section 2.1.2.

2.1.1 Vibration Criteria – Human Comfort

Vibration effects relating specifically to the human comfort aspects of the project are taken from the guideline titled "*Assessing Vibration – A Technical Guideline*". (AVTG) This type of impact can be further categorised and assessed using the appropriate criterion as follows:

- Continuous vibration – from uninterrupted sources (refer to Table 1).
- Impulsive vibration – up to three instances of sudden impact e.g. dropping heavy items, per monitoring period (refer to Table 2).
- Intermittent vibration – such as from drilling, compacting or activities that would result in continuous vibration if operated continuously (refer to Table 3).

Table 1 Continuous vibration acceleration criteria (m/s²) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
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 2 Impulsive vibration acceleration criteria (m/s²) 1 Hz-80 Hz

Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
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



Location	Assessment period	Preferred Values		Maximum Values	
		z-axis	x- and y-axis	z-axis	x- and y-axis
Workshops	Day or night-time	0.64	0.46	1.28	0.92

Table 3 Intermittent vibration impacts criteria (m/s^{1.75}) 1 Hz-80 Hz

Location	Daytime		Night-time	
	Preferred Values	Maximum Values	Preferred Values	Maximum Values
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

2.1.2 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).

2.1.3 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 in Table 4 and illustrated in Figure 2.

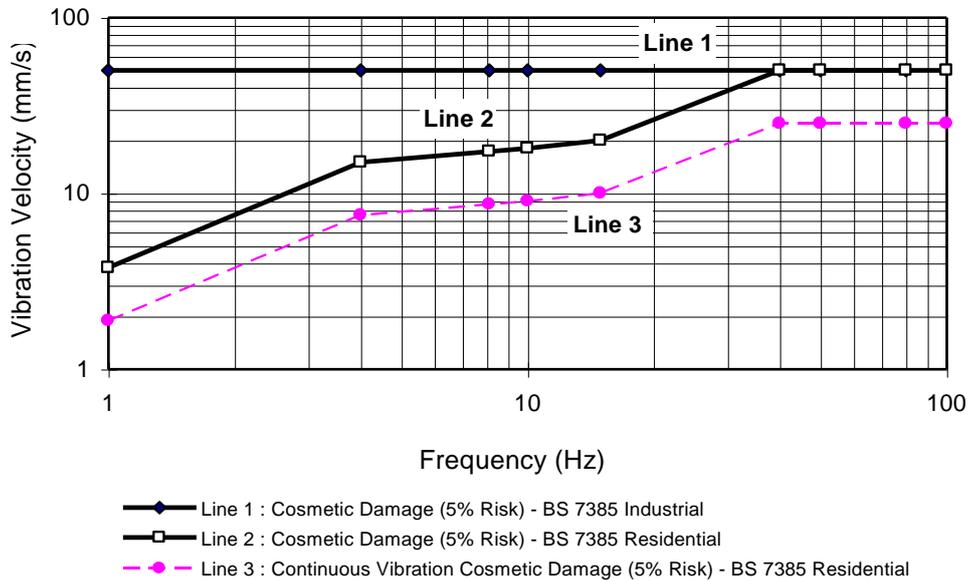
Table 4 Transient vibration criteria as per standard BS 7385 Part 2 - 1993

Line in Figure 2	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 4 relate to transient vibration which does not cause resonant responses in buildings.

Where the dynamic loading caused by continuous vibration events is such as that results in dynamic magnification due to resonance (especially at the lower frequencies where lower guide values apply), then the values in Table 4 may need to be reduced by up to 50% (refer to Line 3 in Figure 2).

Figure 2 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 4, 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 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 4 should not be reduced for fatigue considerations.



2.1.4 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 5. The criteria are frequency dependent and specific to particular categories of structures.

Table 5 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 Note 1: For frequencies above 100Hz, at least the values specified in this column shall be applied.

2.2 Project Vibration Criteria

Based on the details included in the sections above the project specific vibration criteria to protect the surrounding residential receivers from structural or architectural damage includes the following:

1. Project construction vibration criteria at all surrounding building structures – 7 mm/s PPV

In the event that this vibration criteria is exceeded, further investigation is required, including an assessment of the nature of the vibration and frequency characteristics to determine if the vibration criteria can be relaxed for the specific nature of the works.

3 VIBRATION MONITOR LOCATIONS

A vibration monitor is installed to measure vibration levels for several sensitive structures, including surrounding residential receivers. Vibration monitors are installed at the following locations:

1. Location 1 – Building C1, B2 Carpark (serial number WONEFA)

- a. Alarm: 7 mm/s

Installed on 12th of September 2024 where it is currently installed. This logger was removed due to the finishing of earthworks onsite on the 16th of December 2024.

The location of the vibration logger is detailed in Figure 1 of this report and is shown below in Figure 3.

Figure 3 Location 1 – Building C1, B2 Carpark – vibration monitoring.





4 VIBRATION MONITORING

This section of the report details the results of the onsite vibration monitoring.

The vibration monitoring was conducted using one (1) Omnidot Vibration monitor which was continuously operational. The equipment incorporates the following operational conditions:

1. The logger includes a trigger level. All vibration events above the trigger level are recorded.
2. The vibration logger is set to record vibration levels of 0.5 mm/s and above.
3. In the event a vibration of greater than 0.5 mm/s is recorded by the equipment then data is captured at this time, including:
 - a. Magnitude of vibration, including component peaks and compliance level as a vector sum.
 - b. Battery charge/power
4. The results of the vibration magnitudes are included in this reporting.

4.1 Vibration Monitoring Results

The results of vibration monitoring for the month of are presented in this report in Appendix A, with detailed results included in the attached Appendices.

During the testing period, all measured vibration levels were compliant with the vibration criteria outlined above in Section 2.

5 CONCLUSION

Pulse White Noise Acoustics (PWNA) has been engaged to undertake unattended vibration monitoring for construction of the Ivanhoe Precinct in Macquarie Park. The vibration monitor (serial number: WONEFA) was installed on the 12th of September 2024, and removed on the 16th of December

Unattended monitoring around the site includes one (1) vibration monitor as shown in Figure 1 below. The monitoring is being undertaken in accordance with the British Standards (BS 7385-2 1993) – *Evaluation and measurement for vibration in buildings*.

All measured vibration levels were compliant with the project construction vibration criteria.

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

Regards,

A handwritten signature in black ink, appearing to be 'Liam Biddle'.

Liam Biddle
Junior Acoustic Engineer
PULSE WHITE NOISE ACOUSTICS PTY LTD



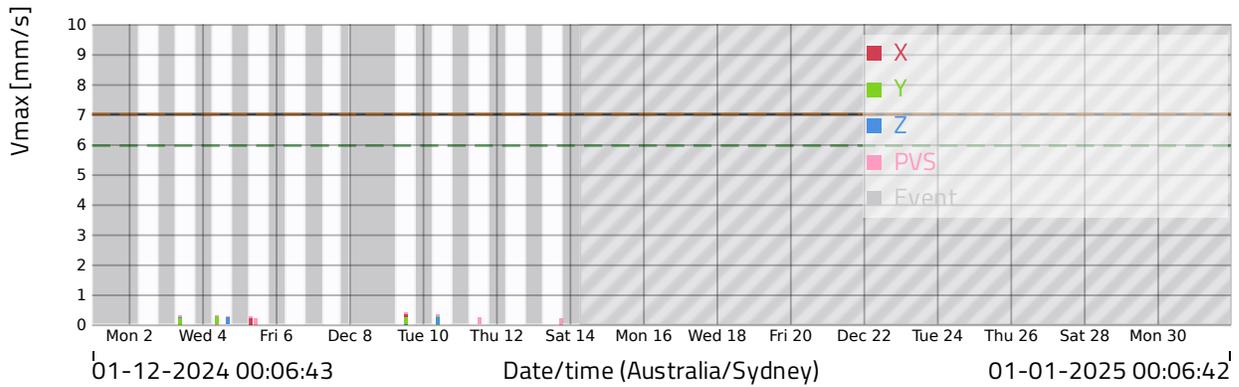
APPENDIX A. VIBRATION MONITORING RESULTS

Project: Ivanhoe Estate - Midtown C2
 Measuring point: Basement Location (WONEFA)

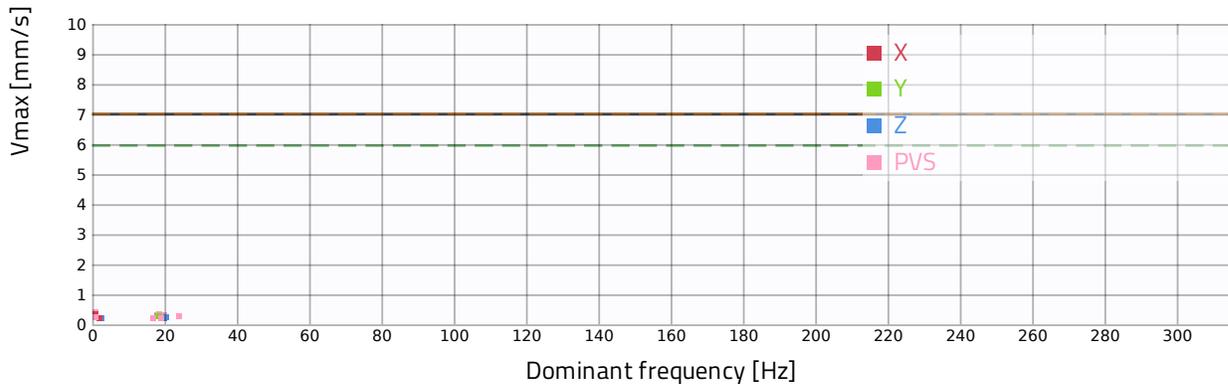
Calculate Amax (Peak vibration acceleration): Off
 Evaluation type: Unspecified
 Threshold for measurement storage: 0.2 mm/s
 Vmax flat line threshold: 7.0 mm/s
 Guideline: DIN4150-3 80Hz
 Measuring interval: 2 seconds
 Store values below threshold: Off
 Timezone: Australia/Sydney
 Calculate VDV (Vibration Dose Value): Off
 Calculate PVS (Peak Vector Sum): On
 Calculate Vmax (Peak vibration velocity): On

Alarm name	Alarm percentage	Alarm mm/s
--- 85% Alarm	85%	5.95 mm/s
--- 100% Alarm	100%	7.0 mm/s

Peak vibration velocity/time



Peak vibration velocity/frequency



Highest readings

Date/Time	Axis	Fdom (Hz)	Vmax (mm/s)	percentage of alarm line
09-12-2024 13:02:03	x	1	0.3204	4.6
09-12-2024 13:02:03	y	1	0.2232	3.2
09-12-2024 13:02:03	z	1	0.3388	4.8
09-12-2024 13:02:03	vector	1	0.4132	5.9
10-12-2024 09:42:45	x			
10-12-2024 09:42:45	y	18.5	0.2814	4.0
10-12-2024 09:42:45	z	20.5	0.2276	3.3
10-12-2024 09:42:45	vector	18.5	0.3390	4.8
03-12-2024 09:21:03	x			
03-12-2024 09:21:03	y	19.5	0.2090	3.0
03-12-2024 09:21:03	z	20	0.2319	3.3
03-12-2024 09:21:03	vector	20	0.3064	4.4
04-12-2024 09:39:21	x			
04-12-2024 09:39:21	y	18	0.2627	3.8
04-12-2024 09:39:21	z			
04-12-2024 09:39:21	vector	18	0.3031	4.3
03-12-2024 09:21:05	x			
03-12-2024 09:21:05	y	19.5	0.2027	2.9
03-12-2024 09:21:05	z	20	0.2495	3.6
03-12-2024 09:21:05	vector	20	0.2838	4.1
05-12-2024 07:31:05	x	2	0.2114	3.0
05-12-2024 07:31:05	y			
05-12-2024 07:31:05	z	24	0.2004	2.9
05-12-2024 07:31:05	vector	24	0.2771	4.0
04-12-2024 16:41:51	x			
04-12-2024 16:41:51	y			
04-12-2024 16:41:51	z	20	0.2199	3.1
04-12-2024 16:41:51	vector	20	0.2547	3.6
04-12-2024 16:41:53	x			
04-12-2024 16:41:53	y			
04-12-2024 16:41:53	z	20	0.2005	2.9
04-12-2024 16:41:53	vector	20	0.2318	3.3
11-12-2024 13:31:21	x			
11-12-2024 13:31:21	y			
11-12-2024 13:31:21	z			
11-12-2024 13:31:21	vector	1	0.2257	3.2
05-12-2024 07:31:07	x			
05-12-2024 07:31:07	y			

Date/Time	Axis	Fdom (Hz)	Vmax (mm/s)	percentage of alarm line
05-12-2024 07:31:07	z	2.5	0.2177	3.1
05-12-2024 07:31:07	vector	1	0.2180	3.1
05-12-2024 10:48:13	x			
05-12-2024 10:48:13	y			
05-12-2024 10:48:13	z			
05-12-2024 10:48:13	vector	17	0.2112	3.0
13-12-2024 18:19:03	x			
13-12-2024 18:19:03	y			
13-12-2024 18:19:03	z			
13-12-2024 18:19:03	vector	19	0.2070	3.0
05-12-2024 11:35:59	x			
05-12-2024 11:35:59	y			
05-12-2024 11:35:59	z			
05-12-2024 11:35:59	vector	18	0.2001	2.9

Appendix E

Noise & Vibration Construction Management Plan



Ivanhoe Green & Community Centre (C2 Building)

Construction Noise and Vibration Management Plan

Ivanhoe Precinct – Midtown Macquarie Park

Grindley

Report number: 240360-Ivanhoe BC2 Community-CNVMSB_BW_R0
Date: 1 July 2024
Version: For Information

Project Number: 240360



DOCUMENT CONTROL

Project Name	Ivanhoe Green & Community Centre
Project Number	240360
Report Reference	240360-Ivanhoe BC2 Community-CNVMSB_BW_R0
Client:	Grindley

Revision	Description	Reference	Date	Prepared	Checked	Authorised
0	For Information	240360-Ivanhoe BC2 Community-CNVMSB_BW_R0	24 June 2024	Ben White	Matt Furlong	Ben White

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 1800 4 PULSE

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1 INTRODUCTION

Pulse White Noise Acoustics (PWNA) has been engaged to prepare a Construction Noise and Vibration Management Plan (CNVMP) for the construction activities to be undertaken as part of the Ivanhoe Precinct, Macquarie Park, Ivanhoe Village Green & Community Centre project including item B37 of the SSD-15822622.

Onsite unattended and attended noise levels have previously been determined for the project and included in the Acoustic Logic *Proposed Residential Development, Ivanhoe Stage 2, Macquarie Park – Development Application Environmental Noise Impact Assessment* with reference 20210325.1/1607/A/R7/GW and dated 16/7/2021 and referenced in the projects SSD consent. The details of the acoustic survey included in the Acoustic Logic report have been used in this assessment.

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.

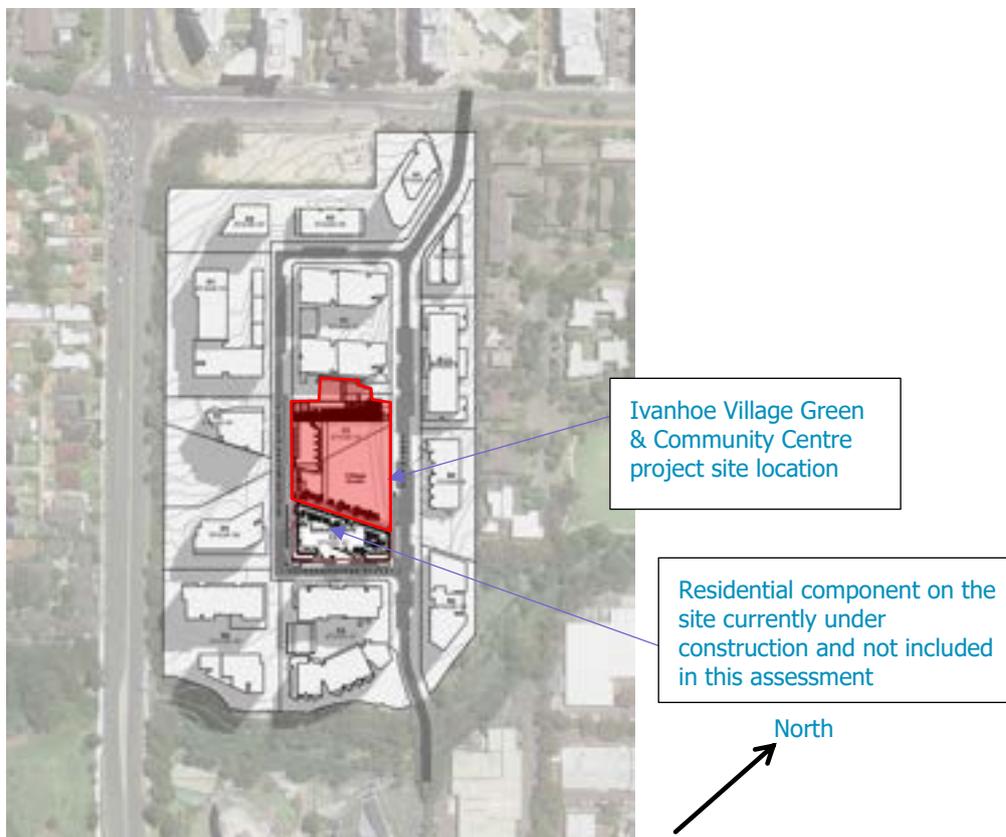
1.1 Site Layout and Development Overview

The project includes the Ivanhoe Precinct, Macquarie Park, Ivanhoe Village Green & Community Centre project

The project is included within the SSD-15822622 approval.

The site is located within the Ivanhoe Estate, Epping Road, Macquarie Park site. The location of Ivanhoe Village Green & Community Centre is detailed in the Figure below.

Figure 1 Location of the Ivanhoe Village Green & Community Centre



Existing receivers within proximity of the site, which are included in this construction noise and vibration management plan, include both residential and a commercial properties within proximity of the project.

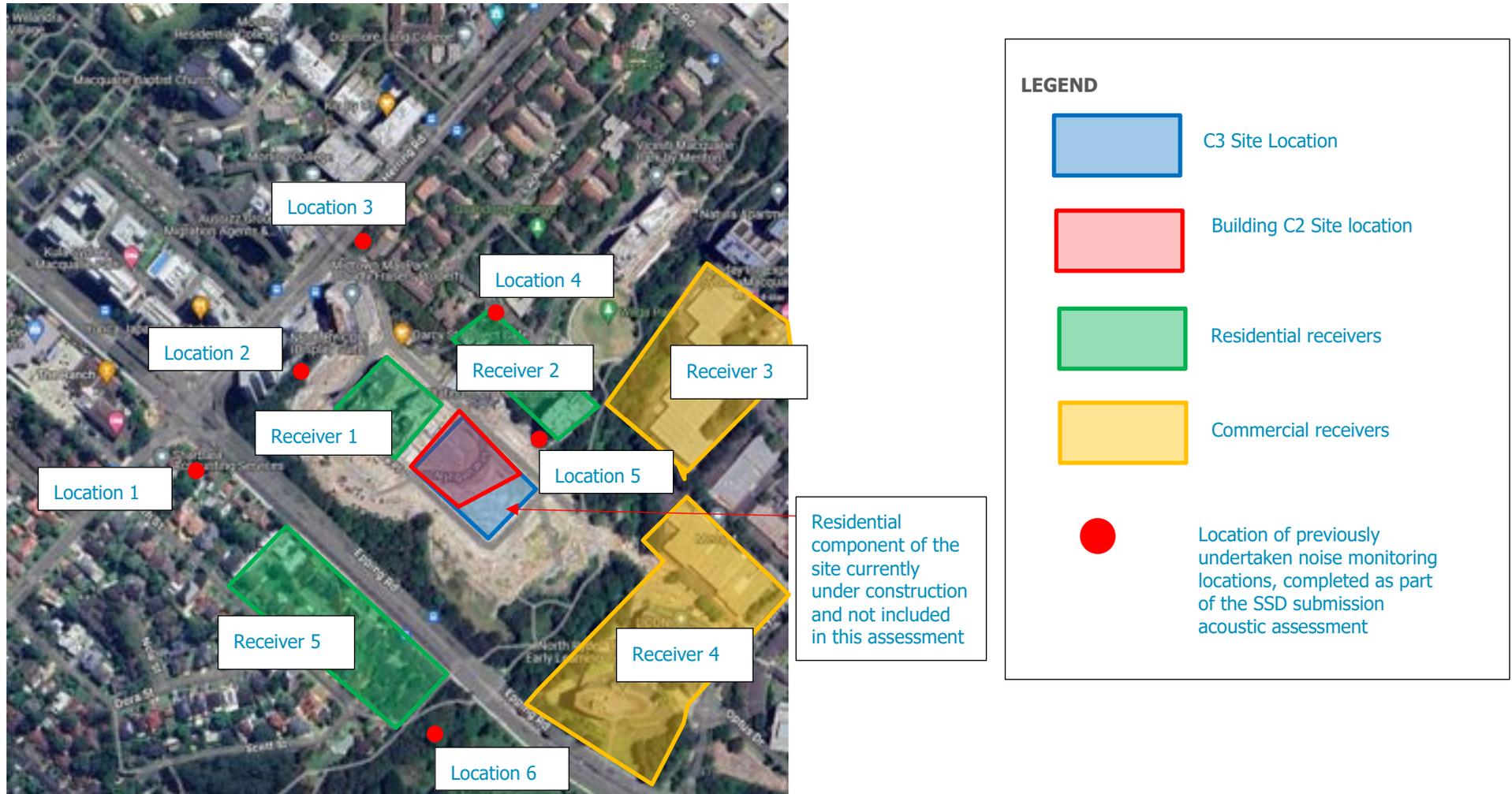
Details of the nearest sensitive receivers to the site have been identified below.

- Receiver 1:** Existing residential dwellings located within Building C1 of Stage 1 of the Ivanhoe Estate.
- Receiver 2:** Existing residential receivers located to the north of the site.
- Receiver 3:** Commercial receivers located within the building to the north east of the site.
- Receiver 4:** Commercial receivers located within the building to the east of the site.
- Receiver 5:** Existing residential dwellings located to the south of the site, located to the southern side of Epping Road.

It is noted that the residential component of the site is currently under construction and is therefore not included in this assessment.

Details of the site location and surrounding receivers is included in the following figure.

Figure 2 Site Map, Measurement Locations and Surrounding Receivers



1.2 SSD Compliance

This report has been undertaken in accordance with the requirements of Item B37 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
B37	<i>Prior to the commencement of any works, a Construction Noise and Vibration Management Plan (CNVMP) prepared by a suitably qualified person shall be submitted to the Certifying Authority. The CNVMP must be prepared in consultation with, and address the relevant requirements of the EPA. The CNVMP shall address (but not be limited to):</i>	-
(a)	<i>be prepared in accordance with the EPA's Interim Construction Noise Guideline</i>	Sections 4.1
(b)	<i>identify nearby sensitive receivers and land uses;</i>	Sections 1.1
(c)	<i>identify the noise management levels for the project;</i>	Section 4.1.1
(d)	<i>identify the construction methodology and equipment to be used and the key sources of noise and vibration;</i>	Section 6
(e)	<i>details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;</i>	Section 6.1.1 and 6.1.2
(f)	<i>be consistent with and incorporate all relevant recommendations and noise and vibration mitigation measures outlined in the Stage 2 DA Acoustic Assessment, prepared by Acoustic Logic, dated July 2021</i>	Section 6

(g)	<i>ensure all potentially impacted sensitive receivers are informed by letterbox drops prior to the commencement of construction of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for a construction community liaison officer; and</i>	Section 6.5.2
(h)	<i>include a suitable proactive construction noise and vibration monitoring program which aims to ensure the construction noise and vibration criteria in this consent are not exceeded.</i>	Section 6.4

2 EXISTING ACOUSTIC ENVIRONMENT

Measured noise levels from the attended noise survey undertaken as part of the Acoustic Logic *Proposed Residential Development, Ivanhoe Stage 2, Macquarie Park – Development Application Environmental Noise Impact Assessment* with reference 20210325.1/1607/A/R7/GW and dated 16/7/2021 and referenced in the projects SSD consent have been used in this assessment.

As part of the Acoustic Logic *Proposed Residential Development, Ivanhoe Stage 2, Macquarie Park – Development Application Environmental Noise Impact Assessment* background noise levels within the vicinity of the site has been undertaken in accordance with the NSW EPA's *Noise Policy for Industry*.

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 LA90 (15minute) and LAeq noise levels presented within the Acoustic Logic *Proposed Residential Development, Ivanhoe Stage 2, Macquarie Park – Development Application Environmental Noise Impact Assessment* are summarised in Table 2.

Table 2 Measured Ambient Noise Levels corresponding to the NPI's Assessment Time Periods

Measurement Location	Daytime ¹ 7:00 am to 6:00 pm	Evening ¹ 6:00 pm to 10:00 pm	Night-time ¹ 10:00 pm to 7:00 am
	LA ₉₀ ² (dBA)	LA ₉₀ ² (dBA)	LA ₉₀ ² (dBA)
Measurement Location 1	54	52	41
Measurement Location 2	48	43	34
Measurement Location 3	56	49	37
Measurement Location 4	45	43	37
Measurement Location 5	43	41	39
Measurement Location 6	50	48	36

Note 1: For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am

Note 2: The LA₉₀ noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.

Measured noise levels in accordance with the time periods defined by the NSW EPA RNP 2011 are presented below.

Table 3 Measured Ambient Noise Levels corresponding to the "RNP" Assessment Time Periods

Receiver Location	Daytime ¹ 7:00 am to 10:00 pm	Night-time ¹ 10:00 pm to 7:00 am
	LA _{eq} (whole period) ² (dBA)	LA _{eq} (whole period) ² (dBA)
Receiver Location 1	48	34
Receiver Location 2	45	37
Receiver Location 3	43	39
Receiver Location 4	43	39
Receiver Location 5	50	36

Note 1: For Monday to Sunday, Daytime 7:00 am – 10:00 pm; Night-time 10:00 pm – 7:00 am.

Note 2: The LA_{eq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound.

3 PROJECT SSD REQUIREMENTS

This CNVSP has been prepared in accordance with the SSDA 15822622 consent condition B37 which includes the following:

CONSTRUCTION NOISE AND VIBRATION MANAGEMENT PLAN

- B37. Prior to the commencement of any works, a **Construction Noise and Vibration Management Plan (CNVMP)** prepared by a suitably qualified person shall be submitted to the Certifying Authority. The CNVMP must be prepared in consultation with, and address the relevant requirements of the EPA. The CNVMP shall address (but not be limited to):
- (a) be prepared in accordance with the EPA's *Interim Construction Noise Guideline*
 - (b) identify nearby sensitive receivers and land uses;
 - (c) identify the noise management levels for the project;
 - (d) identify the construction methodology and equipment to be used and the key sources of noise and vibration;
 - (e) details of all reasonable and feasible management and mitigation measures to be implemented to minimise construction noise and vibration;
 - (f) be consistent with and incorporate all relevant recommendations and noise and vibration mitigation measures outlined in the Stage 2 DA Acoustic Assessment, prepared by Acoustic Logic, dated July 2021
 - (g) ensure all potentially impacted sensitive receivers are informed by letterbox drops prior to the commencement of construction of the nature of works to be carried out, the expected noise levels and duration, as well as contact details for a construction community liaison officer; and
 - (h) include a suitable proactive construction noise and vibration monitoring program which aims to ensure the construction noise and vibration criteria in this consent are not exceeded.
- Prior to the commencement of works, a copy of the **CNVMP** demonstrating compliance with the above must be submitted to the Planning Secretary.

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 4 below.

Table 4 NMLs for quantitative assessment at residences

Time of Day	Noise Management Level $L_{Aeq(15\text{minute})}$ ^{1,2}	How to Apply
Recommended standard hours: During Approved working hours	Noise affected RBL + 10 dB	<p>The noise affected level represents the point above which there may be some community reaction to noise.</p> <ul style="list-style-type: none"> Where the predicted or measured $L_{Aeq(15\text{minute})}$ 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	<p>The highly noise affected level represents the point above which there may be strong community reaction to noise.</p> <ul style="list-style-type: none"> 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: <ol style="list-style-type: none"> 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. 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	<ul style="list-style-type: none"> 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.
offices, retail outlets: external	$L_{Aeq(15\text{min})}$ 70 dB(A)	<ul style="list-style-type: none"> When in use During construction, the proponent should regularly update the occupants of the commercial and industrial premises regarding noise levels and hours of work.

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 $L_{Aeq,15minute}$, when measured externally.

Based on the measured background noise levels summarised in Section 1.2, and the NMLs outlined above, the construction noise criteria to be used in this assessment are listed in Table 5.

Table 5 NMLs as basis for the acoustic assessment

Receiver Types	NML, dB $L_{Aeq(15minute)}$		
	Standard Hours During Approved working hours		Outside Standard Hours All hours not listed in the adjacent column.
Receiver 1 – Residential	NAFL: 58 (RBL (48) + 10dB)	HNAL: 75	RBL + 5dB
Receiver 2 – Residential	NAFL: 55 (RBL (45) + 10dB)		
Receiver 3 – Commercial	NAFL: 70		
Receiver 4 – Commercial	NAFL: 70		
Receiver 5 – Residential	NAFL: 60 (RBL (50) + 10dB)		

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 6 Continuous vibration acceleration criteria (m/s²) 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 7 Impulsive vibration acceleration criteria (m/s²) 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 8 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.

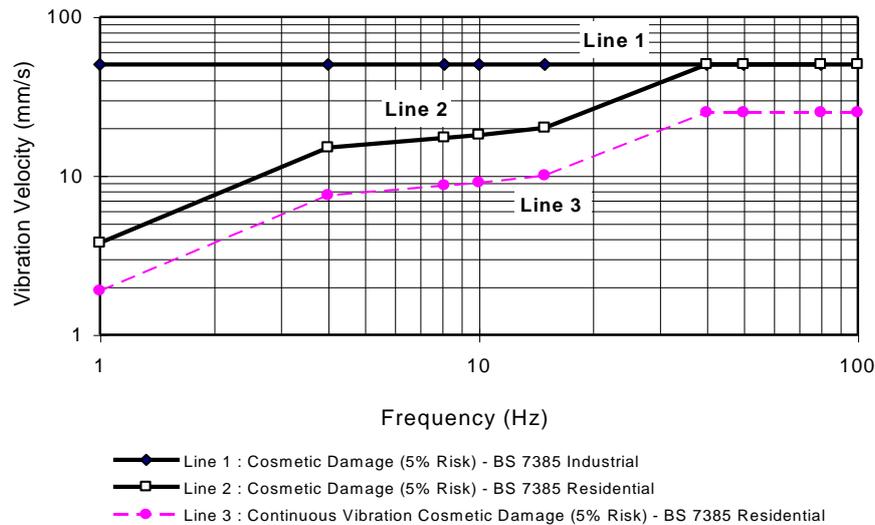
Table 9 Transient vibration criteria as per standard BS 7385 Part 2 - 1993

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 9 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 9 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 9, 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 9 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 10. The criteria are frequency dependent and specific to particular categories of structures.

Table 10 Structural damage criteria as per standard DIN 4150 Part 3 - 1999

Type of Structure	Peak Component Particle Velocity, mm/s			Vibration of horizontal plane of highest floor at all frequencies
	Vibration at the foundation at a frequency of 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.

4.3 Construction Vibration Criteria

Based on the details included in the sections above the project specific vibration criteria to protect the surrounding residential receivers from structural or architectural damage includes the following:

1. Project construction vibration criteria at all surrounding building structures – 7 mm/s

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 11 below.

Table 11 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	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	Power hand tools	109	109
Common and External Works (including landscaping)	Concrete agitator truck	108	117
	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 12 Receiver 1 – Summary of preliminary predicted construction noise levels – Residence to the north west of the site

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted <u>Individual</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Predicted <u>Combined</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Noise Management Levels dBA L _{Aeq} 15 minutes	Summary of Result
Site Establishment Works	Mobile crane	113	55 to 61	62 to 76	<u>Standard Construction Hours</u> 58 dB(A) L_{Aeq} 15 min <u>Highly Noise Affected Level</u> <u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver.
	Power hand tools		54 to 60			
	Semi Rigid Vehicle		51 to 57			
Ground Works and Demolition	Excavator	119	57 to 63	67 to 81		
	Handheld jack hammer		52 to 58			
	Dump truck		50 to 56			
	Concrete saw		60 to 66			
	Skid steer		55 to 61			
	Power hand tools		54 to 60			
Structure	Handheld jack hammer	117	52 to 58	66 to 80		
	Concrete saw		60 to 66			
	Power hand tools		54 to 60			
	Welder		46 to 52			
	Concrete pump truck		55 to 61			
	Concrete agitator truck		53 to 59			
Internal Works	Power hand tools	109	54 to 60	58 to 72		
Common and External Works	Concrete agitator truck	117	53 to 59	66 to 80		
	Saw cutter		50 to 56			
	Dump truck		50 to 56			
	Concrete saw		60 to 66			
	Power hand tools		54 to 60			

Table 13 Receiver 2 – Summary of predicted construction noise levels – Residence to the north of the site

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted <u>Individual</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Predicted <u>Combined</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Noise Management Levels dBA L _{Aeq} 15 minutes	Summary of Result
Site Establishment Works	Mobile crane	113	58 to 76	61 to 79	<u>Standard Construction Hours</u> 55 dB(A) L_{Aeq} 15 min <u>Highly Noise Affected Level</u> <u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver. Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Power hand tools		57 to 75			
	Semi Rigid Vehicle		53 to 71			
Ground Works and Demolition	Excavator	119	60 to 78	66 to 84		
	Handheld jack hammer		54 to 72			
	Dump truck		52 to 70			
	Concrete saw		62 to 80			
	Skid steer		58 to 76			
	Power hand tools		57 to 75			
Structure	Handheld jack hammer	117	54 to 72	65 to 83		
	Concrete saw		62 to 80			
	Power hand tools		57 to 75			
	Welder		49 to 67			
	Concrete pump truck		58 to 76			
	Concrete agitator truck		56 to 74			
Internal Works	Power hand tools	109	57 to 75	57 to 75		
Common and External Works	Concrete agitator truck	117	56 to 74	65 to 83		
	Saw cutter		52 to 70			
	Dump truck		52 to 70			
	Concrete saw		62 to 80			
	Power hand tools		57 to 75			

Table 14 Receiver 3 - Summary of predicted construction noise levels – Commercial Receivers to the northeast

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted <u>Individual</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Predicted <u>Combined</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Noise Management Levels dBA L _{Aeq} 15 minutes	Summary of Result	
Site Establishment Works	Mobile crane	113	48 to 54	55 to 69	<u>Standard Construction Hours</u> 70 dB(A) L_{Aeq} 15 min <u>Highly Noise Affected Level</u> <u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver.	
	Power hand tools		47 to 53				
	Semi Rigid Vehicle		44 to 50				
Ground Works and Demolition	Excavator	119	50 to 56	60 to 74		<u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Handheld jack hammer		45 to 51				
	Dump truck		43 to 49				
	Concrete saw		53 to 59				
	Skid steer		48 to 54				
	Power hand tools		47 to 53				
Structure	Handheld jack hammer	117	45 to 51	59 to 73			<u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min
	Concrete saw		53 to 59				
	Power hand tools		47 to 53				
	Welder		39 to 45				
	Concrete pump truck		48 to 54				
	Concrete agitator truck		46 to 52				
Internal Works	Power hand tools	109	47 to 53	51 to 65	<u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.	
Common and External Works	Concrete agitator truck	117	46 to 52	59 to 73			
	Saw cutter		43 to 49				
	Dump truck		43 to 49				
	Concrete saw		53 to 59				
	Power hand tools		47 to 53				

Table 15 Receiver 4 - Summary of predicted construction noise levels – Commercial Receivers to the southeast

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted <u>Individual</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Predicted <u>Combined</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Noise Management Levels dBA L _{Aeq} 15 minutes	Summary of Result		
Site Establishment Works	Mobile crane	113	52 to 58	56 to 61	<u>Standard Construction Hours</u> 70 dB(A) L_{Aeq} 15 min	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver.		
	Power hand tools		51 to 57					
	Semi Rigid Vehicle		48 to 54					
Ground Works and Demolition	Excavator	119	54 to 60	61 to 66			<u>Highly Noise Affected Level</u> Standard Construction Hours 75 dB(A) L_{Aeq} 15 min	Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Handheld jack hammer		49 to 55					
	Dump truck		47 to 53					
	Concrete saw		57 to 63					
	Skid steer		52 to 58					
	Power hand tools		51 to 57					
Structure	Handheld jack hammer	117	49 to 55	61 to 66				
	Concrete saw		57 to 63					
	Power hand tools		51 to 57					
	Welder		43 to 49					
	Concrete pump truck		52 to 58					
	Concrete agitator truck		50 to 56					
Internal Works	Power hand tools	109	51 to 57	52 to 57	<u>Highly Noise Affected Level</u> Standard Construction Hours 75 dB(A) L_{Aeq} 15 min	Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.		
Common and External Works	Concrete agitator truck	117	50 to 56	60 to 65				
	Saw cutter		47 to 53					
	Dump truck		47 to 53					
	Concrete saw		57 to 63					
	Power hand tools		51 to 57					

Table 16 Receiver 5 - Summary of predicted construction noise levels – Residence located to the southwest

Phase	Activity	Aggregate Sound Power Level (dBA re 1pW)	Predicted <u>Individual</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Predicted <u>Combined</u> Noise Level at Receiver dBA L _{Aeq} 15 minutes	Noise Management Levels dBA L _{Aeq} 15 minutes	Summary of Result
Site Establishment Works	Mobile crane	113	52 to 58	56 to 61	<u>Standard Construction Hours</u> 60 dB(A) L_{Aeq} 15 min <u>Highly Noise Affected Level</u> <u>Standard Construction Hours</u> 75 dB(A) L_{Aeq} 15 min	Works indicatively predicted to have the potential to exceed the noise management level when working near a receiver. Mitigations of construction noise required to be undertaken including measures detailed in Section 6 of this report.
	Power hand tools		51 to 57			
	Semi Rigid Vehicle		48 to 54			
Ground Works and Demolition	Excavator	119	54 to 60	61 to 66		
	Handheld jack hammer		49 to 55			
	Dump truck		47 to 53			
	Concrete saw		57 to 63			
	Skid steer		52 to 58			
	Power hand tools		51 to 57			
Structure	Handheld jack hammer	117	49 to 55	61 to 66		
	Concrete saw		57 to 63			
	Power hand tools		51 to 57			
	Welder		43 to 49			
	Concrete pump truck		52 to 58			
	Concrete agitator truck		50 to 56			
Internal Works	Power hand tools	109	51 to 57	52 to 57		
Common and External Works	Concrete agitator truck	117	50 to 56	60 to 65		
	Saw cutter		47 to 53			
	Dump truck		47 to 53			
	Concrete saw		57 to 63			
	Power hand tools		51 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 Binalong Road 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 17 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

6 NOISE AND VIBRATION MANAGEMENT PLAN

6.1 Acoustic Management Procedures

Table 18 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 18.

Table 18 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 6.3.2
Complaints Management System	CMS	Implement a management system which includes procedures for receiving and addressing complaints from affected stakeholders	Refer to Section 6.6
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 3). The allocation of these procedures is summarised in Table 19 below.

Table 19 Allocation of noise management procedures – residential receivers

Construction Hours	Exceedance over NML (dB)	Management Procedures (see definition above)
Approved Construction Hours	0 - 3	GMM
Mon – Fri: 7:00 am to 7:00 pm	4 - 10	GMM, PN, V ¹ , CMS, AC
Sat: 8:00 am – 1:00 pm	> 10	GMM, PN, V, CMS, SN, AC
Outside Standard Hours	0 - 10	GMM, AC
Mon – Fri: 7:00 am to 8:00 am	11 - 20	GMM, PN, V ¹ , CMS, AC
Sat: 7:00 am to 8:00 am	> 20	GMM, PN, V, CMS, SN, RO, AC
<i>Notes</i>		
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, item C5*, require works to include the following:
 - Rock Breaking, rock hammering, sheet piling and similar activities may only be carried out between the following hours:
 - 9am to 12 midday – Monday to Friday.
 - 2 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). 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 20 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 20 Allocation of vibration management procedures

Construction Hours	Exceedance Scenario	Management Procedures
Approved Construction Hours	Over human comfort criteria (refer to Section 3)	GMM, PN, V, RO
	Over building damage criteria (refer to Section 3)	GMM, V, AC
Outside Standard Hours	Over human comfort criteria (refer to Section 3)	GMM, SN, V, RO, CMS
	Over building damage criteria (refer to Section 3)	GMM, V, AC

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

Predicted noise levels outlined in section 5.1 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 21 Recommended Respite Periods

Monday to Friday	Saturday
7:00am to 9:00am – No noisy works (<u>Respite Period</u>)	8:00am to 9:00am – No noisy works (<u>Respite Period</u>)
9:00am to 12:00am – Works	9:00am to 12:00pm – Works
12:00pm to 2:00pm – No noisy works (<u>Respite Period</u>)	12:00pm to 1:00pm – No noisy works (<u>Respite Period</u>)
2:00pm to 5:00pm – Works	
5:30pm to 7:00pm – No noisy works (<u>Respite Period</u>)	

The requirements of the above include those required by Condition C5 of the SSD, which includes the following:

- C5. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- 9.00 am to 12.00 pm, Monday to Friday;
 - 2.00 pm to 5.00 pm Monday to Friday; and
 - 9.00 am to 12.00 pm, Saturday.



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.

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 B7 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 C1, which includes the following:

- 7am to 7pm Monday to Friday
- 8am to 4pm Saturdays



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: LAmin, LA90, LA10, LA1, LAmax and LAeq. 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 3, 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 17 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 4 (i.e., criteria for structural damage, human comfort and impact to scientific or medical equipment).

6.3.2 Vibration Monitoring

Vibration monitoring should 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 22 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 23 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 <i>Alert</i> events are to be SMS messaged to the building contractor site manager, subcontractor and acoustic consultant.
Alarm	Stop Work Event All <i>Alarm</i> 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. Commencement of any rock breaking or sawing on the site.
 - b. In response to any ongoing complaints received from neighbours.
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. Commencement of any high vibration generating activities including hydraulic hammering, rock breaking or vibration rolling on the site.
- b. 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.

6.5 Complaints Management Process and Community Communication

A complaints management process and community communications strategy is required to be included for the project, including those developed in compliance with the project Conditions of Consent, including items B11, B12, B13 and B14 which include the following:

COMPLAINTS AND ENQUIRIES PROCEDURE

- B11. Prior to the commencement of construction works for each building, or as otherwise agreed by the Planning Secretary, the following must be made available for community enquiries and complaints for the duration of construction:
- (a) a toll-free 24-hour telephone number(s) on which complaints and enquiries about the carrying out of any works may be registered;
 - (b) a postal address to which written complaints and enquiries may be sent; and
 - (c) an email address to which electronic complaints and enquiries may be transmitted.

COMMUNITY COMMUNICATION STRATEGY

- B12. A community Communication Strategy must be prepared to provide mechanisms to facilitate communication between the Applicant, the relevant Council and the community (including adjoining affected landowners and businesses, and others directly impacted by the development), during the design and construction of the development and for a minimum of 12 months following the completion of construction.
- B13. The Community Communication Strategy must:
- (a) identify people to be consulted during the design and construction phases;
 - (b) include the telephone number, postal address and email required in **Condition B11**
 - (c) set out procedures and mechanisms for the regular distribution of accessible information about or relevant to the development;
 - (d) provide for the formation of community-based forums, if required, that focus on key environmental management issues for the development;
 - (e) set out procedures and mechanisms:
 - (i) through which the community can discuss or provide feedback to the Applicant;
 - (ii) through which the Applicant will respond to enquiries or feedback from the community; and

- (iii) to resolve any issues and mediate any disputes that may arise in relation to construction and operation of the development, including disputes regarding rectification or compensation.

- B14. Details demonstrating compliance with **Condition B11** and **Condition B12** must be submitted to the Certifying Authority and the Planning Secretary no later than one month before the commencement of any work.

6.5.3 Community Engagement

It is proposed that throughout the duration of the project, continued meetings and consultation with the surrounding receivers will be undertaken on a regular basis to monitor and mitigate any impacts of construction noise and vibration from the works on the project.

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 B12.

6.6 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 compliance with Condition B11 of the consent.

6.7 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.

6.8 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.

6.8.1 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.

6.8.2 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.

6.8.3 On Site Noise Mitigation

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

6.8.4 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.

6.8.5 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.



6.8.6 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

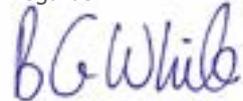
This report details the Construction Noise and Vibration Management Plan for the construction of the Ivanhoe Precinct, Macquarie Park, Ivanhoe Village Green & Community Centre project including item B37 of the SSD-15822622.

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 projects SSD Conditions and the relevant EPA's *Interim Construction Noise Guideline* and the projects *Consent* will be achieved.

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

Regards

A handwritten signature in blue ink that reads 'Ben White'.

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; <table border="0" style="margin-left: 20px;"> <tr><td>0dB</td><td>the faintest sound we can hear</td></tr> <tr><td>30dB</td><td>a quiet library or in a quiet location in the country</td></tr> <tr><td>45dB</td><td>typical office space. Ambience in the city at night</td></tr> <tr><td>60dB</td><td>Martin Place at lunch time</td></tr> <tr><td>70dB</td><td>the sound of a car passing on the street</td></tr> <tr><td>80dB</td><td>loud music played at home</td></tr> <tr><td>90dB</td><td>the sound of a truck passing on the street</td></tr> <tr><td>100dB</td><td>the sound of a rock band</td></tr> <tr><td>115dB</td><td>limit of sound permitted in industry</td></tr> <tr><td>120dB</td><td>deafening</td></tr> </table>	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
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100dB	the sound of a rock band																				
115dB	limit of sound permitted in industry																				
120dB	deafening																				
dB(A)	<i>A-weighted decibels</i> 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 <i>pitch</i> . 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 <i>Interim Construction Noise Guideline</i> 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 <i>Interim Construction Noise Guideline</i> .
AV-TG	NSW EPA <i>Assessing Vibration Technical Guideline</i> .



APPENDIX B – BEN WHITE CV AND AAS MEMBERSHIP



Curriculum Vitae – Benjamin White



Employment Experience:

Director – Pule White Noise Acoustics
Present

November 2020 –

Director - White Noise Acoustics:

March 2019 – Present

Director/Engineer - Acoustic Logic Consultancy:
July 2018

March 2001 –

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

[Signature]

General Secretary



This certificate remains the property of the Australian Acoustical Society

Appendix F

Ph & Turbidity Testing

PROJECT NUMBER: 022/14 PROJECT: C2 Ivanhoe place, Macquarie park

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Stueh	20/11	7:00	7	20	Yes / No	Stormwater	Stueh	
2	"	"	8:00	7	22	Yes / No	"	Stueh	
3	"	"	9:00	7	19	Yes / No	"	Stueh	
4	"	"	10:00	7	15	Yes / No	"	Stueh	
5	"	"	11:00	7	17	Yes / No	"	Stueh	
6	"	"	12:00	7	19	Yes / No	"	Stueh	
7	"	"	13:00	7	20	Yes / No	"	Stueh	
8	"	"	14:00	7	23	Yes / No	"	Stueh	
9	"	"	15:00	7	19	Yes / No	"	Stueh	
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

PROJECT NUMBER: _____ PROJECT: C2 1 ivathoe place, Macquarie Park

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Steve G	14/4/11	7:00	7	19	Yes / No	Stormwater	Steve G	
2	Steve G	14/11	8:00	7	21	Yes / No	Stormwater	Steve G	
3	Steve G	14/11	9:00	7	23	Yes / No	Stormwater	Steve G	
4	Steve G	14/11	10:00	7	20	Yes / No	Stormwater	Steve G	
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

PROJECT NUMBER:

 PROJECT: CL 1 Ivanhoe place, Macquarie park.

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Steve G	19/11	7:00	7	23	Yes / No	Private	Steve G	
2	"	"	8:00	7	22	Yes / No	"	Steve G	
3	"	"	9:00	7	20	Yes / No	"	Steve G	
4	"	"	10:00	7	23	Yes / No	"	Steve G	
5	"	"	11:00	7	24	Yes / No	"	Steve G	
6	"	"	12:00	7	19	Yes / No	"	Steve G	
7	"	"	13:00	7	17	Yes / No	"	Steve G	
8	"	"	14:00	7	21	Yes / No	"	Steve G	
9	"	"	15:00	7	20	Yes / No	"	Steve G	
						Yes / No		Steve G	
						Yes / No		Steve G	
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

PROJECT NUMBER:

 PROJECT: 02 1: varhoe place, macquarie park

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Steve G	18/11	7:00	7	21	Yes / No	Stormwater	<i>Steve G</i>	
2	"	"	8:00	7	22	Yes / No	"	<i>Steve G</i>	
3	"	"	9:00	7	20	Yes / No	"	<i>Steve G</i>	
4	"	"	10:00	7	17	Yes / No	"	<i>Steve G</i>	
5	"	"	11:00	7	10	Yes / No	"	<i>Steve G</i>	
6	"	"	12:00	7	26	Yes / No	"	<i>Steve G</i>	
7	"	"	13:00	7	24	Yes / No	"	<i>Steve G</i>	
8	"	"	14:00	7	24	Yes / No	"	<i>Steve G</i>	
9	"	"	15:00	7	20	Yes / No	"	<i>Steve G</i>	
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

PROJECT NUMBER:

 PROJECT: Cl 1 junction plane, Macquarie park

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Steve G	16/11	7:00	7	21	<input checked="" type="checkbox"/> Yes / No	Stormwater	<i>Steve G</i>	
2	"	"	8:00	7	20	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
3	"	"	9:00	7	19	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
4	"	"	10:00	7	24	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
5	"	"	11:00	7	22	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
6	"	"	12:00	7	21	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
7	"	"	13:00	7	20	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
8	"	"	14:00	7	22	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

PROJECT NUMBER: _____ PROJECT: C2 1 Ivanhoe place, Macarovic park

Test No.	Name of Tester	Date	Time	pH Meter Reading	Turbidity Reading	Test Water Acceptable for Discharge?	Where is the Water being Discharged?	Tester Signature	Authorization Signature
1	Steve G	15/11	7:00	7	20	<input checked="" type="checkbox"/> Yes / No	Storm water	<i>Steve G</i>	
2	Steve G	15/11	8:00	7	20	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
3	Steve G	15/11	9:00	7	21	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
4	Steve G	15/11	10:00	7	20	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
5	Steve G	15/11	11:00	7	22	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
6	Steve G	15/11	12:00	7	23	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
7	Steve G	15/11	13:00	7	20	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
8	Steve G	15/11	14:00	7	21	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
9	Steve G	15/11	15:00	7	22	<input checked="" type="checkbox"/> Yes / No	"	<i>Steve G</i>	
						Yes / No			
						Yes / No			
						Yes / No			
						Yes / No			

The acceptance criteria for the discharge of water into any water body or storm water system is:

pH	Turbidity (NTU)
6.5 - 8.0	6 - 50

Source: ANZECC Guidelines for Fresh and Marine Water Quality 2000 - Tables 3.3.2 and 3.3.3

Compliance Report Declaration Form

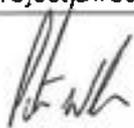
Project Name	Building C2 - Village Green and Community Centre
Project Application Number	SSD 15822622
Description of Project	Construction of Building C2 - Village Green and Community Centre
Project Address	9 Mahogany Avenue, Macquarie Park NSW 2113,
Proponent	Grindley
Title of Compliance Report	Construction Compliance Report #3
Date	25 February 2026

I declare that I have reviewed the contents of the attached Compliance Report and to the best of my knowledge:

- i. the Compliance Report has been prepared in accordance with all relevant conditions of consent;
- ii. the Compliance Report has been prepared in accordance with the Compliance Reporting Requirements;
- iii. the findings of the Compliance Report are reported truthfully, accurately and completely;
- iv. due diligence and professional judgement have been exercised in preparing the Compliance Report; and
- v. the Compliance Report is an accurate summary of the compliance status of the development.

Notes:

- Under section 10.6 of the Environmental Planning and Assessment Act 1979 a person must not include false or misleading information (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is false or misleading in a material respect. The proponent of an approved project must not fail to include information in (or provide information for inclusion in) a report of monitoring data or an audit report produced to the Minister in connection with an audit if the person knows that the information is materially relevant to the monitoring or audit. The maximum penalty is, in the case of a corporation, \$1 million and for an individual, \$250,000; and
- The Crimes Act 1900 contains other offences relating to false and misleading information: section 307B (giving false or misleading information – maximum penalty 2 years' imprisonment or 200 penalty units, or both).

Name of Authorised Reporting Officer	Peter Wilson
Title	Project Director
Signature	
Qualification	Bachelor of Construction Management (Building) Green Star Accredited Building Supervision, Advanced Certificate Carpentry and Joinery Certificate
Company	Grindley Construction
Company Address	55 Grandview Street, Pymble NSW 2073