

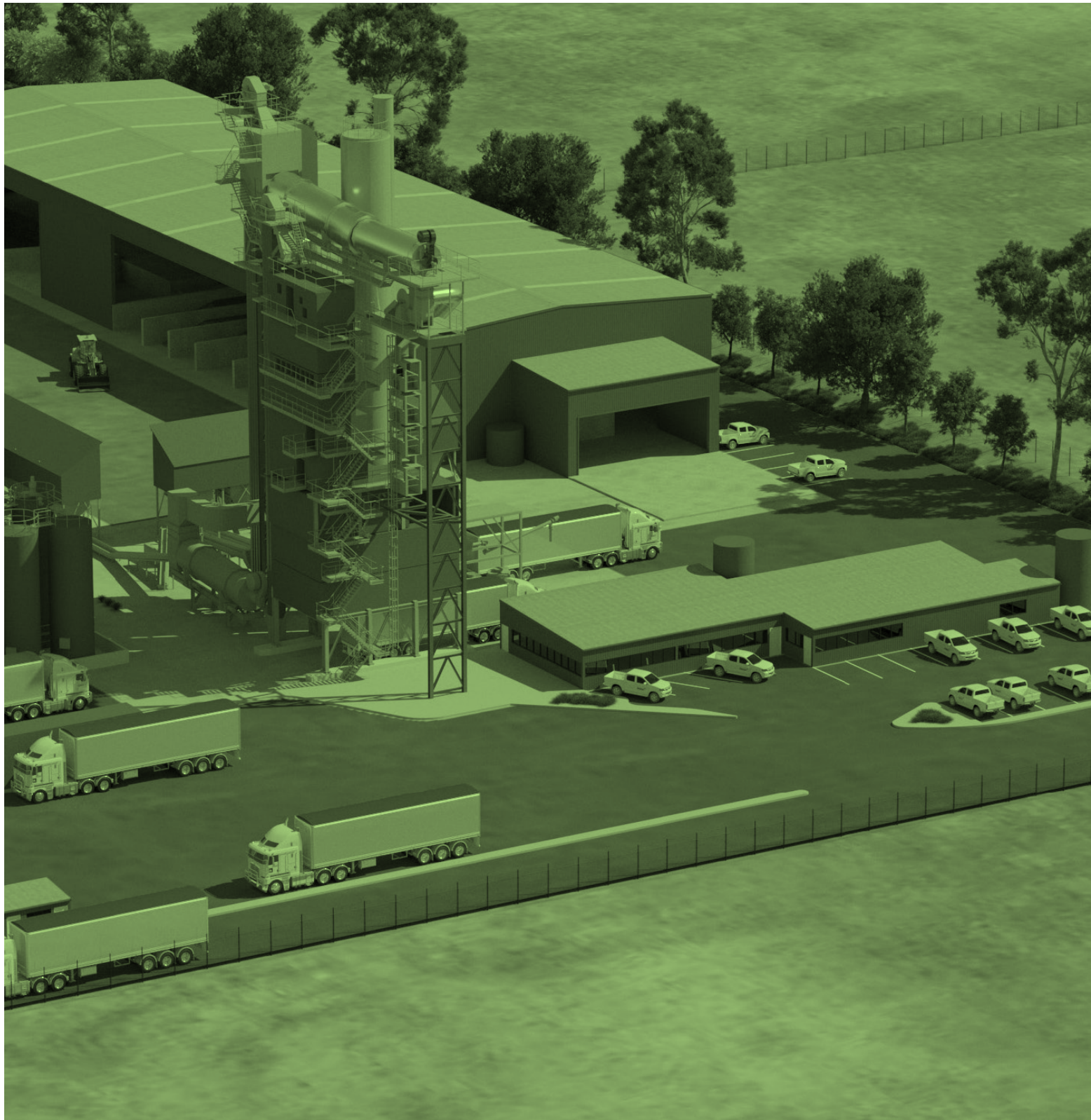


Rosehill Sustainable Road Resource Centre State Significant Development

CONSTRUCTION NOISE MANAGEMENT PLAN

Prepared for VE Property Pty Ltd and Downer EDI Works Pty Ltd | February 2021





Rosehill Sustainable Road Resource Centre

STATE SIGNIFICANT DEVELOPMENT | CONSTRUCTION NOISE MANAGEMENT PLAN

Prepared for Downer EDI Works Pty Ltd
1 February 2021

PR122

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Signature			
Date	1 December 2020	28 January 2021	28 January 2021

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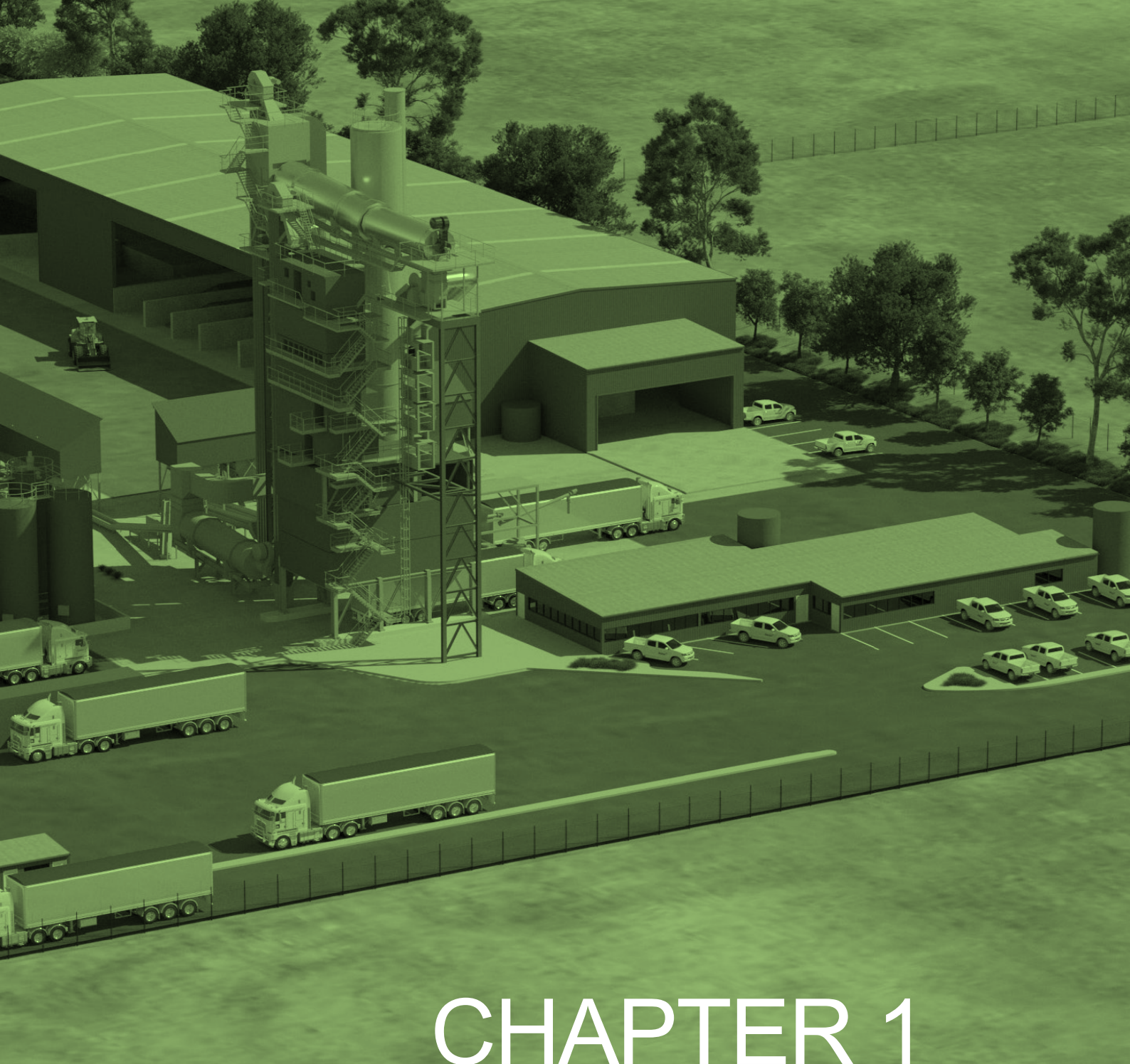
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CHAPTER 1

INTRODUCTION

1 INTRODUCTION

1.1 Overview

Downer EDI Works Pty Ltd (Downer) proposed Sustainable Road Resource Centre (the project) was approved on 31 January 2021 by the Department of Planning, Infrastructure and Environment (DPIE) as part of State significant consent SSD 10459. SSD 10459 also approved the Central Sydney Industrial Estate subdivision and the environment impacts of construction of that project is described in a separate construction environmental management plan (CEMP).

The project will occupy the newly created Lot 6 of the Central Sydney Industrial Estate subdivision and will comprise construction and operation of:

- Reclaimed asphalt pavement (RAP) processing operations.
- Asphalt plant.
- Reconomy facility.
- A modern bituminous product manufacturing plant.

This construction noise management plan (the plan) has been prepared to manage potential noise impacts from construction of the project.

1.2 Scope

This plan has been prepared as required by the conditions of consent (CoC) summarised in Table 1.1, including sections of the plan where they are addressed.

Table 1.1 Noise CoCs

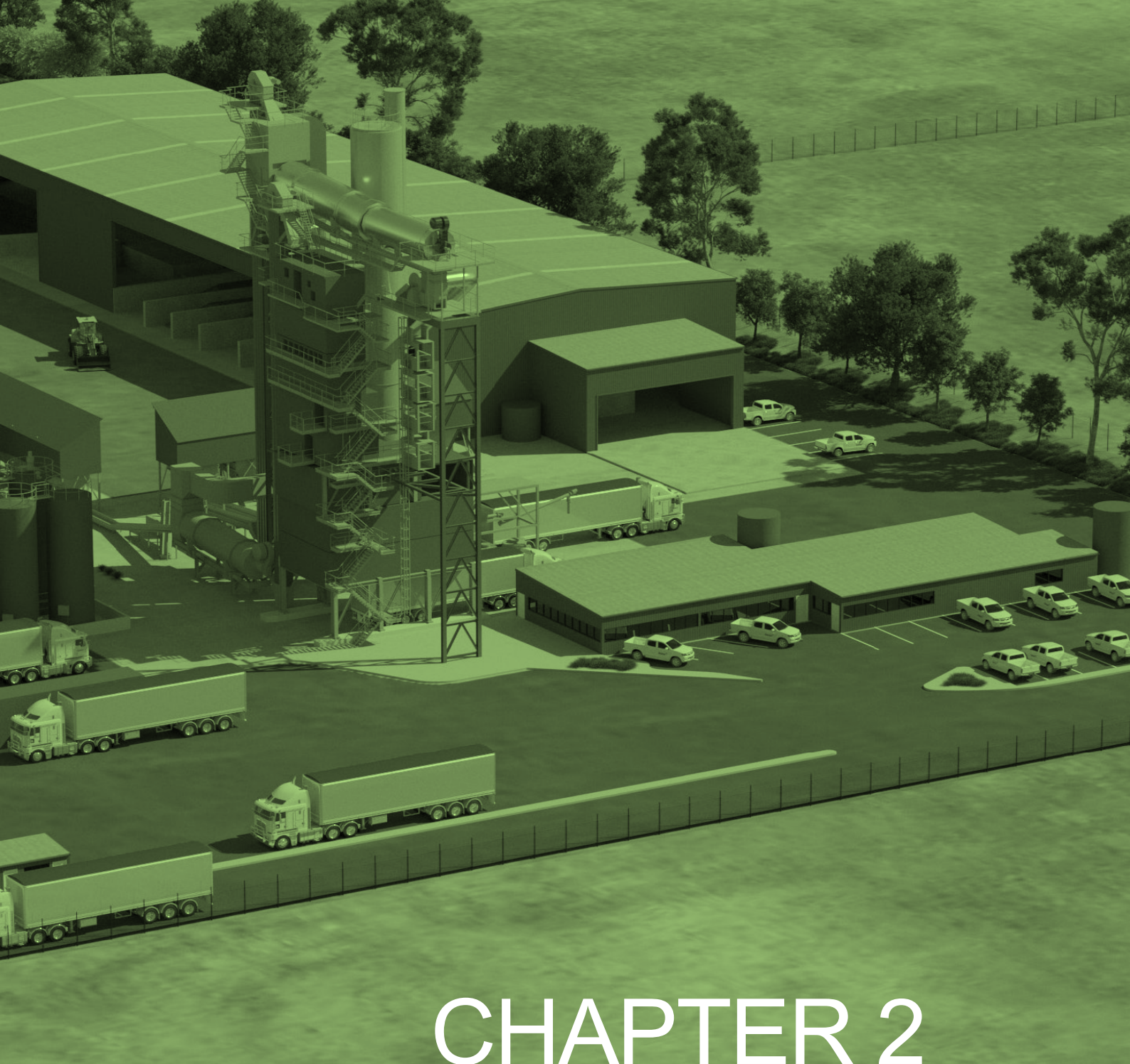
CoC	Description	Plan section
B12	The Applicant must comply with the hours detailed in Table 1. Earthworks and construction: Monday – Friday: 7 am to 6 pm Saturday: 8 am to 1 pm	2.4
B13	Earthworks and construction works outside of the hours identified in condition B12 may be undertaken in the following circumstances: (a) works do not exceed the noise limits detailed in Table 8 of the Noise and Vibration Impact Assessment, prepared by Muller Acoustic Consulting, dated 17 September 2020; or (b) works agreed to in writing by the Planning Secretary; or (c) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or (d) where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.	2.4 Table 3.3 Table 5.1
B14	The Applicant must prepare a Construction Noise Management Plan (CNMP) for the development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must:	This plan
B14(a)	be prepared by a suitably qualified and experienced acoustic expert;	1.2.1
B14(b)	describe procedures for achieving the noise management levels in EPA's Interim Construction Noise Guideline (DECC, 2009) (as may be updated or replaced from time to time);	5; 6
B14(c)	describe the measures to be implemented to manage high noise generating works such as piling;	Table 5.1
B14(d)	include a complaints management system that would be implemented for the duration of the development.	6.5; 10.4 of CEMP
B15	The Applicant must:	Noted

CoC	Description	Plan section
	(a) not commence construction of any relevant stage until the CNMP required by condition B14 is approved by the Planning Secretary; and (b) implement the most recent version of the CNMP approved by the Planning Secretary for the duration of construction.	
B18	The Applicant must prepare a Driver Code of Conduct and induction training for the development to minimise road traffic noise. The Code is to be incorporated into the CEMP required under condition C2 and the OEMP required under condition C5.	Appendix B of Construction Traffic and Pedestrian Management Plan in Appendix E of the CEMP

1.2.1 Suitably qualified expert

Condition B14(a) requires this plan “be prepared by a suitably qualified and experienced noise expert”. Element Environment requested via email on 18 January 2021 to David Koppers (DPIE) that this plan be prepared by an environmental scientist with significant experience in assessment and management of construction noise and reviewed/signed-off by the director of Muller Acoustic Consulting Pty Ltd (Oliver Muller). David approved this approach.

Oliver is a member of the Australian Acoustical Society (MAAS) and has reviewed this plan and signed on the document control page.



CHAPTER 2

PROJECT OVERVIEW

2 PROJECT OVERVIEW

2.1 Location

The site address is 9 Devon Street, Rosehill and is part of lot 100 in deposited plan 1168951 and covers 35.068 ha. The project will be on the newly created Lot 6 shown on Figure 2.1.

The site is in the Parramatta Local Government Area (LGA) and is zoned IN3 Heavy Industrial under the land use table in Part 2 of the LEP. The proposed use (general industry and waste or resource management facility – resource recovery facility) is permitted with consent in this zone.

The site is accessed from James Ruse Drive via Grand Avenue, Colquhoun and Devon streets or Grand Avenue, Durham and Devon streets. The site is accessed from Parramatta Road via Wentworth, Kay, Unwin, Colquhoun and Devon streets.

2.2 Receivers

Potential noise impacts on the sensitive receivers on Figure 2.1 during construction were assessed. The receivers are categorised as:

- 'R' – private residential.
- 'FR' – future residential.
- 'In' – industrial.
- 'C' – commercial.
- 'Wor' – place of worship.
- 'Sch' – school.
- 'AR' – active recreation.

2.3 Project summary

The Sustainable Road Resource Centre will be positioned in the southern part of Lot 6 and an elevated pad (front block) will form the northern part of the lot. The front block will be used as a laydown area during construction then possibly used by another Downer business unit, leased or sold. The final operational use of the front block would be subject to a future development application.

2.3.1 Asphalt plant

A fixed Ammann Universal HRT Stationary asphalt plant will be constructed on Lot 6, which will produce up to 550,000 tonnes per annum (tpa) of asphalt. The maximum height of fixed equipment will be 41 m. Approximately two thirds of the outside of the asphalt plant will be clad.

2.3.2 Reclaimed asphalt pavement facility

Up to 250,000 tpa of RAP will be cold planed from pavements with specialist equipment and transported in tip trucks to the site. It will then be stored in dedicated RAP stockpile areas.

The RAP will be granulated and screened on an as required basis for use in the production of asphalt (as a substitute for aggregates and bitumen) or for pavement materials. The RAP plant will be inside a shed that will be enclosed on the north, west and south sides. The east side will be open in parts so the front-end loader can feed the RAP plant and remove the finished products.

Up to 90,000 tpa of RAP will be stored on site at any one time. Stockpiles will be a maximum 10 m high.

2.3.3 Bitumen products plant

A next generation, co-located emulsion plant is proposed on Lot 6, which will manufacture approximately 15,000 tpa using a purpose-built plant and will involve careful formulation of the products to produce chemically stable and well performing materials.

2.3.4 Reconomy

Downer proposes to construct and operate a new Reconomy facility on Lot 6. The Reconomy facility will provide a recycling option for the following wastes which are traditionally landfilled:

- Street sweeper/stormwater pit waste.
- Non-destructive digging mud.

Reconomy uses a customised material screening and processing plant and water treatment to recover materials which are used in the manufacture of asphalt and other road products. The facility will process up to 40,000 tpa of road sweepings, gully waste and mud from non-destructive excavation.

Material will be separated during the recovery process and temporarily stockpiled adjacent to the recovery plant at the separation points and removed as required. Recovered aggregates and sand will be beneficially reused almost immediately in the adjacent asphalt plant and will require temporary storage bays as a collection point prior to transport to the asphalt plant.

2.3.5 Vehicle generation

Construction of all aspects of the project will generate a peak of 105 heavy and 88 light vehicles per day.

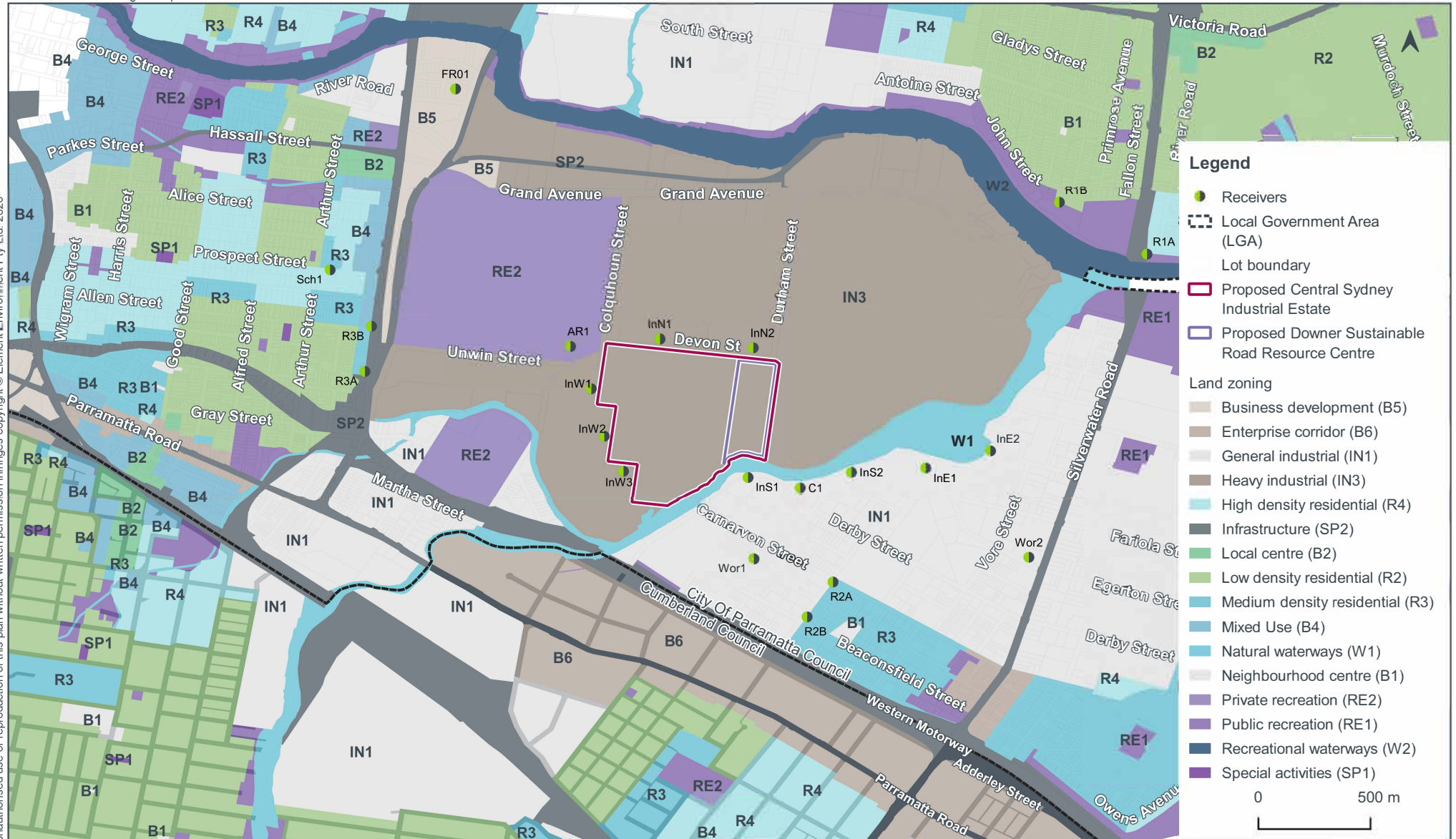
2.4 Hours of construction

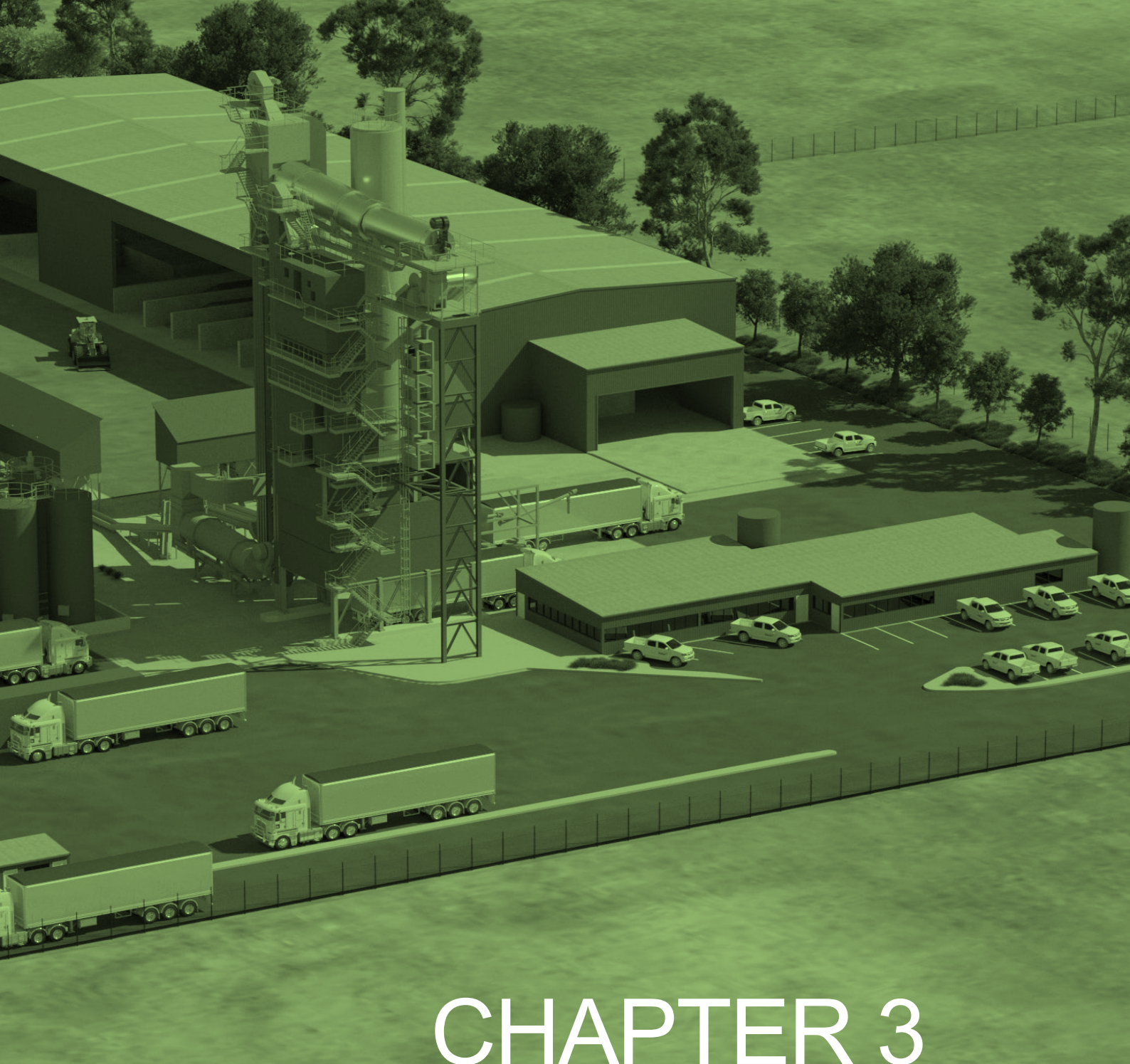
The project will generally be constructed between 7am-6pm Monday-Friday and 8am-1pm Saturday. Construction outside of these hours will be required on both weekdays and weekends including Sundays and will only be undertaken in the following circumstances. Construction on public holidays will be avoided.

- works do not exceed the noise limits detailed in Table 3.3; or
- works agreed to in writing by the Planning Secretary; or
- for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons; or
- where it is required in an emergency to avoid the loss of lives, property or to prevent environmental harm.

Figure 2.1
Sensitive noise receivers

Central Sydney Industrial Estate incorporating the Sustainable Road Resource Centre
Construction noise management plan





CHAPTER 3

CONSTRUCTION NOISE CRITERIA

3 CONSTRUCTION NOISE CRITERIA

3.1 Noise monitoring

Noise around the site was monitored in 2017 for a previous project, with results used to characterise existing ambient noise at the site. The monitoring was used to determine the rating background level (RBL) (the noise level exceeded for 90% of the measurement time) and the ambient noise level (the all-encompassing noise in the environment).

The noise was monitored at the following locations:

- Rydalmere – Location M1: 530 John Street, Rydalmere to establish the ambient noise at residential receivers in Rydalmere to the north of the site.
- Silverwater – Location M2: 101 Asquith Street, Silverwater to establish ambient noise at residential receivers in Silverwater to the south of the site.
- Rosehill – Location M3: 1-9 Eleanor Street, Rosehill to establish the ambient noise at residential receivers in Rosehill to the west of the site.

The resulting RBLs and ambient noise levels are summarised in Table 3.1.

Table 3.1 RBLs and ambient noise levels

Location	RBL (dB LA _{90(period)})			Ambient level (dB LA _{eq(period)})		
	Day	Evening	Night	Day	Evening	Night
M1	44	41	37	52	51	44
M2	42	41	38	55	51	48
M3	51	51	40	58	58	52

Day: 7am-6pm Mon-Sat and 8am-6pm Sun and public holidays; Evening: 6pm-10pm; night: remaining periods.

3.2 Interim construction noise guidelines

Noise impacts on sensitive receivers are assessed and managed in accordance with DECC (2009) *Interim construction noise guideline* (ICNG).

The ICNG contains procedures for determining project specific noise management levels (NMLs) for sensitive receivers based on the existing background noise in the area. The 'worst-case' noise levels from construction of a project are predicted and then compared to the NMLs in a 15-minute assessment period to determine the likely impact.

The NMLs are not mandatory limits. However, where construction noise levels are predicted or measured to be above the NMLs, feasible and reasonable work practices to minimise noise emissions are to be investigated.

The ICNG approach for determining NMLs at residential receivers is shown in Table 3.2.

Table 3.2 ICNG NMLs for residential receivers

Time	NML (LA _{eq(15 min)})	How to apply
Standard construction hours Monday to Friday 7:00 am to 6:00 pm	Noise affected RBL* + 10 dB	▪ The noise affected level represents the point above which there may be some community reaction to noise ▪ Where the predicted or measured LA_{eq(15minute)} is greater than the noise affected level, the proponent should apply all feasible and reasonable work practises to meet the noise affected level

Time	NML ($LA_{eq}(15 \text{ min})$)	How to apply
Saturday 8:00 am to 1:00 pm No work on Sundays or public holidays	Highly noise affected 75 dBA	- 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. - The Highly Noise Affected (HNA) level represents the point above which there may be strong community reaction to noise - Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: - 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 standard construction hours	Noise affected RBL + 5 dB	- A strong justification would typically be required for works outside the recommended standard hours. - The proponent should apply all feasible and reasonable work practices to meet the noise affected level. - Where all feasible and reasonable practises have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community.

* The RBL is the rating background level and the ICNG refers to the calculation procedures in the *NSW Industrial Noise Policy (INP)*. The INP has been superseded by the *NSW Noise Policy for Industry (NPfI)*.

The NMLs apply to the receivers during construction of both the project and Central Sydney Industrial Estate subdivision. The modelling incorporated all construction activities and demonstrated they can occur simultaneously without exceeding relevant noise criteria at surrounding receivers, as discussed in Chapter 4.

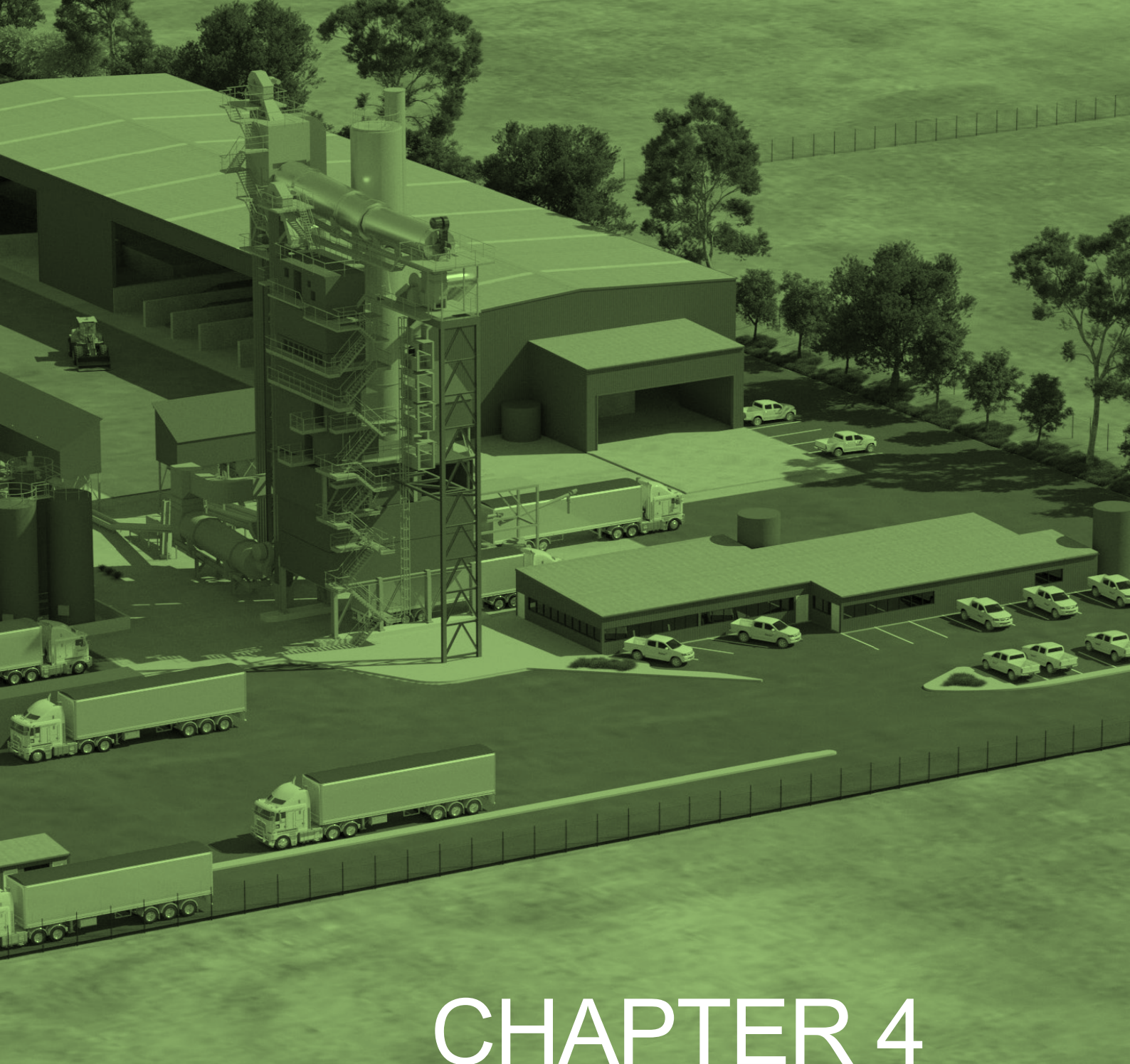
The ICNG NMLs for residential receivers are shown in Table 3.3.

Table 3.3 NMLs – residential receivers (LA_{eq} , 15min – dB(A))

Receiver	Standard Hours NML ($LA_{eq}(15 \text{ min})$)	Out of Hours NML ($LA_{eq}(15 \text{ min})$)	
	Day	Period 1	Period 2
R1	54	46	42
R2	52	46	43
R3	61	56	45

Note: period 1 (evening) = 6-10pm Monday-Friday, 1-6pm Saturday, 8am-6pm Sunday; period 2 (night) = 10pm-7am Monday-Friday, 6pm-7am Saturday/Sunday (8am Sunday).

For NMLs applicable to non-residential receivers refer to Chapter 4.1.2 and 4.1.3 of the ICNG.



CHAPTER 4

CONSTRUCTION NOISE IMPACTS

4 CONSTRUCTION NOISE IMPACTS

4.1 Construction noise activities

The iNoise three-dimensional model was used to predict construction noise from the project and the Central Sydney Industrial Estate subdivision at the receivers. Modelling was based on the sound power level for the plant and equipment listed in Table 16 of MAC (2020) *Noise and vibration impact assessment – Central Sydney Industrial Estate* operating simultaneously for 100% of the time during all time periods for the following scenarios:

1. Bulk earthworks to bench the site and provide level pads to the whole of the subdivision.
2. Construction of a new road from Devon Street.
3. Sealing/capping of Lot 6.
4. Construction/installation of plant on Lot 6.

A maximum noise level of 117 dBLA_{max} was assumed for impacts such as an excavator dropping rock into a truck at night for the sleep disturbance assessment.

4.2 Predicted construction noise levels

Predicted noise levels for the construction scenarios are in Table 4.1. Construction noise is demonstrated to comply with NMLs during standard construction hours at assessed residential receivers. The cumulative noise levels during the day, evening and night period for all construction activities (Scenario 1 to Scenario 4) will satisfy the noise management levels at all assessed residential receiver locations with the implementation of good noise management practices during the evening and night periods.

Table 4.1 Combined construction noise predictions

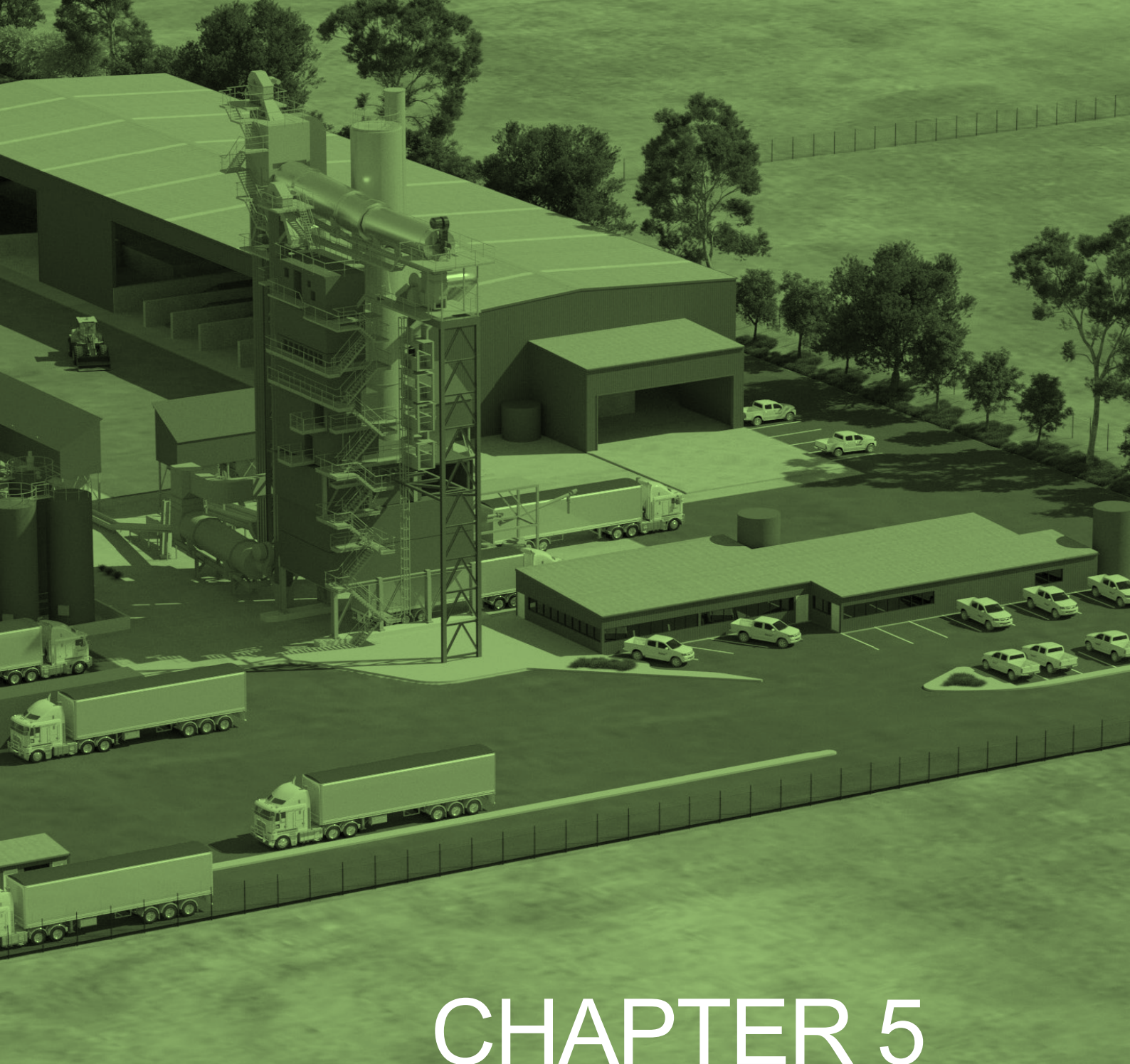
Receiver (day, period 1, period 2 NML – LA _{eq, 15min} – dB(A))	Predicted noise level (dB LA _{eq(15min)})				
	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Cumulative ¹
R1A (54, 46, 42)	34	<30	31	34	33
R1B (54, 46, 42)	35	<30	32	35	34
R2A (52, 46, 43)	41	33	37	40	40
R2B (52, 46, 43)	40	31	39	41	40
R3A (61, 56, 45)	38	31	32	35	36
R3B (61, 56, 45)	40	33	33	35	37

1: Cumulative construction totals include a conservative 5dB reduction for implementation of standard noise management measures.

The predicted LA_{max} noise levels at the residential receivers are in Table 4.2. Sleep disturbance by transient events will not exceed the maximum noise trigger level at assessed residential receivers.

Table 4.2 Construction maximum noise levels

Receiver	Predicted noise level and criteria (brackets) dB LA _{max}
R1A	32 (52)
R1B	36 (52)
R2A	45 (53)
R2B	45 (53)
R3A	43 (55)
R3B	45 (55)



CHAPTER 5

NOISE MANAGEMENT AND VERIFICATION

5 NOISE MANAGEMENT AND VERIFICATION

5.1 Management measures

The management measures in Table 5.1 will be implemented to reduce impacts from noise generated during construction of the project.

Table 5.1 Construction noise management measures

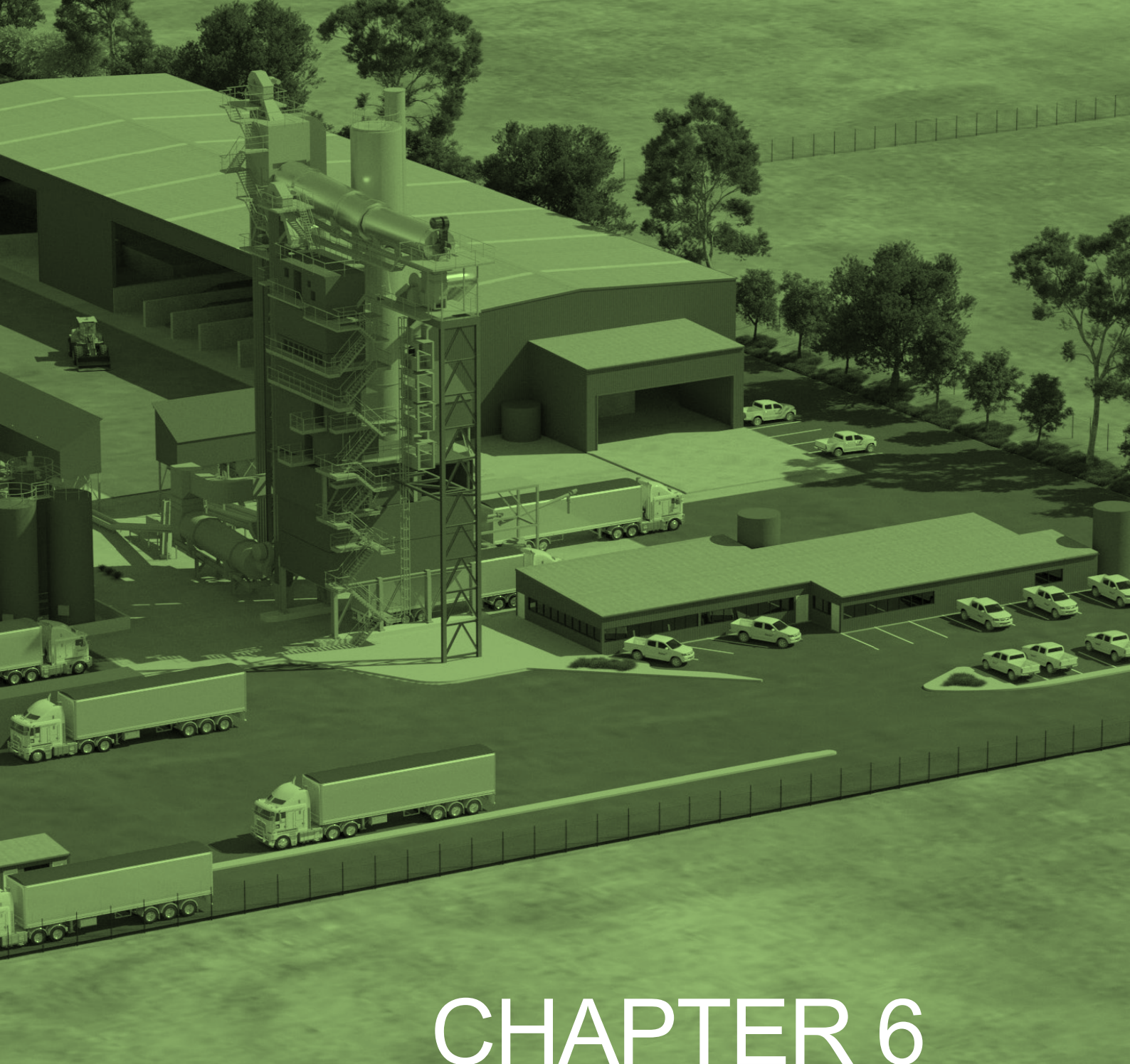
Strategies	Management measures	Timing	Responsibility
Universal work practices	Provide regular training to workers and contractors (such as toolbox talks) to use equipment in ways to minimise noise.	Pre and during construction	Project Manager Site Supervisor Foreman
	Avoid shouting and minimise talking loudly and slamming vehicle doors.	During construction	All personnel
	Keep truck drivers informed of designated vehicle routes, parking locations, acceptable delivery hours and other relevant practices.	During construction	Project Manager Site Supervisor Foreman
	Avoid the use of equipment which generates impulsive noise and minimise metal to metal contact and dropping materials from height.	During construction	Project Manager Site Supervisor Foreman Equipment operators
Consultation and notification	Consider notifying immediate adjoining neighbours of the start, duration and nature of the construction activities.	Pre construction	Project Manager Site Supervisor
	Keep a register for any complaints, including details of the complaint such as date, time, person receiving complaint, complainant's contact details, person referred to, description of the complaint, work area and response.	During construction	Project Manager Site Supervisor Foreman
Plant and equipment	Use quieter methods and equipment where feasible and reasonable.	During construction	Foreman Equipment operators
	Operate plant in a quiet and efficient manner, minimise idling.	During construction	Equipment operators
	Regularly maintain equipment to ensure that it is in good working order.	During construction	Site Supervisor Foreman Equipment operators
	Place as much distance as possible between the equipment and sensitive land uses.	During construction	Equipment operators
	Avoid the use of reverse alarms by designing the site to avoid reversing or install broadband reverse alarms where possible.	Pre construction	Project Manager Site Supervisor
	Where possible, schedule noisy activities to occur during less sensitive periods.	During construction	Site Supervisor Foreman Equipment operators
	Avoid undertaking multiple highly noise intensive activities concurrently.	During construction	Site Supervisor Foreman
	Ensure truck movements are kept to a minimum i.e. trucks are fully loaded on each trip.	During construction	Site Supervisor Foreman Equipment operators

5.2 Validation of noise emissions

To manage noise emission from noisy works (such as piling) that have a greater sound power level or an overall noise level that significantly differs from scenarios originally assessed as part of the *Noise and vibration impact assessment*, the proponent will quantify via validation calculations or modelling noise levels at surrounding residential receivers and compare results against relevant NMLs.

Where the calculated/modelled noise levels exceed relevant NMLs, feasible and reasonable noise measures or controls will be implemented so that compliance with NMLs is achieved prior to this activity being undertaken. This task would be completed where relevant during either standard hours or non-standard hours construction periods.

Downer will apply to the Planning Secretary in writing for permission to carry out any out of hours work where reasonable and feasible noise measures or controls cannot achieve relevant NMLs in Table 3.3.



CHAPTER 6

COMPLIANCE MANAGEMENT

6 COMPLIANCE MANAGEMENT

6.1 Roles and responsibilities

The overall roles and responsibilities for Downer personnel are outlined in Annexure I of the CEMP. Responsibilities for the implementation of mitigation measures specific to noise management are detailed in Chapter 5 of this CNMP.

6.2 Training

All employees, contractors and staff working on site will be inducted and trained in relation to noise management, comprising:

- Requirements of this plan.
- Relevant legislation.
- Approved construction hours.
- Location of sensitive receivers.
- Roles and responsibilities for noise management.
- Procedure to follow if out of hour works are required.
- Complaints handling process.
- Disciplinary action around non-compliance with this plan.

Further details regarding staff induction and training are in Chapter 8 of the CEMP.

6.3 Inspections

General requirements and responsibilities in relation to inspections and compliance monitoring are in Section 10.1 of the CEMP. Routine environmental inspections will include determination of compliance with this plan.

6.4 Incident notification

Incidents will be notified to DPIE in accordance with Appendix 3 of the development consent and Section 10.3 of the CEMP.

6.5 Noise complaints management system

A complaints handling procedure for complaints received during construction of the project is in Section 10.4 of the CEMP and involves the following steps:

1. Record and acknowledge.
2. Assess and prioritise.
3. Investigate.
4. Action or rectify.
5. Respond to complaint.
6. Record.
7. Preventive action.

Noise specific complaints will be handled in accordance with this complaints handling procedure. The following additional procedures specific to a noise complaint will also be implemented:

1. Record and acknowledge: Ask the complainant to describe as accurately as possible what the noise sounded like, exactly what time they heard that noise, where they heard the noise from
-

(eg address) and what direction the noise was coming from. This will allow Downer to confirm that the noise was from their construction site and to identify if there was a particular activity that caused the noise complaint.

2. Assess and prioritise: Ask the complainant how the noise they can hear is affecting them (waking them up at night vs irritating daytime noise) to ascertain the seriousness of the complaint and the level of priority it receives.
3. Investigate: If it is established that the noise complaint is from construction activities at the site and is causing disturbance to the complainant, then Downer will conduct attended noise investigations at the address from where the noise was noticed. The attended noise investigations will be undertaken at a time of day and during construction activities that are aligned as closely as possible to when the complainant noticed the noise which caused their complaint.
4. Action or rectify: If the attended noise investigations identifies that standard construction hours noise affected construction NMLs have been exceeded, Downer will investigate whether all management measures in Table 5.1 are being applied, will apply them where feasible where they aren't being applied and will apply additional reasonable and feasible noise management measures to specifically attenuate the noise from the identified construction activity source.

If the attended noise investigations identify that standard construction hours highly noise affected construction NMLs have been exceeded following implementation of the above procedures for addressing exceedances, Downer will further investigate whether they can implement respite periods by restricting the hours that the very noisy activities can occur.

If the attended noise monitoring identifies that outside of standard construction hours noise affected construction NMLs have been exceeded and the above procedures for addressing exceedances of noise affected construction NMLs have been implemented, Downer will investigate whether they can rather undertake the activities causing the exceedance, during standard construction hours. If this is not possible then Downer would investigate implementing respite periods by restricting the hours that the very noisy activities can occur.

Downer will then conduct follow up attended noise investigations at the address from where the noise complaint originated to establish whether the noise management measures applied have suitably reduced the noise to within the relevant construction NMLs or whether further noise management measures are required.

5. Respond to complaint: The complainant will be notified of the results of the initial attended noise investigations, what additional noise management measures have been implemented to address any identified exceedances of relevant construction NMLs and results of follow up attended noise monitoring after the implementation of additional noise management measures.
6. Record: All aspects of the noise complaints handling procedure will be recorded including where and when it occurred, results of initial noise monitoring, noise management measures applied, results of follow up noise monitoring and all correspondence with the complainant.
7. Preventive action: In planning future phases of work during construction, Downer will ensure that where the same or similar plant and equipment (or with similar sound power levels or noise characteristics) is to be used, that all noise management measures identified as being necessary during previous noise complaint handling processes, are implemented.

6.6 Monitoring

Noise monitoring may be required in response to a formal complaint to verify that construction noise from the site complies with relevant NMLs.

Should monitoring be required, monitoring will be conducted by a suitably qualified specialist. The location and extent of attended monitoring will be determined taking into account consultation with project staff, consideration of the construction activities taking place and the source of the complaint.

The monitoring will be representative/indicative of any impact across all potentially affected residential receivers.

All items of acoustic instrumentation will be designed to comply with AS *IEC 61672.1-2019 Electroacoustics – Sound level meters* – Specifications and carry current NATA or manufacturers calibration certificates.

6.7 Internal audits

This plan will be internally audited periodically to ensure the development consent conditions and commitments and noise management measures are properly implemented. Audit reports will be used to determine corrective actions.

6.8 Review and improvement

This plan will be reviewed, and if necessary, updated in the following circumstances:

- Significant changes to the equipment, machinery and plant operated onsite.
- If monitoring identifies the noise performance of the project is not in accordance with this plan.
- In accordance with Condition C8 and C9 of the development consent.

All employees and contractors will be informed of any revisions to this plan during toolbox talks.



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