

CEMP

Light Horse Business Hub

Stage 1 – Remediation



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1. Document Control

Revision	Prepared By	Position	Date	Changes from Previous	Status
1	Boyana Simeonov	Senior Delivery Manager – Charter Hall	7 October 2021	-	For Approval
2	Boyana Simeonov	Senior Delivery Manager – Charter Hall	18 November 2021	Annexure L – unexpected finds added	For Approval

2. Introduction

2.1. Purpose

The Construction Environmental Management Plan (CEMP) has been prepared to address how the construction of Light Horse Business Hub will comply with the Development Consent granted under Section 4.38 of the Environmental Planning and Assessment Act 1979.

The purpose of this CEMP is to provide a structured approach to the management of environmental issues during construction of the project. The CEMP has been developed to:

- identify the relevant statutory approvals that apply to the development
- describe all activities to be undertaken on the site during the project including a clear indication of construction stages
- outline all environmental management practices and procedures to be followed during construction in order to comply with licences, approvals and laws
- detail how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts and
- describe of the roles and responsibilities of all relevant employees involved in earthworks and construction

2.2. The Proposal



The proposed development on the Light Horse Business Hub will involve a subdivision of the land and infrastructure works to facilitate future industrial warehouse and distribution type developments. The subdivision layout is for up to 7 development lots, public road reserve and a drainage reserve over approximately 33.6 Ha.

Light Horse Business Hub works approved under the concept approval will include the following elements:

- Demolition of existing structures
- Remediation
- Site preparation and bulk earthworks
- Construction of road access and installation of essential infrastructure services
- Provision of flood and stormwater management infrastructure works
- Subdivision

2.3.Revision of the CEMP

2.3.1.General

The CEMP and the management processes described in the document will be subject to a process of periodic review. This will ensure the document is updated as appropriate to the specific work taking place onsite. It will also ensure that the provisions of the CEMP and its plans are being correctly implemented, monitored, managed and audited.

Should the document review process identify any issues or items within the documents that are either redundant or in need of updating, it is the responsibility of the Contractor's Environmental Manager to revise the documents. The revised document will then be issued to the Charter Hall Delivery Manager for certification of the changes. The Charter Hall Delivery Manager can approve minor changes to the CEMP such as:

- Editorial changes e.g. staff and agency/authority name changes
- Changes that do not increase the magnitude of impacts on the environment when considered individually or cumulatively
- Changes that do not compromise the ability of the project to meet approval or legislative requirements
- Where the changes fall out of the scope of the above or where Charter Hall deem it necessary, the amended CEMP will be forwarded to the Secretary of the Department of the Department of Planning, Industry and Environment for approval.
- Project Contractors will be advised when this CEMP is updated. They will be required to review their own CEMP and make the necessary amendments to remain compliant with this CEMP.

2.3.2.Other Reviews

The CEMP will also be reviewed and updated if required under the following circumstances:

- Within 3 months of the submission of an incident report as per Section Pollution Events.
- An approval of any modification of the conditions of consent
- An issue of a direction of the Planning Secretary

The Planning Secretary will be notified when a review is being carried out.

3. Regulatory requirements

3.1.Applicable Legislation, Policies and Guidelines

The relevant legislation applicable to the development is outlined in Annexure A.

3.2.Conditions of Consent SSD 9667

The below table shows the applicable conditions of Consent and where they have been addressed within this document.

Schedule	Condition Ref	Condition	Comments
Schedule 3	C1	<p>Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) details of:</p> <p>(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);</p> <p>(ii) any relevant limits or performance measures and criteria; and</p> <p>(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</p> <p>(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</p> <p>(d) a program to monitor and report on the:</p> <p>(i) impacts and environmental performance of the development; and</p> <p>(ii) effectiveness of the management measures set out pursuant to paragraph (c) above;</p> <p>(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>(g) a protocol for managing and reporting any:</p> <p>(i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);</p> <p>(ii) complaint;</p> <p>(iii) failure to comply with statutory requirements; and</p> <p>(h) a protocol for periodic review of the plan.</p>	<p>See individual Annexures</p> <p>See Annexure A</p> <p>See individual Annexures</p> <p>Section 8 and individual Annexures</p> <p>See Annexure B and individual annexures</p> <p>See Annexure B and individual annexures</p> <p>See individual Annexures</p> <p>Section 8</p> <p>Section 10</p> <p>Section 2.3</p>
Schedule 3	C2	The Applicant must prepare a Construction Environmental Management Plan (CEMP) in accordance with the requirements of Condition C1 and to the satisfaction of the Planning Secretary.	The whole of this plan
Schedule 3	C3	<p>As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:</p> <p>(a) Construction Traffic Management Plan (see Condition B1);</p> <p>(b) Erosion and Sediment Control Plan;</p>	<p>(a) – see Annexure D</p> <p>(b) – see Annexure C</p> <p>(c) – see Annexure E</p>

		<p>(c) Construction Noise Management Plan (see Condition B20);</p> <p>(d) Vegetation Management Plan (see Condition B33);</p> <p>(e) Construction and Demolition Waste Management Plan (see Condition B38);</p> <p>(f) Landscape Plan (see Condition B49); and</p> <p>(g) Community Consultation and Complaints Handling.</p>	<p>(d) – deferred until Stage 2 CEMP</p> <p>(e) – see Annexure J</p> <p>(f) – deferred until Stage 2 CEMP</p> <p>(g) – see Annexure J</p>
Schedule 3	C5	<p>Within three months of:</p> <p>(a) the submission of an incident report under condition C7;</p> <p>(b) the approval of any modification of the conditions of this consent; or</p> <p>(c) the issue of a direction of the Planning Secretary under condition A1(b) of Schedule 2 and condition A2(b) of Schedule 3 which requires a review, the strategies, plans and programs required under this consent must be reviewed, and the Planning Secretary must be notified in writing that a review is being carried out</p>	Section 2.3.2
Schedule 3	C7	The Planning Secretary must be notified in writing via the Major Projects website immediately after the Applicant becomes aware of an incident. The notification must identify the development (including the development application number and the name of the development if it has one), and set out the location and nature of the incident. Subsequent notification requirements must be given and reports submitted in accordance with the requirements set out in Appendix 3.	Section 10.1.1
Schedule 3	C8	The Planning Secretary must be notified in writing to via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.	Section 8.4
Schedule 3	C9	A non-compliance 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.	Section 8.4
	B1	<p>"Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the Stage 1 development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:</p> <p>(a) be prepared by a suitably qualified and experienced person(s);</p> <p>(b) be prepared in consultation with Council and TfNSW;</p>	See table within the relevant Annexure

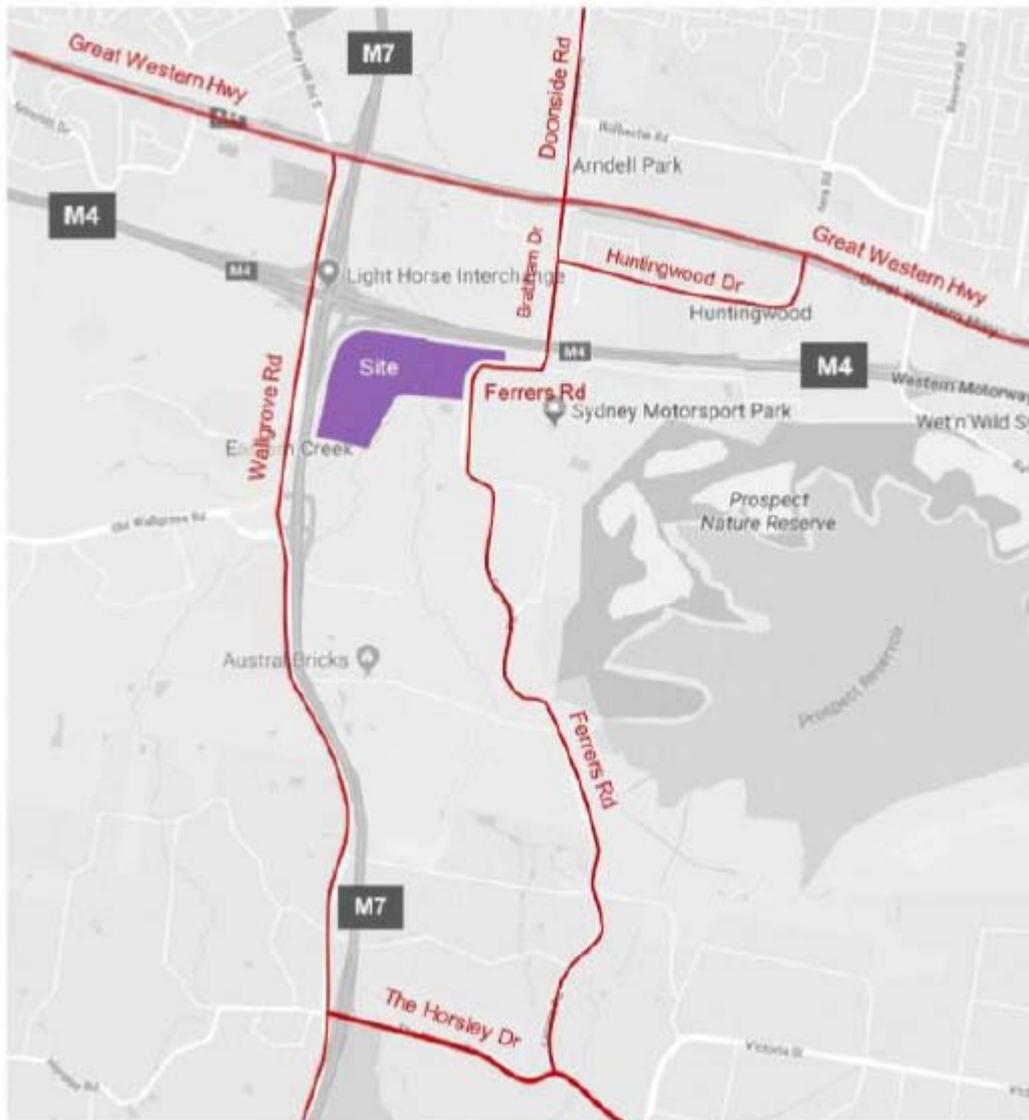
		<p>(c) detail the measures that are to be implemented to ensure road safety and network efficiency during construction;</p> <p>(d) detail heavy vehicle routes, access and parking arrangements;</p> <p>(e) include a Driver Code of Conduct to:</p> <p>(i) minimise the impacts of earthworks and construction on the local and regional road network;</p> <p>(ii) minimise conflicts with other road users;</p> <p>(iii) minimise road traffic noise; and</p> <p>(iv) ensure truck drivers use specified routes;</p> <p>(f) include a program to monitor the effectiveness of these measures; and</p> <p>(g) if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes. "</p>	
Schedule 3	B11	<p>Prior to the commencement of any construction or other surface disturbance the Applicant must install and maintain suitable erosion and sediment control measures on-site, in accordance with the relevant requirements of the Managing Urban Stormwater: Soils and Construction - Volume 1: Blue Book (Landcom, 2004) guideline and the Erosion and Sediment Control Plan included in the CEMP required by condition C2.</p>	See the relevant Annexure
Schedule 3	B20	<p>"The Applicant must prepare a Construction Noise and Vibration Management Plan for the Stage 1 development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must</p> <p>(a) be prepared by a suitably qualified and experienced noise expert;</p> <p>(b) be approved by the Planning Secretary prior to the commencement of construction of each stage of the Stage 1 development;</p> <p>(c) 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);</p> <p>(d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers;</p> <p>(e) include strategies that have been developed with the community for managing high noise generating works; and</p> <p>(f) describe the community consultation undertaken to develop the strategies in condition B20(e).</p> <p>(g) include a complaints management system that would be implemented for the duration of the development. "</p>	See table within the relevant Annexure

Schedule 3	B24	<p>"Before the commencement of any clearing or construction works, the Applicant must prepare an ACHMP for the development to protect and manage aboriginal heritage within the site. The plan must form part of the CEMP required by Condition C2 and must:</p> <p>(a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;</p> <p>(b) be submitted to the satisfaction of the Planning Secretary prior to construction of any part of the development; and</p> <p>(c) address the recommendations within the Aboriginal Cultural Heritage Assessment Report prepared by Extent Heritage dated February 2020. "</p>	See table within the relevant Annexure
Schedule 3	B33	<p>"Prior to clearing for construction, the Applicant must prepare a Vegetation Management Plan (VMP) for the Stage 1 development. The Vegetation Management Plan must be prepared in consultation with the Environment, Energy and Science Group and the Natural Resources Access Regulator, to the satisfaction of the Planning Secretary and form part of the CEMP in accordance with condition C2. The Plan must include:</p> <p>(a) measures to protect native vegetation that would be retained on site, from construction and operational activities;</p> <p>(b) measures to minimise vegetation clearing for bridge construction over Eastern Creek and to maximise opportunities for light and moisture to penetrate underneath the bridge to encourage native plant growth;</p> <p>(c) details of the Eskdale Creek realignment works, including the creation of 40 m wide vegetated riparian zone;</p> <p>(d) details of revegetation works along the realigned Eskdale Creek and Reedy Creek within the site, including plant species and densities, native seed collection and propagation and translocation of juvenile native plants and hollow-bearing trees on the site (where feasible);</p> <p>(e) details of topsoil and weed management measures;</p> <p>(f) performance indicators and completion criteria, including criteria for triggering remedial action, if necessary; and</p> <p>(g) a maintenance and monitoring schedule. "</p>	deferred until Stage 2 CEMP
Schedule 3	B44	<p>Prior to the commencement of earthworks, the Applicant must prepare an unexpected contamination procedure to ensure that potentially contaminated material and unexploded ordinance is appropriately managed. The procedure must form part of the of the CEMP in accordance with condition C2 and must ensure</p>	Please see Annexure L

		any material identified as contaminated must be disposed off-site, with the disposal location and results of testing submitted to the Planning Secretary, prior to its removal from the site.	
Schedule 3	B49	<p>"Prior to clearing for construction, the Applicant must prepare a Landscape Plan (LP) for Stage 1 for landscape buffer areas, street planting and the estate basin in consultation with the Environment, Energy and Science Group to the satisfaction of the Planning Secretary. The Landscape Plan must form part of the CEMP in accordance with Condition C2. The Plan must:</p> <p>(a) detail local native species to be used in landscaping, pot sizes, planting densities, locations and use of trees to reduce urban heat island effects;</p> <p>(b) detail the species to be planted within the bioretention area, including bank areas; and</p> <p>(c) describe the monitoring and maintenance procedures to ensure the on-going success of the landscaping works and measures to replace any plant loss. "</p>	deferred until Stage 2 CEMP

4. The Site and Context

4.1. The Site



The site is adjacent to the junction of the M4 Western Motorway and M7 Westlink Motorway, providing excellent access to the local and regional road transport network. The site is currently accessible from a driveway via Wallgrove Road to the west (via an underpass under the M7) and Ferrers Road to the east. The access to Wallgrove Road is not currently in use. Ferrers Road connects to the Great Western Highway and Doonside Road in the north and The Horsley Drive to the south.

The development site is located within the City of Blacktown local government area (LGA). The site is 33km west of the Sydney CBD, 15km from the Parramatta CBD, 15km from Penrith and 6km from Blacktown. The Western Sydney Airport is 15km south-west of the site. The site is south of the industrial areas at Huntingwood and Arndell Park and east of warehouse and industrial uses which form part of the Western Sydney Employment Area (WSEA).

The surrounding land use activities include the following:

- To the north of the site is the M4 Western Motorway beyond which the Western Sydney Parklands continue along the alignment of Eastern Creek. To the north-east is the Huntingwood industrial and warehouse precinct.

- To the east of the site is the Sydney Motorsport Park and Sydney Dragway. Adjacent to the Sydney Motorsport Park is the Prospect Reservoir.
- To the south of the site is the Eastern Creek landfill facility.
- To the west of the site is the M7 Westlink Motorway and Wallgrove Road. To the west of Wallgrove Road is the Eastern Creek industrial and warehousing precinct.

4.2. General Features of the Development

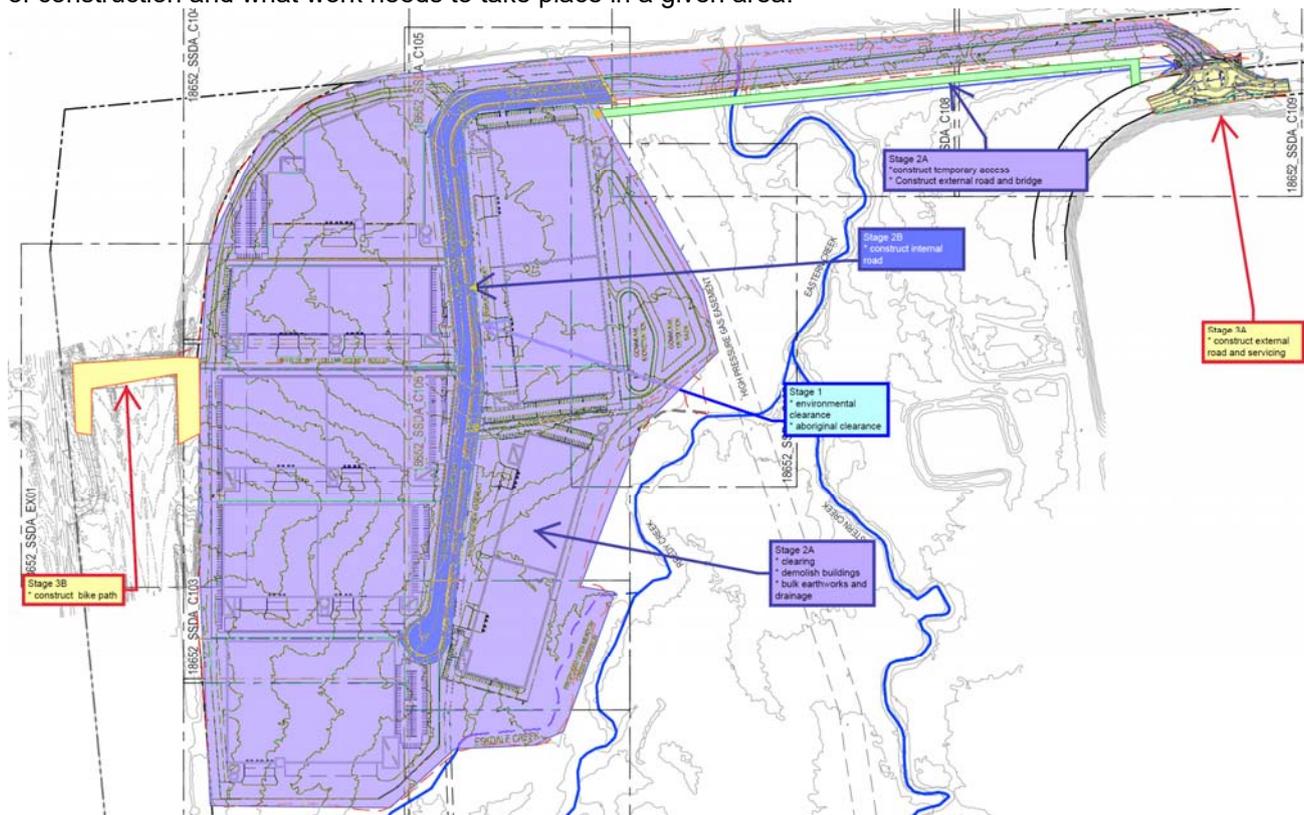
The Development is being delivered through a staged approach with the civil works having already commenced. Below is an indication of the features of the development.

Component	Description
Earthworks and Civil	<ul style="list-style-type: none"> • Demolition of existing buildings • Contamination Remediation • Clearing • Bulk earthworks • Construction of retaining walls • Landscaping
Roadworks and Bridge	<ul style="list-style-type: none"> • Construction of bike paths and shared paths • Pavement construction • Streetscape landscaping • Signage and Line marking • Barriers and Road furniture • Bridge construction including scour protection
Stormwater Management	<ul style="list-style-type: none"> • Construction of temporary and permanent water quality basins • Construction of open drainage channels • Construction of stormwater drainage for roadworks • Construction of inter-allotment drainage
Utility Works	<ul style="list-style-type: none"> • Construction of maintenance access tracks • Relocation of utilities along Ferrers Rd • Construction of new utilities to service the Light Horse Business Hub • Modification of existing manholes within the site

4.3. Staging

The below table provides an overview of the anticipated sequence of construction activities and timing associated with the development. The need to complete each activity will depend on the location and nature

of construction and what work needs to take place in a given area.



Component	Description
Stage 1 – Remediation and Salvage	
Archaeological Salvage	<ul style="list-style-type: none"> Manual excavation of salvage sites Screening for archeologically significant remains
Contamination Remediation	<ul style="list-style-type: none"> Removal of rubbish and contamination Excavation of contaminated areas and stockpiling on site, or removal off-site Installation of Erosion and Sediment Environmental Controls
Stage 2A – Bulk Earthworks	
Site Establishment	<ul style="list-style-type: none"> Installation of boundary fencing Establishment of site compounds Installation of environmental controls Pre-clearing vegetation fauna surveys Construction of access roads and temporary culvert crossing
Demolition	<ul style="list-style-type: none"> Demolition of existing structures, driveways and fencing Progressive installation of environmental controls including temporary or permanent fencing, enabling noise mitigation measures Clearing of vegetation and mulching
Clearing	<ul style="list-style-type: none"> Felling of trees

	<ul style="list-style-type: none"> • Mulching and stockpiling
Open drainage and basins	<ul style="list-style-type: none"> • Construction of diversion and catch drains along the formation and sedimentation control basins or swales (where required) • Construction of sedimentation basins • Diversion of existing waterways where required
Bulk Earthworks	<ul style="list-style-type: none"> • Stripping topsoil and stockpiling it for reuse in landscaping • Foundation treatments prior to filling • Excavation of cuttings, including the processing, stockpiling or haulage of material • Construction of retaining walls • Stabilisation of batters through topsoiling
Roadworks External to the site	<ul style="list-style-type: none"> • Clearing and vegetation management • Stripping topsoil and stockpiling it for reuse in landscaping • Foundation treatments prior to filling • Excavation of cuttings, including the processing, stockpiling or haulage of material • Construction of retaining walls • Construction of pavements and stormwater drainage • Construction of services such as electricity, streetlighting, water and sewer
Bridge Construction	<ul style="list-style-type: none"> • Installation of temporary platforms • Substructure construction including piling, piers and headstock construction • Superstructure construction including installation of pre-cast planks, decks and parapets • Backfilling and scour protection • Ancillary works such as maintenance footpaths, realigning and bridge streetlighting
Stage 2B – Roadworks	
Roadworks within the site	<ul style="list-style-type: none"> • Clearing and vegetation management • Stripping topsoil and stockpiling it for reuse in landscaping • Foundation treatments prior to filling • Excavation of cuttings, including the processing, stockpiling or haulage of material • Construction of retaining walls • Construction of pavements and stormwater drainage • Construction of services such as electricity, streetlighting, water and sewer
Stage 3 – Public Roadworks	
Existing Road Adjustment	<ul style="list-style-type: none"> • Utility relocation • Construction of local road diversions including any temporary pavements • Construction of permanent stormwater drainage and road pavements • Construction of new roundabout • Construction of road furniture such as streetlighting, signage, line making and safety barriers
In ground Services	<ul style="list-style-type: none"> • Construction of in ground services including sewer, electrical and water • Connection of drainage to stormwater provision

5. Environmental Management Framework

All works carried out on the site will be in accordance with:

- All legal requirements
- Ministers Development Consent
- This CEMP and applicable sub plans

This CEMP is an overarching guideline for the scope of works in Stage 1, which ensures compliance with the above with an aim at minimising the risk to the environment for all of the stages of the development. The CEMP will need to be updated with specific plans for the scope withing stages 2 and 3 of the development as the construction methodology is developed.

A separate CEMP submission will be made prior to Stage 2 and 3 works commencing which will consider some of the scope specific impacts and mitigation measures to the environment from these works.

The structure of the environmental management framework discussed above is shown in the below diagram.

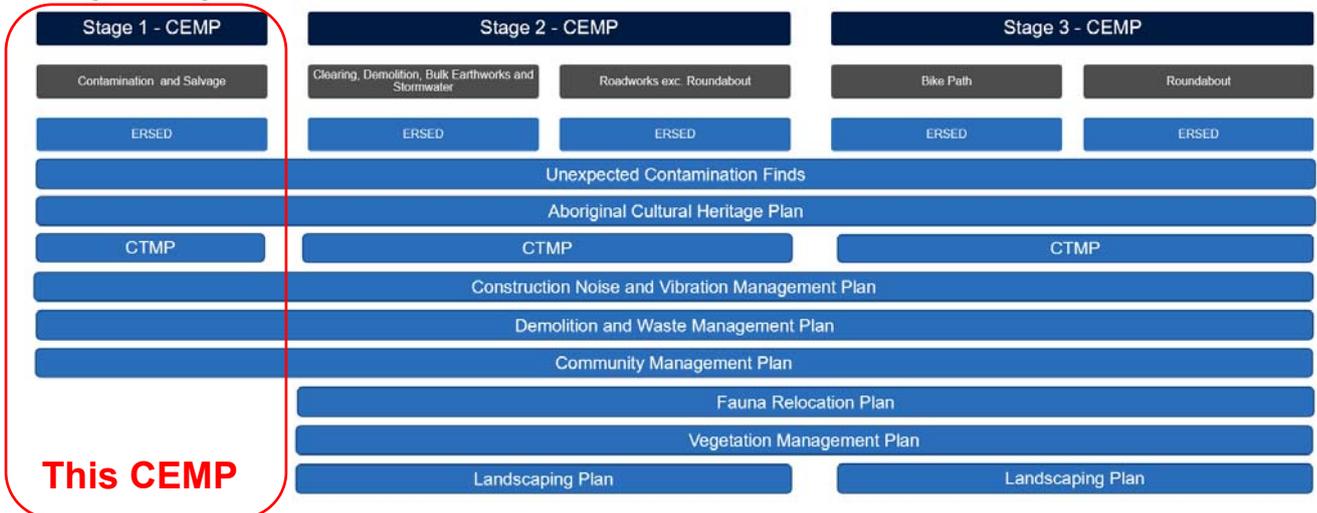
Under this CEMP the following plans are specific to the Stage 1:

- ERSED Control Plan
- Construction Traffic Management Plan

The following plans, submitted as part of this CEMP will cover scope of works across all the stages:

- Unexpected Contamination Finds procedure
- Aboriginal Cultural Heritage Management Plan
- Construction Noise and Vibration Management Plan
- Community Management Plan

Proposed Split of CEMP



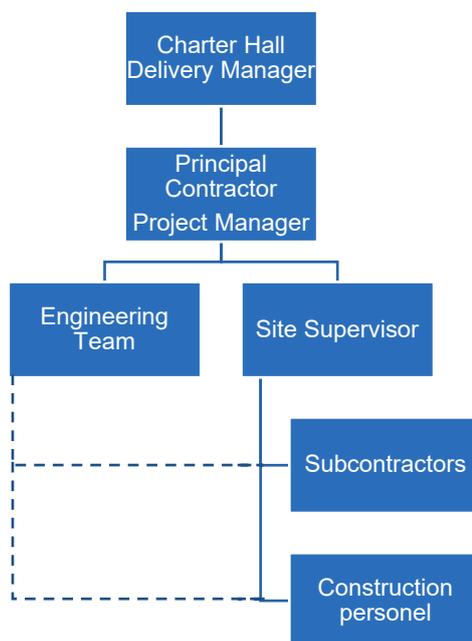
6. Construction Activities and Environmental Impact

Appendix B specifies specific environmental controls and responsibilities to be implemented across the development.

7. Roles and Responsibilities

7.1. Organisational Structure

The key structure of environmental management roles and responsibilities for the construction phase of the works is shown below.



The responsibilities relating to environmental management of each part of the development team is outlined below.

7.2. Responsibilities

7.2.1. Charter Hall Delivery Manager

- Evaluate and advise on compliance with Overarching CEMP environmental requirements
- Review and approve any environmental management plans for the work or related activities that are not required to be approved by the Secretary of the Department of Planning and Environment.
- Review any environmental management plans and related documents prepared for the work
- Review minor work refinements that are consistent with the work environmental assessment and approval documentation
- Monitor the environmental performance of the work in relation to Overarching CEMP requirements.
- Refer where required environmental issues to Advisory Environmental Consultant for recommendation

7.2.2. Project Manager

- Liaise with Charter Hall Delivery Manager on environmental issues, including the written notification of non-conformances
- Ensure compliance with all relevant statutes, regulations, rules, procedures, standards and policies

- Ensure that environmental records and files are collected and maintained
- Ensure that non-conformances and environmental incidents are recorded and written reports provided Charter Hall Delivery Manager. Liaise with the required stakeholders to confirm the nature of the corrective action required and comply with the timeframe within which corrective actions must occur
- Provide support to the project team to enable them to meet their environmental commitments
- Report any reportable incidents to EPA
- Ensure that independent audits of the system are conducted
- Review audit outcomes and take action as necessary
- Review environmental performance through the monthly reporting cycle
- Authorise resourcing on environmental issues
- Resolve major issues which cannot be resolved by the development's leadership team
- Lead the development and maintenance of the CEMP inclusive of requirements for programs, strategies and campaigns.
- Ensure that the CEMP is effectively established, implemented and maintained at the project level

7.2.3. Engineering Team

The Project management team includes qualified professionals in charge of planning and implementing the construction of the works. They can be made of Project Managers, Project Engineers and Site Engineers. The Project team is responsible for:

- Ensure environmental management requirements are discharged by subcontractors in accordance with the Contract, the Development Consent, EIS and the Overarching CEMP.
- Ensure that internal audits of the system are conducted
- Review audit corrective actions and take action as necessary to ensure timely close out of issues.
- Ensure the works are planned and achieve compliance with the environmental management plans and environmental requirements
- Carefully select suppliers and subcontractors based upon their ability to meet stated requirements

7.2.4.Site Supervisor

- Perform visual inspections and daily checks to ensure environmental controls are in place
- Communicate and provide training where necessary on environmental requirements to Construction Personnel and Subcontractors
- Ensure that environmental controls, materials and equipment are maintained
- Report to Project Manager on the performance of the system and environmental breaches
- Supervise all site construction activities and personnel by ensuring that they meet environmental and other requirements
- Take action to resolve environmental non-conformances and incidents
- Organise and manage site plant, labour and temporary materials
- Ensure that site environmental controls are properly maintained and provide support for their environmental management personnel
- Ensure that their environmental documentation is effectively implemented and maintained

7.2.5.Construction Personnel & Subcontractors

- Comply with all legal and contractual requirements
- Comply with site environmental requirements
- Comply with management/supervisory directions from Project Management Team and Development Environmental Manager
- Participate in induction and training as directed
- Report to Site Supervisor on the performance of the system and environmental breaches
- Comply with instructions to resolve environmental non-conformances and incidents

7.3. Subcontractor and Supplier Management

Subcontractors, and suppliers shall meet the environmental management requirements specified in the Overarching CEMP and the Contractor CEMP for each Stage. Subcontractors shall be made aware of their responsibilities under the terms of the applicable environmental legislation, by being provided a copy of this Environmental Management Plans and by participating in site induction. Subcontractors will be requested to submit Safe Work Method Statements (SWMS), ITPs or environmental procedures with details of how they manage any environmental aspects and impacts associated with their activities. Consideration of normal and abnormal operations, along with emergency scenarios will be included in ITPs as required. Subcontractor performance will be monitored to ensure that contracts are being fulfilled and appropriate environmental management practices are being followed.

8. Environmental Monitoring and Continual Improvement

8.1. Objectives of Monitoring

The CEMP shall be monitored following implementation to ensure that:

- Environmental operational controls are being effectively applied Environmental Control is being developed with continuous monitoring and updating during monthly audits
- Project specific environmental monitoring targets specified in the Development Consent or other planning permits for air, water and noise are met.
- Unpredicted impacts are identified, and remedial action is taken.
- The development objectives listed above are being met and
- Measures are implemented to ensure that the environmental performance of the development improves over time.

8.2. Performance Indicators

Specific performance indicators that will be used to evaluate the implementation and effectiveness of this CEMP are as follows:

- Number of notices and corrective action reports raised by relevant authorities
- Number of internal and external non-conformances raised through audits
- Number of community complaints and concerns

8.3. Monitoring

Specific monitoring actions have been specified in Annexure B additionally the below general monitoring of environmental performance shall be carried out through a combination of the following:

- Weekly site inspections by project contractor staff. Inspections are to be recorded on an inspection checklist form with details of any maintenance required nature of the deficiency and any actions required.
- Post rainfall inspections to be performed by construction workers
- Monthly Project Manager's audit
- Ad-hoc Charter Hall audits
- Weekly work task observations by construction personnel
- External audits by third parties

8.4. Non-conformances

The Contractor shall identify any non-conformances with this plan and provide details on the date, description and actions taken to correct any non-conformances to the Charter Hall Delivery Manager.

The Charter Hall Delivery Manager shall notify the Planning Secretary must be notified in writing to via the Major Projects website within seven days after Charter Hall becomes aware of any non-compliance. A non-

compliance notification must identify the development and the application number for it, set out the condition of consent that the development is non-compliant with, the way in which it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. A non-compliance which has been notified as an incident as per Section 10 does not need to also be notified as a non-compliance.

9. Communication and Consultation

9.1. Training

- Prior to the commencement of development activities, all site personnel (including sub-contractors) will attend site induction
- Site Induction shall include an outline of the requirements of this CEMP and the responsibilities and accountabilities of all site personnel.
- The development environmental site rules will be included in the induction session.
- Training records will be kept to verify who has attended the training.

9.2. Community Consultation

Community Consultation will be carried out in accordance with Annexure K – Community Consultation Plan.

Generally, the community is to be consulted through a variety of methods including:

- Consultation Meetings on specific issues
- Agency Meetings on specific issues
- Project Information and complaints number
- Letter box drops on specific issues
- Project signage
- Toolbox and Pre-start meetings
- Project Website

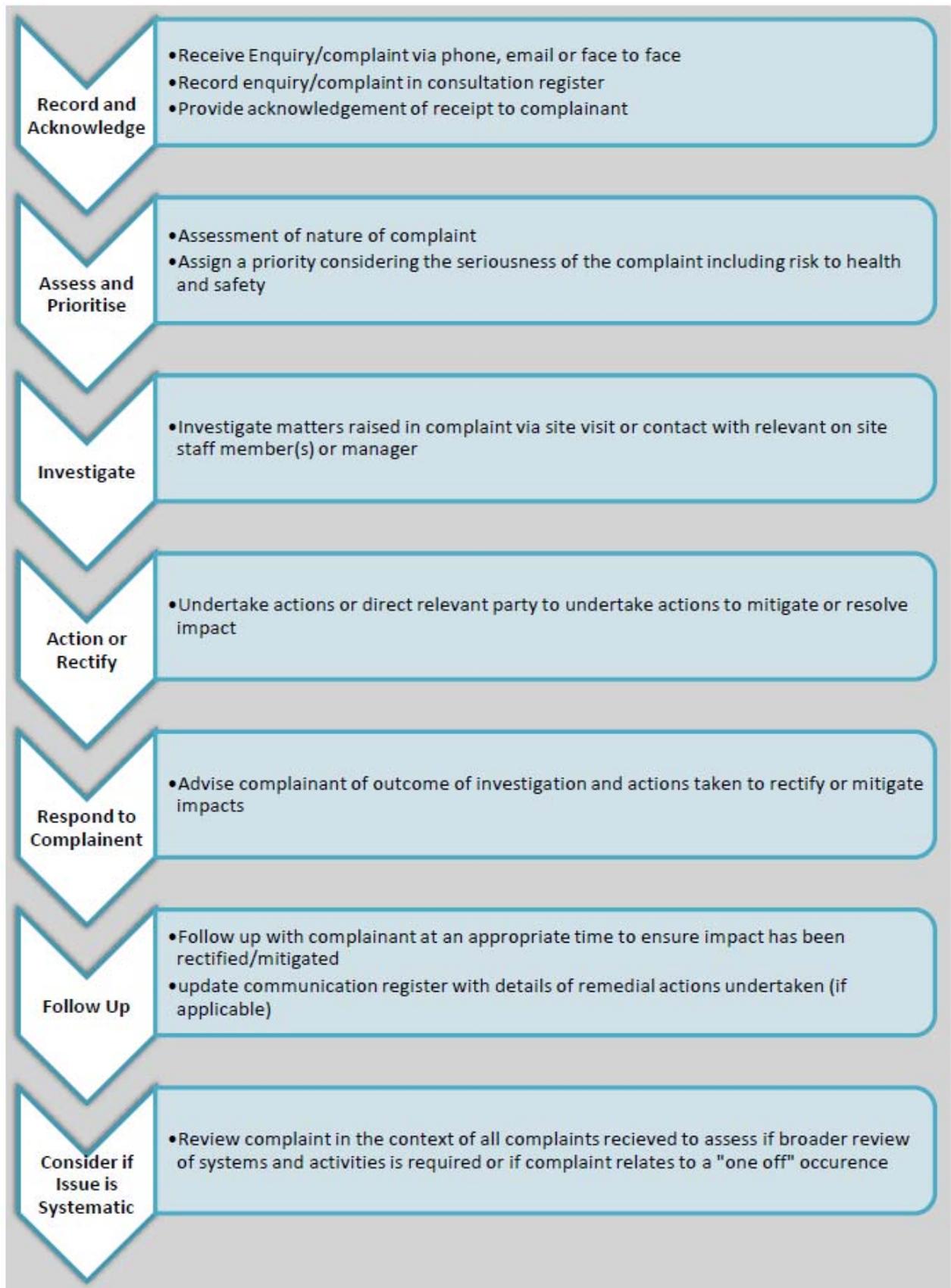
Specific issues which will require engagement include:

- High noise generating activities
- Vibration intensive activities
- Traffic management and disruption
- Emergency events

9.3. Community Complaints

A Community complaints procedure has been established in Annexure K – Community Consultation plan.

Generally the procedure below is to be followed.

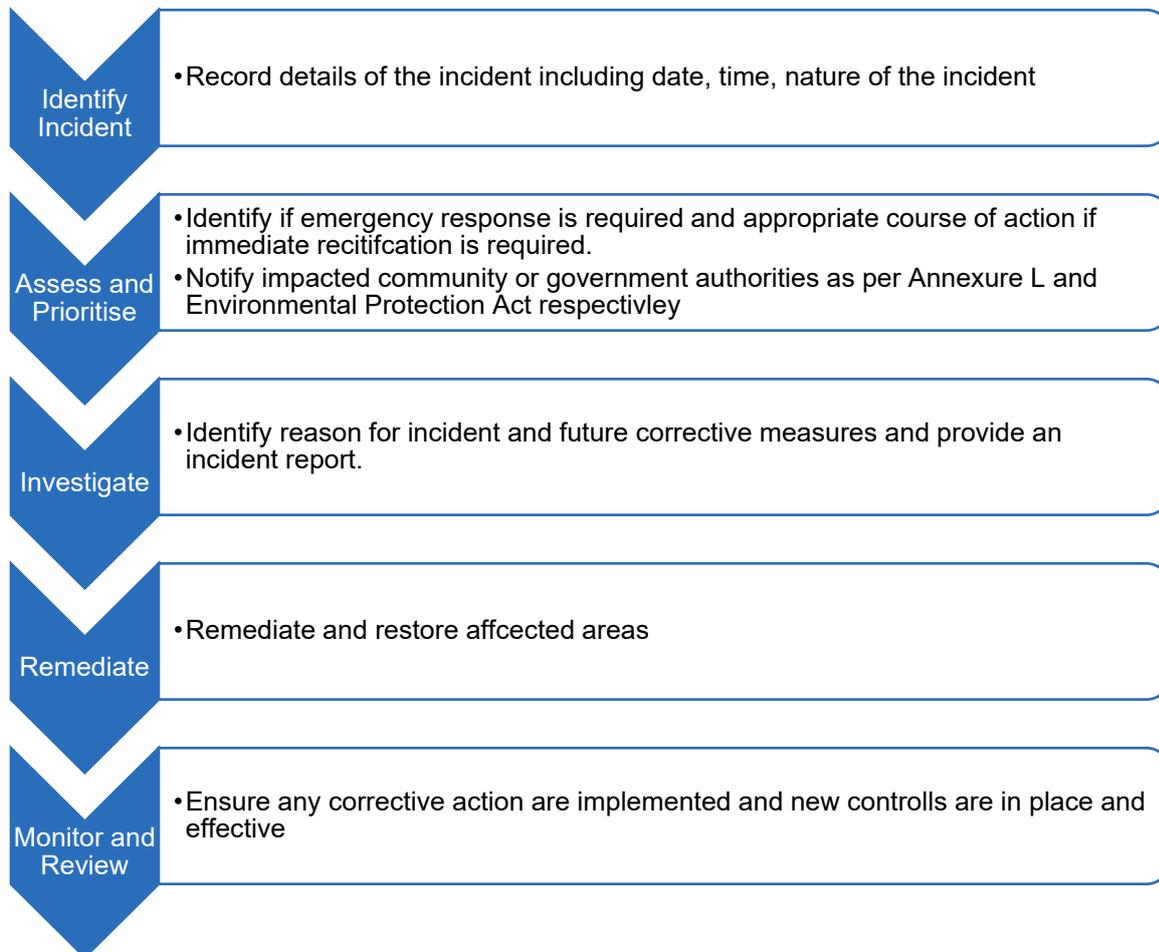


10. Incident Investigation and Reporting

10.1. Procedure

The Construction Personnel and particularly the site supervisor shall ensure that all incidents occurring in or around the site, including company personnel, subcontractors, visitors or passers-by, are investigated and reported regardless of how minor they appear at the time of the occurrence.

Upon identification that an incident has occurred the following procedure is to be implemented.



10.2. Notification of Authorities

10.2.1. Pollution Events

Environmental manager shall notify the OEH Pollution Line, 131 555, regarding pollution incidents that have occurred in the course of the Contractor's activities, if the following apply:

- The actual or potential harm to the health or safety of human beings or ecosystems is not trivial.
- The actual or potential loss or property damage (including clean-up costs) associated with a pollution incident may exceed \$10,000.

In addition to the above The Planning Secretary must be notified in writing immediately after an incident is identified. The notification must identify the development (including the development application number and the name of the development if it has one) and set out the location and nature of the incident. Subsequent notification requirements must as per Section 10.3 Incident Reporting Requirements.

10.2.2. Unexpected Finds

In the case of unexpected finds of suspected heritage significance, the Unexpected Finds procedure in Annexure F shall be followed.

In the case of unexpected finds for contamination or Unexploded Ordnance the procedure in Annexure L shall be followed.

10.3. Incident Reporting Requirements

10.3.1. Written incident notification requirements

1. A written incident notification addressing the requirements set out below must be submitted to the Planning Secretary via the Major Project's website within seven days after the Applicant becomes aware of an incident. Notification is required to be given under this condition even if the Applicant fails to give the notification required under condition C7 or, having given such notification, subsequently forms the view that an incident has not occurred.
2. Written notification of an incident must:
 - a. identify the development and application number;
 - b. provide details of the incident (date, time, location, a brief description of what occurred and why it is classified as an incident);
 - c. identify how the incident was detected;
 - d. identify when the applicant became aware of the incident;
 - e. identify any actual or potential non-compliance with conditions of consent;
 - f. describe what immediate steps were taken in relation to the incident;
 - g. identify further action(s) that will be taken in relation to the incident; and
 - h. identify a project contact for further communication regarding the incident.

10.3.2. Incident report requirements

3. Within 30 days of the date on which the incident occurred or as otherwise agreed to by the Planning Secretary, the Applicant must provide the Planning Secretary and any relevant public authorities (as determined by the Planning Secretary) with a detailed report on the incident addressing all requirements below, and such further reports as may be requested.
4. The Incident Report must include:
 - a. a summary of the incident;
 - b. outcomes of an incident investigation, including identification of the cause of the incident;
 - c. details of the corrective and preventative actions that have been, or will be, implemented to address the incident and prevent recurrence; and
 - d. details of any communication with other stakeholders regarding the incident.

Annexure Section

Annexure A- Applicable Legislation

NSW Environmental Legislation

- Threatened Species Conservation Act 1995
- Contaminated Land Management Act 2008
- Contaminated Land Management Regulation 2008
- Environmental Planning and Assessment Act 1979
- Environmental Planning and Assessment Regulation 2000
- Environmental Trust Act 1998
- Protection of the Environment Administration Act 1991
- Protection of the Environment Administration Regulation 2012
- Protection of the Environment Operations Act 1997
- Protection of the Environment Operations (Clean Air) Regulation 2010
- Protection of the Environment (General) Regulation 2009
- Protection of the Environment (Noise Control) Regulation 2008
- Protection of the Environment (Waste) Regulation 2005
- Environmentally Hazardous Chemicals Act 1985
- Environmentally Hazardous Chemicals Regulation 2008
- Heritage Act 1977
- Heritage Regulation 2012
- Local and Environment Court Act 1979
- Local Government Act 2009
- Water Act 1912
- Water Management Act 2000
- Water Management (General) Regulation 2011
- Work Health and Safety Act 2011 (NSW)
- Work Health and Safety Regulation 2017 (NSW)
- Western Lands Act 1901
- Western Lands Regulation 2011

Federal Environmental

- Environment Protection and Biodiversity Conservation Act 1999
- National Environment Protection Council Act 1994
- National Environment Protection Measures (Implementation) Act 1998
- Natural Heritage Trust of Australia Act 1997
- Sydney Harbour Federation Trust Act 2001

Other

- Storing and Handling of Liquids: Environmental Protection – Participants Manual (Department of Environment and Climate Change, 2007)
- AS 1940 The Storage and Handling of Flammable and Combustible Liquids Storage and Handling of Dangerous Goods
- Australia and New Zealand Guidelines 2018, Australian and New Zealand Guidelines for Fresh and marine Water Quality
- PFAS National Environmental Management Plan (version 2)
- Guidelines for NSW Site Auditor Scheme, 3rd ed., NSW EPA

- Consultants Reporting on Contaminated Land, 2020, NSW EPA
- Guidelines for Implementing the Protection for the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019
- Waste Classification Guidelines – Part 1: Classifying Waste, 2014, NSW EPA
- Resources Recover Order under Part9, Clause 93 of the Protection of the Environment Operations (Waste Regulation) 201
- Code of Practice – How to Manage and Control Asbestos in the Workplace 2016
- Code of Practice – How to Safely Remove Asbestos 2016

Annexure B - Environmental Actions and Monitoring

The below controls have been collated from the Plans attached within the appendices, the development consent and other project plans which have recommended environmental controls are implemented for the works.

Environmental Impact	Mitigation Measure	Responsibility/Monitoring
Air Quality		
Dust Control	exposed surfaces and stockpiles are suppressed by regular watering	Site Supervisor
	all trucks entering or leaving the site with loads have their loads covered	Site Supervisor
	trucks associated with the development do not track dirt onto the public road network	Site Supervisor
	public roads used by these trucks are kept clean; and	Site Supervisor
	land stabilisation works are carried out progressively on site to minimise exposed surfaces	Project Manager
Communications	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.	Site Supervisor/Project Manager
	Display the head or regional office contact information.	Project Manager
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.	Community Consultation Manager
	Make the complaints log available to the local authority when asked	Project Manager
	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.	Project Manager
Monitoring	Perform daily on-site and off-site inspections where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, during periods of greater likelihood of dust generation.	Site Supervisor
	Carry out regular site inspections for dust, record inspection results, and make an inspection log available to the local authority when asked.	Site Supervisor

	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.	Site Supervisor/Project Manager
Preparing and Maintaining the Site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.	Project Manager
	Where appropriate, erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.	Site Supervisor
	Keep site fencing, barriers and scaffolding clean using wet methods.	Site Supervisor
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below	Site Supervisor
	Cover, seed or fence stockpiles to prevent wind erosion	Site Supervisor
Operating Vehicle/Machinery and Sustainable Travel	Ensure all on-road vehicles comply with relevant vehicle emission standards, where applicable	Site Supervisor
	Ensure all vehicles switch off engines when stationary - no idling vehicles	Site Supervisor
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable	Project Manager
	Impose and signpost a maximum-speed-limit of 15 kmph on surfaced and 10 kmph on un-surfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided (such as regular water carts along main unsealed road), subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).	Project Manager
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/ mitigation, using non-potable water where possible and appropriate	Site Supervisor
	Use enclosed chutes and conveyors and covered skips	Site Supervisor
	Minimise drop heights from loading shovels and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate	Site Supervisor
Waste Management	Avoid bonfires and burning of waste materials.	Site Supervisor
	Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually	Site Supervisor

	controlled, can produce fine water droplets that effectively bring the dust particles to the ground.	
	Avoid explosive blasting, using appropriate manual or mechanical alternatives	Project Manager
	Refer to Waste Management Plans recommendations for management measures on onsite waste management.	Project Manager
Track out	Use water-assisted dust sweeper(s) on the access and local roads to remove, as necessary, any material tracked out of the site.	Site Supervisor
	Avoid dry sweeping of large areas.	Site Supervisor
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.	Site Supervisor
	Record all inspections of haul routes and any subsequent action in a site log book.	Site Supervisor
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).	Site Supervisor
Soil and Water		
Soil Management	Ensure that only VENM, ENM, or other material approved in writing by EPA is brought onto the site	Project Manager
	Accurate records are to be kept of the volume, sources and type of fill to be used; and records of these can be provided to the Planning Secretary on request.	Project Manager
Stormwater discharge (from sedimentation basins and flooding)	Control discharge from water quality basins so that the quality prior to discharge meets the following criteria: PH – 6.5 to 8.5, Turbidity <50 NTU, no visible oil or grease Use gypsum as a flocculant to control turbidity	Site Supervisor
	Do not discharge basins where contamination is suspected. Seek advice from Environmental Manager	Site Supervisor
Maintenance of ERSED controls and Sediment Basins	Sediment and erosion control measures will be installed prior to commencing construction to avoid impacts on downstream water quality.	Site Supervisor
	ERSED controls will be inspected for damage and performance: After each runoff event At least fortnightly if no runoff events have occurred in that time Prior to and immediately after periods of site shut downs longer than 7 days Contractor is to keep records of inspection dates, any issues identified, rectification measure proposed and date in which it was implemented.	Project Manager
	Accumulated sediment will be cleaned out when it reaches the marker board/post, and restore the original storage volume. Place	Project Management team

	sediment in a disposal area or, if appropriate, mix with dry soil on the site.	
Adjoining waterways (dewatering, soil erosion and runoff)	Utilise permanent and temporary drainage systems to divert clean water around disturbed areas	Environmental Manager Site Supervisor
	Erect silt fences, bunds and swale drains to slow down and de-silt water flows on site	Site Supervisor
	Regular sweeping of surrounding road network if mud and dirt is tracked on to roads from construction activities	Site Supervisor
	Develop Erosion and Sedimentation Plans for each major stage of works	Environmental Manager
	Install erosion and sediment controls as per approved plans	Site Supervisor
	Install sediment controls downslope of the site to catch sediment	Site Supervisor
	Maintain Erosion and Sediment Controls in good condition	Site Supervisor
	Limit vehicle entries as much as practicable	Site Supervisor
	Create all weather access by installing cattle grids and stabilising pavements at exits from the site to ensure trucks associated with the development do not track dirt onto the public road network	Project Management team Site Supervisor
	Minimise stripping of topsoil and stockpile on site for re-use during landscaping	Project Management team Site Supervisor
	Connect construction to permanent drainage design as soon as possible after completion this includes directing surface water flows into new pits and connecting downpipes to stormwater network	Site Supervisor
	Dig pits on site for concrete wash outs to prevent discharge of dirty water into waterways Site this area upslope and at least 10m from existing waterways or drainage	Site Supervisor
	Revegetate and landscape areas as soon as possible upon completion of each stage. Notwithstanding this, schedule works so that the duration from the conclusion of land shaping to completion of final stabilisation is less than 20 working days.	Site Supervisor
	Land recently established with grass species will be watered regularly until an effective cover has properly established and plants are growing vigorously. Further application of seed	Site Supervisor
	Removal of sediment controls only after the catchment has been stabilised	Site Supervisor
	Where practical, foot and vehicular traffic will be kept away from all recently established areas.	Site Supervisor
Stockpiles	Ensure adequate erosion and sediment controls are installed around stockpiles	Site Supervisor
	Stabilise or cover on-site stockpiles if in place for longer than 2 months	Site Supervisor

	<p>Stockpiles should be located on land: at least 5m away from concentrated water flows at least 10m from a waterway and the Upper Canal on land with a slope of 1:10 or flatter on land that does not require the removal of threatened species and native vegetation in areas of low conservation significance (including identified Aboriginal cultural value)</p>	Site Supervisor
	<p>Soil materials will be replaced in the same order they are removed from the ground. It is particularly important that all subsoils are buried and topsoils (landscaped areas only) remain on the surface at the completion of works.</p>	Site Supervisor
Existing channels and waterways	<p>Do not deposit material, excavate, or remove material within a watercourse bank, shore or bed, or on land 40 metres inland, or interfere with the likely flow of water to such a body, without a controlled activity approval</p>	Site Supervisor
Biodiversity		
Existing Tree Protection	<p>Clearly mark areas of vegetation to be retained with flagging and appropriate signage. Ensure flagging is maintained for the duration of the project</p>	Site Supervisor
	<p>Do not locate haul roads, stockpiles or other temporary works underneath the drip line of trees to be retained</p>	Site Supervisor
	<p>Trees shall be felled in a controlled manner so that felling does not pose a danger of damaging other trees and also does not pose a threat to traffic, structures and people's safety.</p>	Site Supervisor Subcontractors
	<p>Do not prune more than 30% of a trees canopy to be retained</p>	Site Supervisor
Clearing	<p>Mulch cleared trees for reuse in landscaping on-site</p>	Site Supervisor
	<p>Do not pick protected native plants without a licence</p>	Construction Personnel Subcontractors
	<p>The Contractor will ensure that clearing does not result in more than: a. 0.97 hectares (ha) of CPW; b. 9.83 ha of Grey-headed Flying-fox (GHFF) foraging habitat;</p>	Environmental Manager Subcontractors Site Supervisor
Creek Diversion	<p>Water ingress is diverted prior to commencing works</p>	Site Supervisor
	<p>Water is to be pumped out and aquatic ecologist to be on standby to capture and relocate fauna which are trapped. Fauna is to be relocated as per the Fauna Relocation Plan</p>	Site Supervisor
Fauna	<p>Review planning documentation to identify sites where there may be threatened species</p>	Environmental Manager
	<p>Immediately prior to clearing complete a site walk to look for habitat areas</p>	Environmental Manager Site Supervisor

	Relocate fauna prior to clearing by calling the project ecologist	Site Supervisor Construction Personnel Subcontractors
Contamination and Waste		
Imported Fill	Minimise fill import by maximising site won cut material.	Project Management Team
	Any material brought on site is to be VENM certified or other material approved in writing by EPA as approved for use on site Contractor is to keep all certificates and dockets relating to importing material and this is to be handed over upon Practical Completion	Project Management Team
	All material brought on site is to be recorded in an Material Tracking Register	Project Management Team
General Contamination Remediation	The site shall be remediated as per the Remediation Action Plan	Project Management Team
	Unexpected finds must be managed as per Annexure L	Project Management Team
Waste	Hazardous materials surveys to be completed prior to construction	Project Management Team
	Hazardous materials to be removed prior to demolition by qualified professional	Project Management Team
	Maintain registers for waste disposal as per WorkCover and OE\EPAC\WEPA requirements	Project Management Team
	Segregate waste on site to maximise recycling and re-use	Site Supervisor
	Send demolition waste to licenced recycling facilities where possible	Site Supervisor
	Dispose all waste in licenced facilities	Site Supervisor
	Reuse natural materials on site where possible ie topsoil, site won cut and mulch	Site Supervisor
	The collection of waste generated during construction of the development shall be undertaken between 7 am to 10 pm Monday to Friday	Site Supervisor
	Comply with general requirements for the transport of waste. For example, any vehicle used by the person to transport waste must be kept in a clean condition and be maintained so as to prevent spillage of waste. For some wastes only licenced transporters can be used.	Project Management Team
	Ensure vehicles transporting waste have adequate covers to prevent littering	Site Supervisor
	Waste management and strategies to be implemented during the construction and earthworks program, including the stockpiling of construction materials waste (likely in a skip) to be transported off Site for recycling or disposal.	Project Management Team
Chemical storage and use on site	Chemicals to be stored in bunded areas which are to be impervious and have a capacity at least 110% of the largest container.	Project Management Team Site Supervisor

	Chemical storage is to be kept away from drains and waterways	Site Supervisor
	Implement the Workcover Code of Practice for Storage and Handling of Dangerous Goods and EPA guidelines for bunding http://www.environment.nsw.gov.au/water/bundingspill.htm	Site Supervisor
	Chemical storage to be compliant with: AS 1940 The Storage and Handling of Flammable and Combustible Liquids Storage and Handling of Dangerous Goods WorkCover Code of Practice 2005- refer p. 86 Below screening threshold quantities listed in Department's Hazardous and Offensive Development Application Guidelines Applying SEPP 33 EPA's Storing and Handling of Liquids: Environmental Protection – Participants Manual (Department of Environment and Climate Change, 2007)	Project Management Team
	Ponding water within bunds is not to be discharged into stormwater	Site Supervisor
	Fuel and hydraulic leaks to be cleaned up immediately	Site Supervisor
	Drilling muds are to be stored in bunded areas and dried out prior to reuse	Site Supervisor Construction Personnel Subcontractors
	Liquid paints are to be spread on waste cardboard or similar and left to dry. Paint brushes to be rinsed and paint solids allowed to settle. Paint solids and liquid paint to be disposed of at a licenced liquid waste facility.	Site Supervisor Construction Personnel Subcontractors
	Storage of bulk fuels (>200L) on site is prohibited. All refuelling shall be undertaken by a mobile facility with appropriate spill control and containment equipment.	Site Supervisor
	MSDSs to be obtained prior to a chemical being received on site and by subcontractors using chemical products	Site Supervisor
	Spill kit to be kept on site by each Contractor	Project Management Team
Noise and Vibration		
Project Planning	Use quieter and less vibration emitting construction methods where feasible and reasonable.	Project Manager
	Works will be completed during standard daytime construction hours outlined in Section 6.2.	Project Manager
	Truck routes to site should be limited to major roads.	Project Manager
Scheduling	Respite offers should be considered where high noise and vibration generating activities are near receivers. As a guide, work should be carried out in blocks that do not exceed three hours,	Project Manager

	with a minimum respite period of one hour between each block.	
	Consult with the affected community to determine the need for respite periods.	Community Consultation Manager
Site Layout	Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.	Project Manager
	Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography.	Project Manager
	Equipment that is noisy will be started away from sensitive receivers	Site Supervisor
Training	Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.	WH&S Representative
Plant and Equipment Source Mitigation	Where practicable, tonal reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment in use (subject to occupational health and safety requirements).	Site Supervisor
	Noisy equipment will be sited 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.	Site Supervisor
	Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.	Site Supervisor
	Dropping materials from a height will be avoided.	Site Supervisor
	Loading and unloading will be carried out away from noise sensitive areas, where practicable.	Site Supervisor
	Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.	Site Supervisor
	Truck movements will be kept to a minimum, i.e. trucks are fully loaded on each trip.	Site Supervisor
Screening	Where possible, install purpose-built screening or enclosures around long-term fixed plant that has the potential to impact nearby receivers	Site Supervisor

	Site layout should take advantage of existing screening from local topography, where possible. Position site huts, maintenance sheds and/or shipping containers between noisy equipment and the affected receivers.	Site Supervisor
Community Consultation	Notifications will be provided to the affected community where high impacts are anticipated or where out of hours works are required, in accordance with the CEMP. Notification will be a minimum of 24 hours.	Community Consultation Manager
	Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts	Project Manager
Monitoring	Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.	Project Manager
Vibration	If vibration generating works are required within the minimum cosmetic damage working distances and considered likely to exceed the criteria: <ul style="list-style-type: none"> • Different construction methods with lower source vibration levels will be investigated and implemented, where feasible • Attended vibration measurements will be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria. 	Project Manager/ Site Supervisor
	Where works are required within the cosmetic damage minimum working distances, building condition surveys will be completed before and after the works to ensure no cosmetic damage has occurred.	Project Manager
Heritage		
Unexpected Finds	If human skeletal remains are found on the site please follow the Unexpected Finds procedure for Discovery of Possible Human Skeletal Remains as per Appendix 2 of the Aboriginal and Cultural Heritage Management Plan	Site Supervisor Project Manager
	If potential Aboriginal heritage items are found on the site please follow the Unexpected Finds procedure for Aboriginal Heritage as per Appendix 3 of the Aboriginal and Cultural Heritage Management Plan	Site Supervisor Project Manager
	If any Aboriginal object or Aboriginal place is identified on site, or suspected to be on site: (a) all work in the immediate vicinity of the object or place must cease immediately;	Site Supervisor Project Manager

	(b) a 10 m buffer area around the object or place must be cordoned off; and (c) OEH must be contacted immediately.	
	Work in the immediate vicinity of the Aboriginal item or object may only recommence in accordance with the provisions of Part 6 of the National Parks and Wildlife Act 1974.	Site Supervisor Project Manager

Annexure C - Erosion and Sedimentation Plan

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NOTES TO SOIL AND WATER MANAGEMENT

ESC STAGING FOR REMEDIATION WORKS

1. UNDERTAKE DEMOLITION WORKS IN ADVANCE OF REMEDIATION WORKS
2. SURVEY AND MARK OUT EXTENT OF AOCs AS PER THE REMEDIATION ACTION PLAN.
3. CONFIRM AND SET OUT ACCESS TO AOC. USE EXISTING FARM TRAILS WHERE AVAILABLE
4. OTHER SURFACES MAY BE IMPROVED AND CONSTRUCTED PER MANAGING URBAN STORMWATER V2C.
5. SET OUT ALIGNMENT AND CONSTRUCT CLEAN WATER DIVERSIONS ABOVE VARIOUS AOC.
6. DIVERSIONS ARE TO BE OFFSET 5M+ OUTSIDE CONFIRMED EXTENT OF AOC AND AT A MIN 1% FALL.
7. THE CLEAN WATER DIVERSION IS TO BE BACK PUSH BANK OF NATURAL AND NON-CONTAMINATED TOPSOIL MATERIAL MIN 500MM HIGH OR A SHAPED SWALE AND BERM PER SD 5.5 - SEED AND TRACK WALK SWALE TO COMPACT AND INCLUDE CHECK DAMS OF SD 5-4
8. ENSURE DIVERSIONS OUTLET TO STABLE SURFACE AND FLOW AWAY FROM OTHER AOC
9. PROVIDE CONSTRUCTION CULVERTS OR SIMILAR CROSSINGS WHERE DIVERSIONS INTERCEPT ACCESS
10. SET OUT ALIGNMENT AND CONSTRUCT SEDIMENT CONTROL BERMS BELOW AOC. INCLUDE SEDIMENT FENCE OF SET 1M BELOW ALIGNMENT OF LOWER SEDIMENT CONTROL BERM. SEDIMENT CONTROL BERM TO BE CONSTRUCTED PER RETICULATED BERM DETAIL SHEET 0002. INCLUDE GEOTEXTILE SPILLWAY OR PIPE OUTLET PER DETAIL.
11. INCLUDE EXCAVATION SUMP ABOVE LOWER BERM TO INCREASE SEDIMENT CONTROL IF REQUIRED.
12. SEE BASIN SIZING THIS SHEET FOR RECOMMENDED MINIMUM CAPACITY PER HA OF ENCLOSED WORKS
13. UNDERTAKE REMEDIATION OF AOC IN ACCORDANCE WITH RAP
14. WHERE PRACTICAL UNDERTAKE REMEDIATION AT AOC WITH CONSIDERATION OF ACCESS REQUIREMENTS

AT COMPLETION OF REMEDIATION WORKS

- MAINTAIN CLEAN WATER DIVERSIONS
- REMOVE LOWER SEDIMENT CONTROL AS IT IS COMPRISED OF CONTAMINATED MATERIAL
- RETAIN LOWER SEDIMENT FENCE IN PLACE UNTIL ESTATE SEDIMENT CONTROLS HAVE BEEN BUILT

SEPARATION OF WATERS

1. WATER FROM EXTERNAL CATCHMENTS MANAGED BY UPSLOPE DIVERSIONS
2. LOWER CONTROL BERMS DETAIN WATER FROM AOC.

EROSION CONTROL

1. NIL DISTURBANCE OUTSIDE DEFINED LIMIT OF WORKS AREA. LIMIT DISTURBANCE OUTSIDE LIMIT OF SEDIMENT CONTROLS
2. KEEP WORK SURFACES TRACH WALKED AND COMPACTED
3. INSTALL RUBBLE CHECK DAMS IF REQUIRED IN SWALES TO CONTROL EROSION

SEDIMENT CONTROL

1. RETICULATED BERM OF SITE MATERIAL PROVIDES SEDIMENT CONTROL FOR AOC
2. SEDIMENT FENCE SET OUTSIDE LOWER SEDIMENT CONTROL BERM PROVIDES CONTROL FOR LOWER RETICULATED BERM
3. STABLE SITE ENTRANCE AT ACCESS POINTS
4. STREET SWEEPER TO BE USED AS REQUIRED TO CLEAR SEDIMENT FROM ROAD WAYS LEADING FROM THE SITE

GENERAL STOCKPILES

1. STOCKPILE MATERIALS ONLY AT DESIGNATED STOCKPILE AREAS – TBC ON SITE SHAPE AND SMOOTH STOCKPILES AS FORMED
2. CONTAMINATED MATERIALS STOCKPILES TO BE LOCATED ONLY WITHIN AOC AREAS AND MANAGED IN ACCORDANCE WITH THE RAP
3. STABILISE STOCKPILES NOT WORKED FOR >20 DAYS
4. USE WATER CART FOR DUST SUPPRESSION OR COVER CONTAMINATED MATERIAL WITH GEOTEXTILE SECURED WITH SANDBAGS OR WEIGHTS

MONITORING AND REVIEW

1. APPROXIMATE LOCATION OF CONTROLS ONLY – LOCATION TO BE CONFIRMED BY SITE PERSONNEL
2. THIS ESCP IS AN ACTIVE DOCUMENT REVIEW AND AMEND AS REQUIRED
3. CONTROLS TO BE INSPECTED AS PART OF REGULAR SITE ENVIRONMENTAL INSPECTIONS AND REPORTING AND MAINTAINED AS REQUIRED
4. ADDITIONAL INSPECTIONS OF CONTROLS TO BE CARRIED OUT PRIOR AND FOLLOWING EXTENDED SHUT DOWN & FOLLOWING RAINFALLS EVENT >10MM

DEWATERING

1. DEWATERING PER NOTES THIS SHEET (SEE TABLE 20: DEWATERING CONTROL PLAN) &
2. NOTES FOR TREATMENT OF CONSTRUCTION SITE DETAINED WATERS.

CONSTRUCTION SITE DEWATERING ACTIVITIES

- FOR DEWATERING OF SEDIMENTATION CONTROLS, EXCAVATIONS, CULVERT AND DRAINAGE CONSTRUCTIONS & LOW ROAD FORMATIONS.
- CONCRETE WASH OR WASTE WATER NOT TO BE DISCHARGED TO SEDIMENT BASINS FOR TREATMENT.
- CONCRETE WASH/ WASTE WATER TO BE STORED IN DESIGNATED CONCRETE WASH BAY

1. **FIRST ASSESS OPPORTUNITIES FOR RE USE OF SITE (E.G. FOR COMPACTION, DUST SUPPRESSION)**
2. **UTILISE DEWATERING CHECKLIST TO RECORD TESTING AND TREATMENT OF DETAINED WATERS**
3. **ASSESS WATER SAMPLING AND TESTING REQUIREMENTS**

WATER QUALITY SAMPLING AND TESTING MAY INCLUDE

- SAMPLE COLLECTION AND LABORATORY TESTING OR
- INSITU FIELD ASSESSMENT. FIELD ASSESSMENT CAN BE WITH CALIBRATED COMPARISON SAMPLES, TURBIDITY TUBES, AND PORTABLE PROBE ANALYSIS.
- ALL PERSONS UNDERTAKING TESTING WILL BE TRAINED IN CORRECT METHODOLOGY AND USED OF EQUIPMENT

4. **WATER QUALITY TREATMENT PRIOR TO DISCHARGE.**

A) TREAT WITH FINE GYPSUM AT AN INITIAL RATE OF ~30-50KG/100M3 OF DETAINED WATER (OR OTHER APPROVED FLOCCULENT) – SEE FIGURE BELOW.

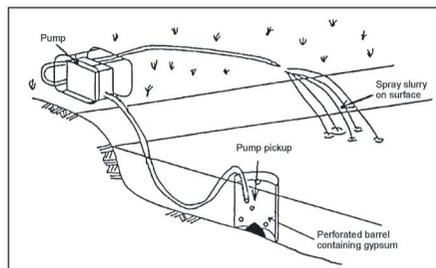


Figure E1. Application of gypsum

B) PH ADJUSTMENT USING A BASE SUCH AS HYDRATED LIME (FOR ACIDIC WATERS) AND INVERSELY AN ACID SUCH AS HYDROCHLORIC ACID (FOR ALKALINE WATERS).

C) TEST AND REPEAT REQUIRED TREATMENTS WQ NOMINATED WITHIN PROJECT ENVIRONMENT PROTECTION LICENSE OR OTHERWISE:

- TOTAL SUSPENDED SOLIDS 50MG/L
- PH 6.5 – 8.5
- NO VISIBLE OIL AN GREASE

5. **CONSIDERATIONS DURING DEWATERING**

- CONSULT WITH ESTATE BASIN MANAGERS PRIOR TO EACH DEWATERING ACTIVITY
- ALL DEWATERING ACTIVITIES WILL BE INSPECTED AND MONITORED BY INDUCED AND COMPETENT PERSONNEL.
- PRIOR TO DEWATERING ACTIVITY THE INTAKE AND OUTLET, PUMP, AND DISCHARGE LOCATION WILL BE INSPECTED.
- DEWATERING ACTIVITIES WILL BE DIRECTLY SUPERVISED FOR THE ENTIRE DURATION
- AVOID PUMP INLET FALLING TO THE LEVEL OF DEPOSITED SEDIMENT,
- OUTLET TO STABLE SURFACE AND NOT CAUSE SCOUR OR FURTHER EROSION TO RECEIVING LOCATION
- DO NOT DISCHARGE DIRECTLY TO WATERWAYS OR STORMWATER

6. **RECORD KEEPING**

- RECORDS MUST BE KEPT ONSITE OF ALL SAMPLES/TESTING ACTIVITIES.
- RECORDS MUST BE KEPT ONSITE OF ALL DISCHARGES.
- SEE WATER QUALITY /DEWATERING CHECKLIST IN SWMP AS RECORD OF DEWATERING ACTIVITIES

ESC AS PROVIDED IN THE REMEDIAL ACTION PLAN – LIGHT HORSE INTERCHANGE BUSINESS PARK, EASTERN CREEK (WSP OCT 21)

DUST TO BE MANAGED IN ACCORDANCE WITH BEST PRACTICE AND SEC 11.2 OF THE RAP

GENERALLY;

- ONGOING VISUAL MONITORING DURING REMEDIATION WORKS
- DUST SUPPRESSION AS PART OF THE ASBESTOS CONTROLS WHERE ACM IS EXPOSED / DISTURBED
- DUST SUPPRESSION WILL BE VIA MISTING WATER SPRAY
- ANY STOCKPILED MATERIAL WILL BE COVERED WETTED TO MINIMISE DUST GENERATION.
- TRUCKS USED FOR TRANSPORTATION WILL HAVE WHEELS CLEANED OR DRIVEN THROUGH A WHEEL WASH OR SIMILAR CONTROL.

EROSION AND SEDIMENT CONTROL TO BE IMPLEMENTED PER BEST PRACTICE AND SEC 11.5 OF THE RAP

GENERALLY

- SOIL STOCKPILED DURING EXCAVATION SHOULD BE SUITABLY CONTAINED TO PREVENT RUN OFF OF POTENTIALLY CONTAMINATED WATER
- CONTROL MEASURES TO BE USED TO PREVENT SURFACE WATER ENTERING AND LEAVING THE EXCAVATION AND STOCKPILE AREAS. CONTROL MEASURES INCLUDED
- IMPERMEABLE MEMBRANES PLACED UNDER AND OVER STOCKPILES
- WASTE MATERIAL PLACED DIRECTLY INTO BINS
- SEDIMENT FENCE SURROUNDING STOCKPILES
- PROTECTION OF EXISTING DRAINS WITH SEDIMENT FENCE AND SANDBAGS
- DIVERSION OF UP-GRADIENT SURFACE WATER AROUND EXPOSED WORKS AND STOCKPILES
- MITIGATION MEASURES TO BE REGULARLY INSPECTED TO ENSURE THAT THEY ARE IN GOOD CONDITION AND MAINTAINED WHERE REQUIRED.

PLANT AND EQUIPMENT HYGIENE TO BE IN ACCORDANCE WITH CEMP AND SEC 11.6 OF THE RAP

GENERALLY;

- PLANT AND EQUIPMENT WILL BE WASHED AND DECONTAMINATED PRIOR TO LEAVING THE SITE
- IF NECESSARY ADDITIONAL WHEEL WASHING FACILITIES WILL BE PROVIDED TO ENSURE CONTAMINATED MATERIAL IS NOT TRACKED OFF-SITE
- WHERE POSSIBLE VEHICLE MOVEMENT SHOULD BE LIMITED TO THE WORK SITE AND MINIMISE TRACKING OF MATERIAL OUT OF THE WORKS AREA
- NO TRUCKS OR EQUIPMENT CARRYING CONTAMINATED SOILS SHOULD BE ALLOWED TO MOVE ACROSS UNSEALED GROUND SURFACES WITH THE EXCEPTION OF DESIGNATED TRANSPORT CORRIDORS.

CONTINGENCY MANAGEMENT TO BE IN ACCORDANCE WITH 11.12 OF THE RAP

ASSESSMENT OF EROSION RISK (SOIL LOSS - REVISED UNIVERSAL SOIL LOSS EQUATION)

SOIL LOSS CALCULATION (RUSLE)				
R = 2500	K=0.06*	LS = 0.5**	C= 1.0	P= 1.3
GIVES: SOIL LOSS AT 98 TONNES /HA (VERY LOW)				
STORAGE VOLUME = 75 M3/HA/YR AT 1.3 T/M3				
BASIN SIZING PER HA:				
2 MONTH STORAGE VOLUME =75/6= 12.5 M3/HA				
SETTLING ZONE:	CV=0.6 (DEFAULT)	R(80%/5 DAY) =24.6***		
GIVES SETTLING ZONE REQUIRED OF 147 M3/HA				
TOTAL VOLUME OF BASIN REQUIRED APPROX =160 M3/HA				
ADOPT VALUE – 200 M3/HA				
* K- ASSUMED DEFAULT – MODERATE TO HIGH				
**LS – VALUE EQUIVALENT TO 60M AT 5%				
***R – BLACKTOWN				



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SHEETS IN THIS PLAN SET

1. GENERAL ARRANGMENT (SHEET 1001)
2. NOTES AND DETAILS TO ESC (SHEET 0001)
3. NOTES AND DETAILS TO ESC (SHEET 0002)

CLIENT BASE PLAN:NA

CLIENT

AWJ

DRAWN

CV

CREATED

OCT 2021

2 OF 3

21024

SHEET

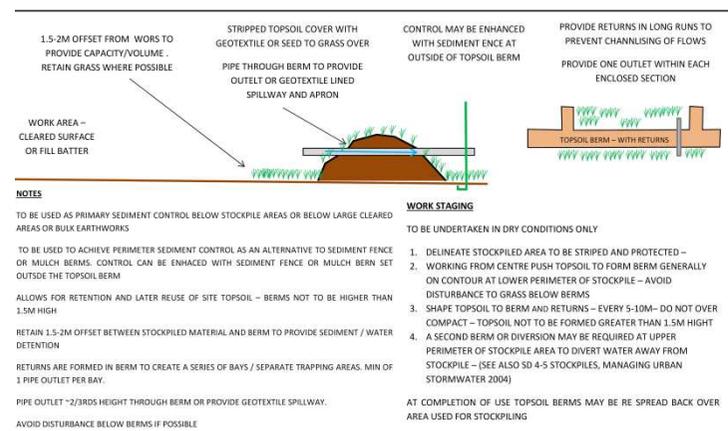
ERSED REF

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLAN

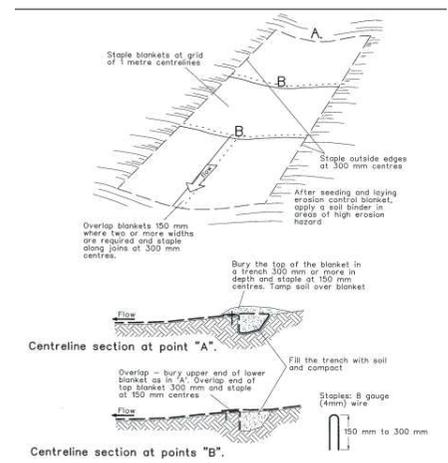
LIGHT HORSE INTERCHANGE BUSINESS HUB – SITE REMEDIATION WORKS
EROSION AND SEDIMENT CONTROL PLAN: NOTES AND DETAILS TO ESC

ESC EW 0001 1 25/10/21

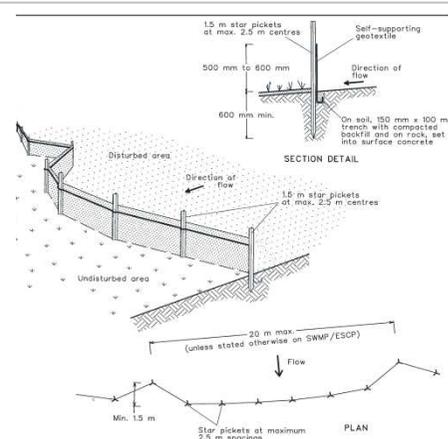
PLAN PREFIX SHEET NUMBER AMDT DATE



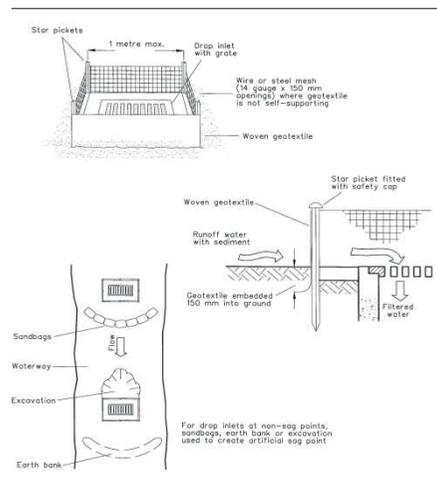
TOPSOIL BERM AND PIPE SEDIMENT CONTROL "RETICULATED BERM")



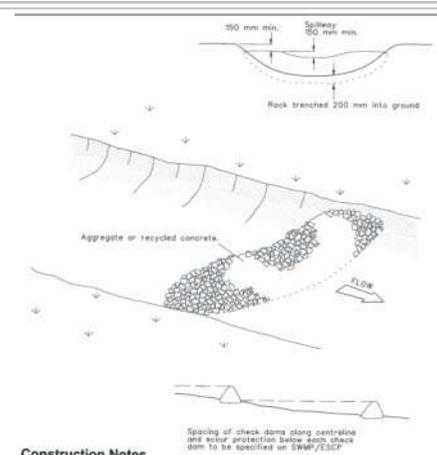
RECP : CONCENTRATED FLOW SD 5-7



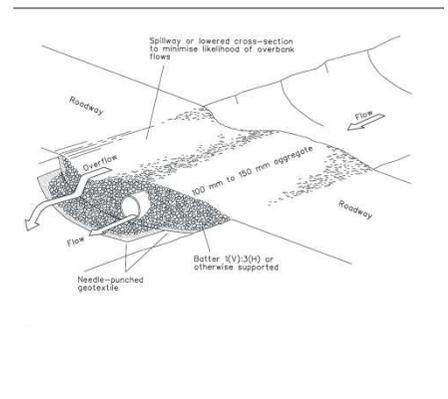
SEDIMENT FENCE SD 6-8



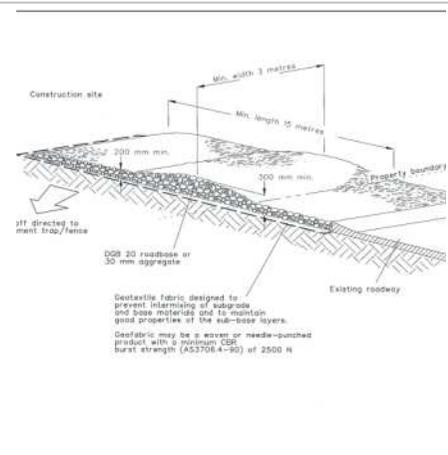
GEOTEXTILE INLET FILTER SD 6-12



ROCK CHECK DAM SD 5-



TEMPORARY WATERWAY CROSSING SD 5-



STABILISED SITE ACCESS SD 6-1



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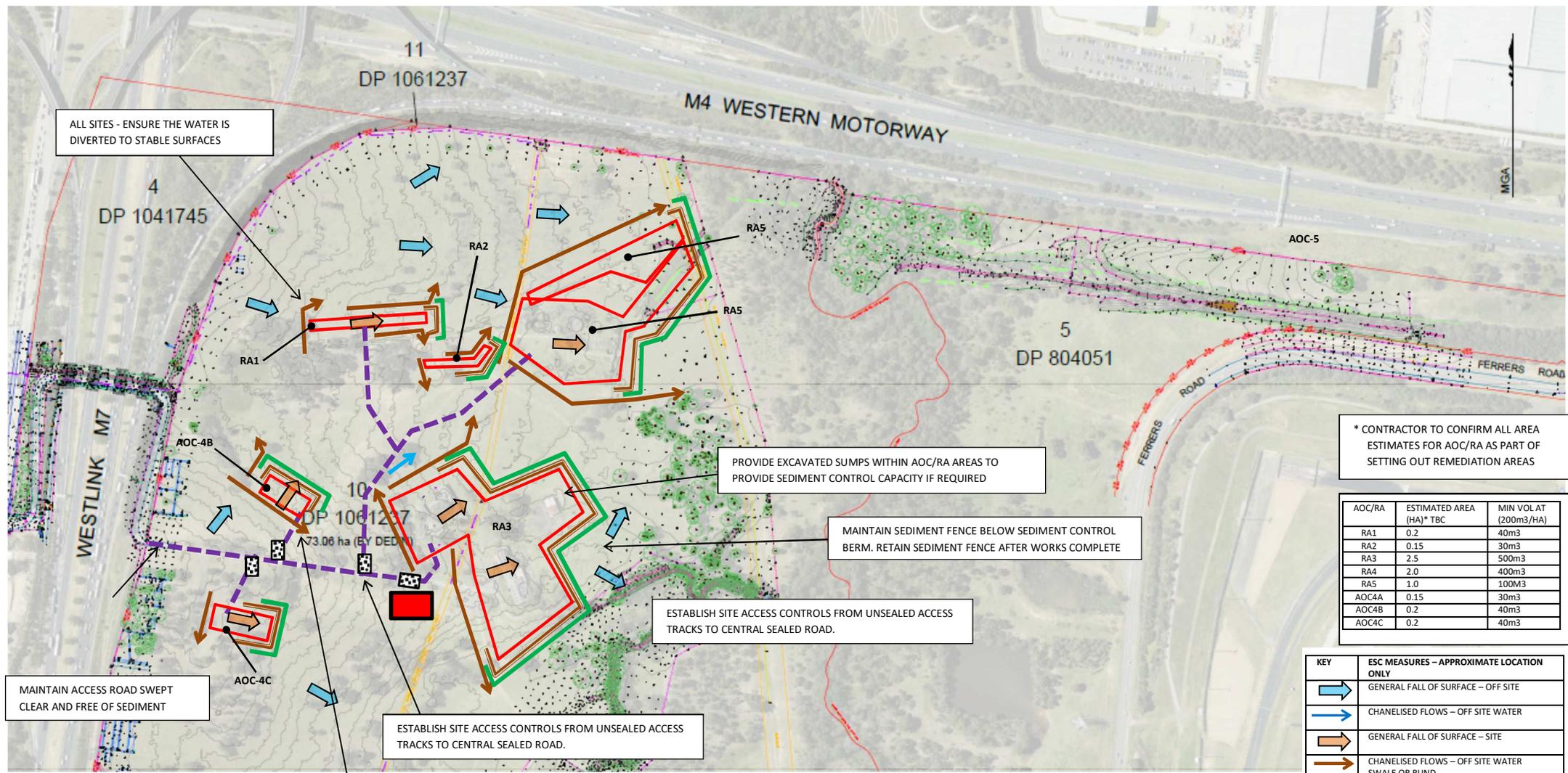
SHEETS IN THIS PLAN SET

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2. NOTES AND DETAILS TO ESC (SHEET 0001)
3. NOTES AND DETAILS TO ESC (SHEET 0002)

CLIENT BASE PLAN:NA

CLIENT	AWJ
DRAWN	CV
CREATED	OCT 2021
3 OF 3	21024
SHEET	ERSED REF

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLAN						
LIGHT HORSE INTERCHANGE BUSINESS HUB – SITE REMEDIATION WORKS EROSION AND SEDIMENT CONTROL PLAN: NOTES AND DETAILS TO ESC						
PLAN	EW	0002	0	18/10/21		
PREFIX	SHEET NUMBER	AMDT	DATE			



ALL SITES - ENSURE THE WATER IS DIVERTED TO STABLE SURFACES

PROVIDE EXCAVATED SUMPS WITHIN AOC/RA AREAS TO PROVIDE SEDIMENT CONTROL CAPACITY IF REQUIRED

MAINTAIN SEDIMENT FENCE BELOW SEDIMENT CONTROL BERM. RETAIN SEDIMENT FENCE AFTER WORKS COMPLETE

ESTABLISH SITE ACCESS CONTROLS FROM UNSEALED ACCESS TRACKS TO CENTRAL SEALED ROAD.

MAINTAIN ACCESS ROAD SWEEP CLEAR AND FREE OF SEDIMENT

ESTABLISH SITE ACCESS CONTROLS FROM UNSEALED ACCESS TRACKS TO CENTRAL SEALED ROAD.

STOCKPILE WASTE WITHIN EXISTING RA OR AOC - MAINTAIN STOCKPILES WITHIN EXISTING CONTROLS FOR CONTAMINATED AREAS

ALL ACCESS AREAS PROVIDE CONSTRUCTION SITE CULVERT WHERE REQUIRED TO CROSS DIVERSION BERMS/SWALES

STAGE WORKS WITH CONSIDERATION TO WORKS AND ACCESS IN AREAS BELOW

SEE STAGING NOTES SHEET 0001

* CONTRACTOR TO CONFIRM ALL AREA ESTIMATES FOR AOC/RA AS PART OF SETTING OUT REMEDIATION AREAS

AOC/RA	ESTIMATED AREA (HA)* TBC	MIN VOL AT (200m3/HA)
RA1	0.2	40m3
RA2	0.15	30m3
RA3	2.5	500m3
RA4	2.0	400m3
RA5	1.0	100m3
AOC4A	0.15	30m3
AOC4B	0.2	40m3
AOC4C	0.2	40m3

KEY	ESC MEASURES - APPROXIMATE LOCATION ONLY
	GENERAL FALL OF SURFACE - OFF SITE
	CHANELISED FLOWS - OFF SITE WATER
	GENERAL FALL OF SURFACE - SITE
	CHANELISED FLOWS - OFF SITE WATER SWALE OR BUND
	SEDIMENT CONTROL BERM - SEE DETAIL
	GRAVEL OR SANDBAG CHECK DAM / SMALL SEDIMENT TRAP
	TYPE 3 SEDIMENT CONTROL - SEDIMENT FENCE PER SD 6-8
	ASSUMED ACCESS ROUTES - ALIGNMENT TO BE CONFIRMED
	AREA OF CONCERN - AOC - CONFIRM LOCATION & EXTENT PER RAP
	STABLE SITE ACCESS CONTROL PER SD 6-14
	SUGGESTED LOCATION OF ACM BINS AND OTHER WASTE BINS - MANAGE PER WMP



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- SHEETS IN THIS PLAN SET
1. SITE REMEDIATION WORKS: GENERAL ARRANGMENT (SHEET 1001)
 2. SITE REMEDIATION WORKS: NOTES AND DETAILS TO ESC (SHEET 0001)
 3. SITE REMEDIATION WORKS: NOTES AND DETAILS TO ESC (SHEET 0002)

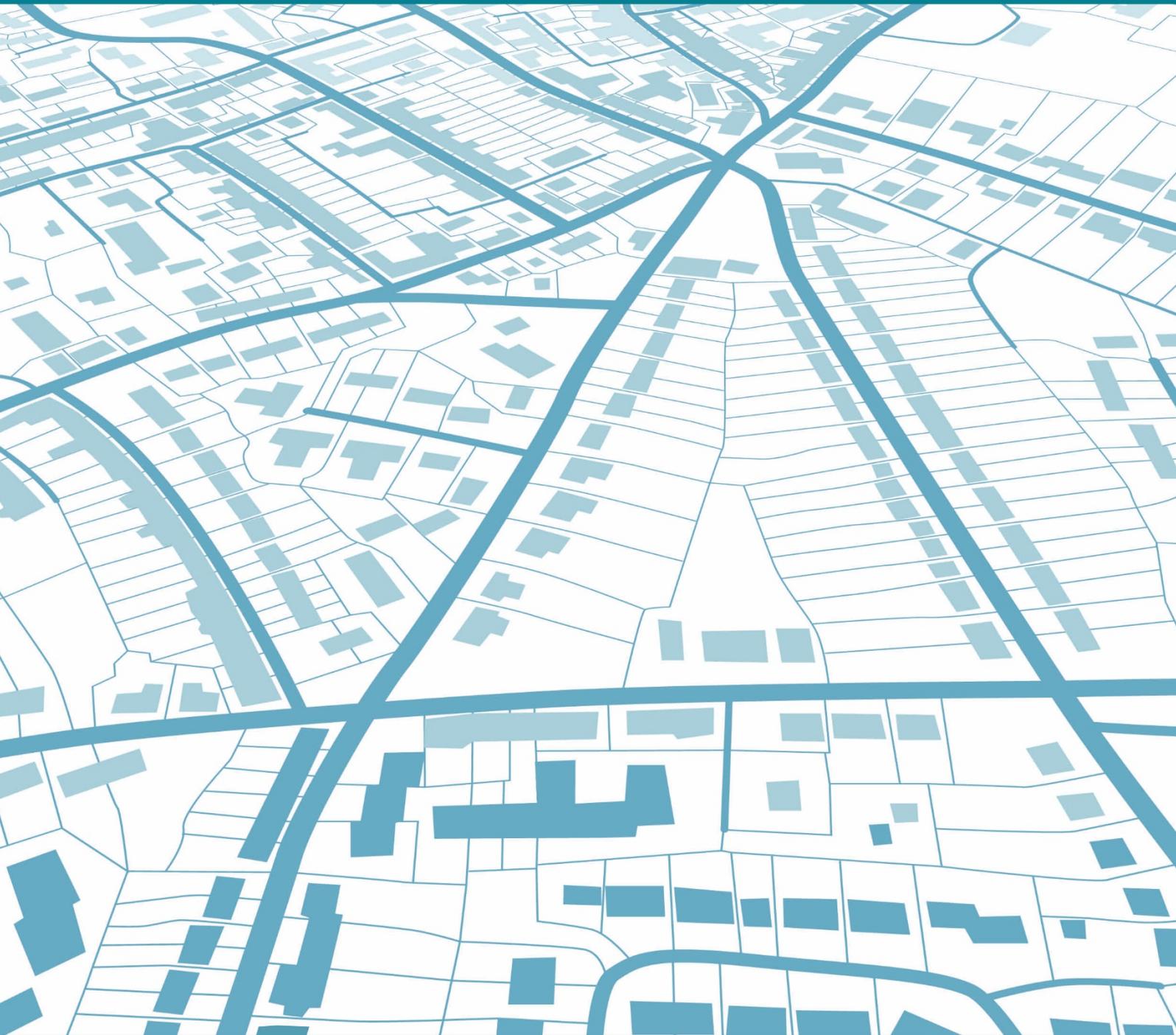
CLIENT	AWJ
DRAWN	CV
CREATED	OCT 2021
1 OF 3	21024
SHEET	ERSED REF

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLAN				
LIGHT HORSE INTERCHANGE BUSINESS HUB - SITE REMEDIATION WORKS				
EROSION AND SEDIMENT CONTROL PLAN: NOTES AND DETAILS TO ESC				
ESC	EW	1001	1	25/10/21
PLAN	PREFIX	SHEET NUMBER	AMDT	DATE

CLIENT BASE PLAN:BOXALL SURVEY 10568-005

Annexure D - Construction Traffic Management Plan

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Light Horse Business Hub, Eastern Creek Site Remediation Process

Construction Traffic Management Plan

Ref: 21077 (a)
Date: November 2021
Rev: D

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- Appendix C Traffic Control Plan

1.0 Introduction

Consent (SSD-9667) has been granted for the Concept Proposal and Stage 1 Works for development of the Light Horse Interchange Business Hub (LHBH) on the site known as 165 Wallgrove Road and 475 Ferres Road, Eastern Creek (Figure 1).

The DPIE has issued SEARS for the proposed development and these include the following in relation to Traffic, Access and Parking together with the summarised responses:

SEARs	Summary Response	CTMP Section
Traffic and Access Construction Traffic Management Plan		
B1. <i>Prior to the commencement of construction, the Applicant must prepare a Construction Traffic Management Plan for the Stage 1 development to the satisfaction of the Planning Secretary. The plan must form part of the CEMP required by condition C2 and must:</i>		
- <i>be prepared by a suitably qualified and experienced person(s);</i>	<i>This CTMP was prepared by Ross Nettle, a Director of TTPA. The TCP was prepared by Ronak Fendhi TCT0063633</i>	<i>N.A.</i>
- <i>be prepared in consultation with Council and TfNSW;</i>	<i>Blacktown Council & TfNSW have endorsed the CTMP</i>	<i>Refer to Section 8.0</i>
- <i>detail the measures that are to be implemented to ensure road safety and network efficiency during construction;</i>	<i>Right turn movements for heavy vehicles are to be prohibited at the access on Wallgrove Road</i>	<i>Refer to Section 4.2</i>
- <i>detail heavy vehicle routes, access and parking arrangements;</i>	<i>Trucks routes have been designated and location of parking identified</i>	<i>Refer to Section 4.3 & 4.4</i>
- <i>include a Driver Code of Conduct to:</i>	<i>Provided</i>	<i>Refer to Section 6.0</i>
<i>i. minimise the impacts of earthworks and construction on the local and regional road networks;</i>	<i>Vehicle access and truck routes are essentially limited to State Roads</i>	<i>Refer to Section 4.3</i>
<i>ii. minimise conflicts with other road users;</i>	<i>The site generated movements will be very minor and truck access limited to left turn IN/OUT</i>	<i>Refer to Section 4.2</i>
<i>iii. minimise road traffic noise; and</i>	<i>For others</i>	
<i>iv. ensure truck drivers use specified routes;</i>	<i>Included</i>	<i>Refer to Section 6.2</i>
- <i>include a program to monitor the effectiveness of these measures; and</i>	<i>Included</i>	<i>Refer to Section 7.0</i>
<i>if necessary, detail procedures for notifying residents and the community (including local schools), of any potential disruptions to routes.</i>	<i>Included</i>	<i>Refer to Section 7.3</i>

	SEARs	Summary Response	CTMP Section
	Environmental Management		
	Management Plan Requirements		
C1	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:	Baseline data provided	Refer to Section 3.0
	(a) detailed baseline data;		
	(b) details of:	The TCP is prepared in accordance with	
	i. the relevant statutory requirements (including any relevant approval, licence or lease conditions);	AS1742.3	
	ii. any relevant limits or performance measures and criteria; and	Included	Refer to Section 7.2
	iii. the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Included	Refer to Section 7.2
	(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;	Included	Refer to Section 7.2
	(d) a program to monitor and report on the:	The plan outlines requirements for this	Refer to Section
	i. impacts and environmental performance of the development; and	plan to be updated	7.0
	ii. effectiveness of the management measures set out pursuant to paragraph (c) above;	Included	Refer to Section 7.0
	(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Included	Refer to Section 7.2
	(f) a program to investigate and implement ways to improve the environmental performance of the development over time;	The plan outlines the requirement for this	Refer to Section
		plan to be updated	7.0
	(g) a protocol for managing and reporting any:	Management and reporting protocols are	-
	i. incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria);	outlined in the CEMP	
	ii. compliant;	Included	Refer to Section 7.0

Transport and Traffic Planning Associates

<i>iii. failure to comply with statutory requirements; and</i>	<i>Included</i>	<i>Refer to Section 7.0</i>
<i>(h) a protocol for periodic review of the plan.</i>	<i>Included</i>	<i>Refer to Section 7.0</i>

Note: *the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans*

This Construction Traffic Management Plan has been prepared in relation to the Site Remediation process. It will be the initial process for development of the site and no other processes are permitted to commence until the Remediation process has been completed. Separate CTMP's will be prepared for the Site Preparation Work and the Road Construction Work for the project.



LEGEND



LOCATION

FIG 1

2.0 Proposed Development Scheme

2.1 Site, Context and Existing Circumstances

The site (Figure 2) is Part Lot 10 in DP 1061237 and Part Lot 5 in DP 804051, being portion of the Western Sydney Parklands landholding at Eastern Creek. The site occupies an area of 34.4ha located on the south-east corner of the M4 Motorway and M7 Motorway intersection known as the “Light Horse Interchange”.

The site is bound to the north by the M4 Motorway and to the west by the M7 Motorway while the surrounding uses comprise:

- Western Sydney Parklands and the Huntingwood/Bungarribee Industrial Estates extending to the north
- Western Sydney Parklands and the Eastern Creek Waste Management Centre extending to the south
- Sydney Motor Sport Park and International Dragway to the east
- The Interchange/Wonderland Business Parks to the west of Wallgrove Road

The site is relatively “low lying” with Eastern Creek running through the eastern part and its tributaries including Reedy Creek running through the central part.

The site is largely grassland with scattered areas of shrubs and trees with a number of dams. There is a small group of vacant buildings in the central part with the only vehicle access being provided by an access track connecting under the M7 to Wallgrove Road where the intersection is provided with a right turn bay for vehicles approaching from the south and a left turn deceleration lane for vehicles approaching from the north.

The access also provides for vehicles to ingress and egress a materials storage depot for the M7 Motorway which extends southerly along the narrow strip between Wallgrove Road and the M7 (see details overleaf).



SITE

LEGEND



SITE

FIG 2



2.2 Concept Development

The Concept Plan approval, which was granted in March 2020, provided for:

- ❖ a total of 157,600m² warehouse etc. floorspace and 7,900m² ancillary office floorspace (total building area 165,500m²)
- ❖ a new access intersection on Ferres Road with an emergency access (existing connection) on Wallgrove Road
- ❖ a cul-de-sac access road within the site
- ❖ a Shared Path link across the M7 Motorway and Wallgrove Road connecting to the existing shared path along the M7 corridor
- ❖ Site works including:
 - Demolition of existing structures;
 - Remediation of the site;
 - Site preparation and bulk earthworks;
 - Installation of essential infrastructure services;
 - Flood and stormwater management infrastructure works; and
 - Subdivision of the site into 11 Torrens title lots, including seven future development lots and four lots comprising the stormwater detention basin, access road reserve and residual land to remain within Western Sydney Parklands.

Details of the proposed development are provided on the Concept Plan prepared by Nettleton Tribe Architects which is reproduced in Appendix A.

2.3 Proposed Remediation Works

The remediation works will precede all other work on the site including demolition and details of the remediation process and requirements are provided in the Remedial Action Plan¹.

The temporary vehicle access for the remediation works will connect to the existing site access 'track' as indicated on the diagram overleaf which also shows the location of the proposed site "compound" (where worker parking will be provided) as well as the "cattle grid" for vehicle wheel cleaning.

¹ Remedial Action Plan
Light Horse Business Plan
WSP, Sept 2021



Entry From Underpass

Access to Site Compound

Cattle Grid

Site Compound

YOUR PROJECT PARTNER



REMEDIATION SITE COMPOUND

SK01- REV 1

5/10/21

3.0 Road Network and Traffic Conditions

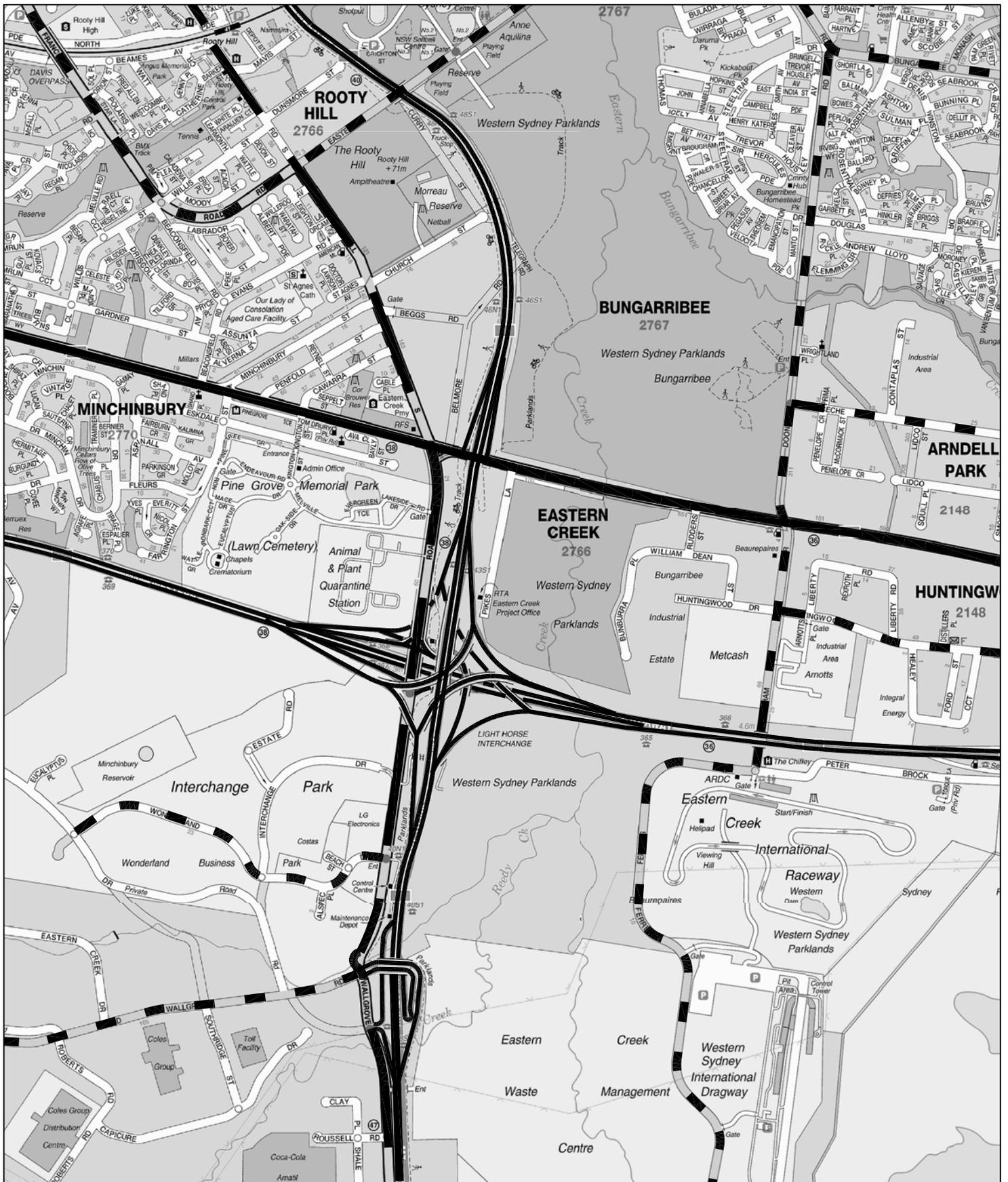
3.1 Road Network

The road network serving the site (Figure 3) comprises:

- ❖ *Westlink M7* – a State Road (private Motorway) and major arterial route connecting between the Southwest Motorway and the Hume Motorway at Prestons and the M2 Motorway at Seven Hills
- ❖ *M4 Motorway* – a State Road and major arterial route connecting between Sydney and Penrith
- ❖ *Great Western Highway* – a State Highway and arterial route connecting between Sydney, Penrith and the Blue Mountains crossing
- ❖ *Wallgrove Road* – a State Road and sub-arterial route connecting between the Great Western Highway and Elizabeth Drive
- ❖ *Ferres Road/Brabham Drive* – a collector road connecting between the Great Western Highway and The Horsley Drive

The Light Horse Interchange is formed by a complex system of ramps and connections between the M4, M7 and Wallgrove Road with further ramp connections to the south to Wallgrove Road and to Great Western Highway to the north.

Wallgrove Road has a straight and level alignment along the site frontage and comprises two lanes in each direction divided by a central median. Details of the site access road intersection are provided on the image in Section 2.1 indicating the right turn bay and left turn deceleration lane for access into the site.



LEGEND

-  **ARTERIAL**
-  **SUB-ARTERIAL**
-  **COLLECTOR**



ROAD NETWORK

FIG 3

3.2 Traffic Controls

The existing traffic controls on the road network in the vicinity of the site (Figure 4) comprise:

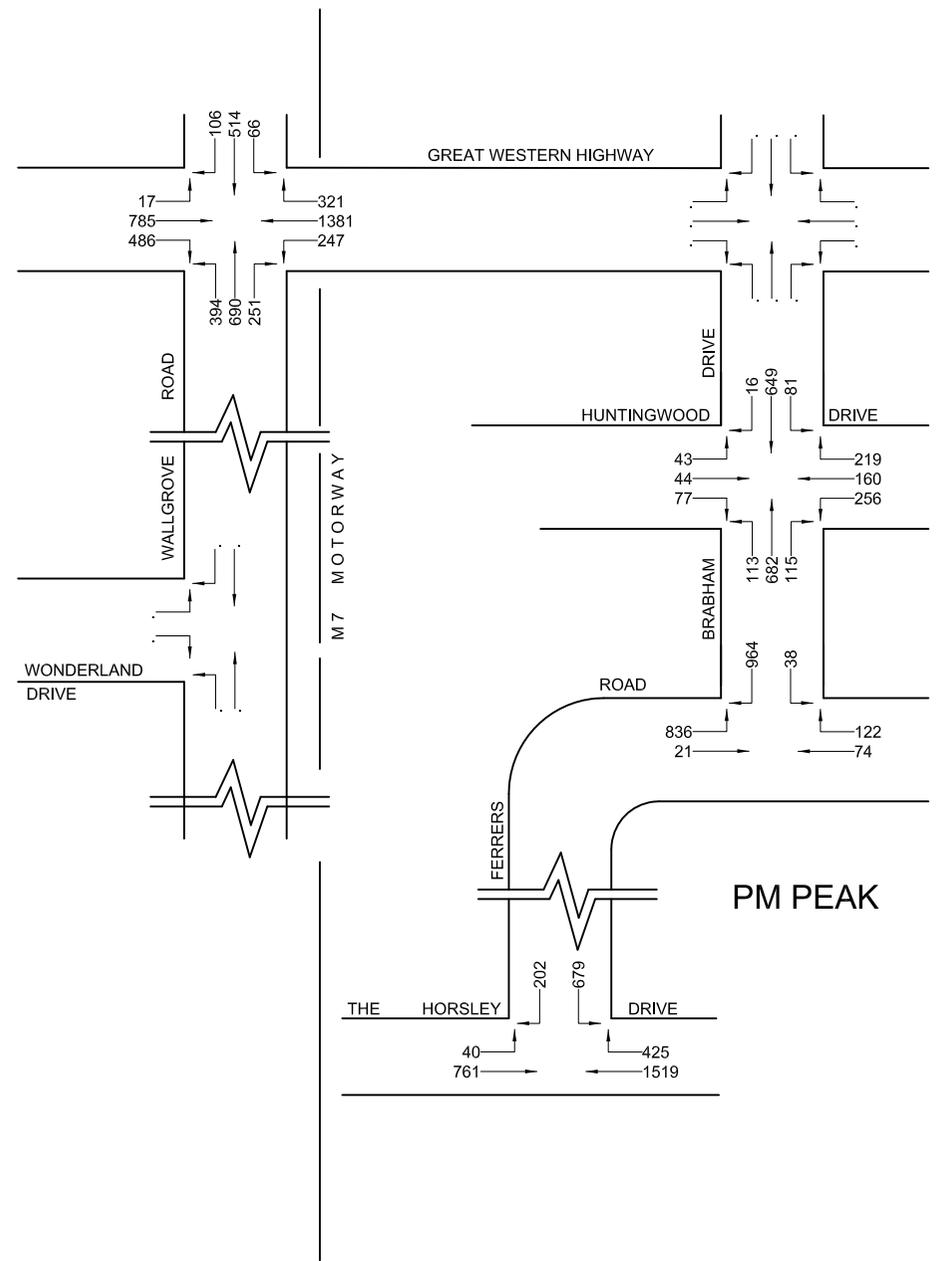
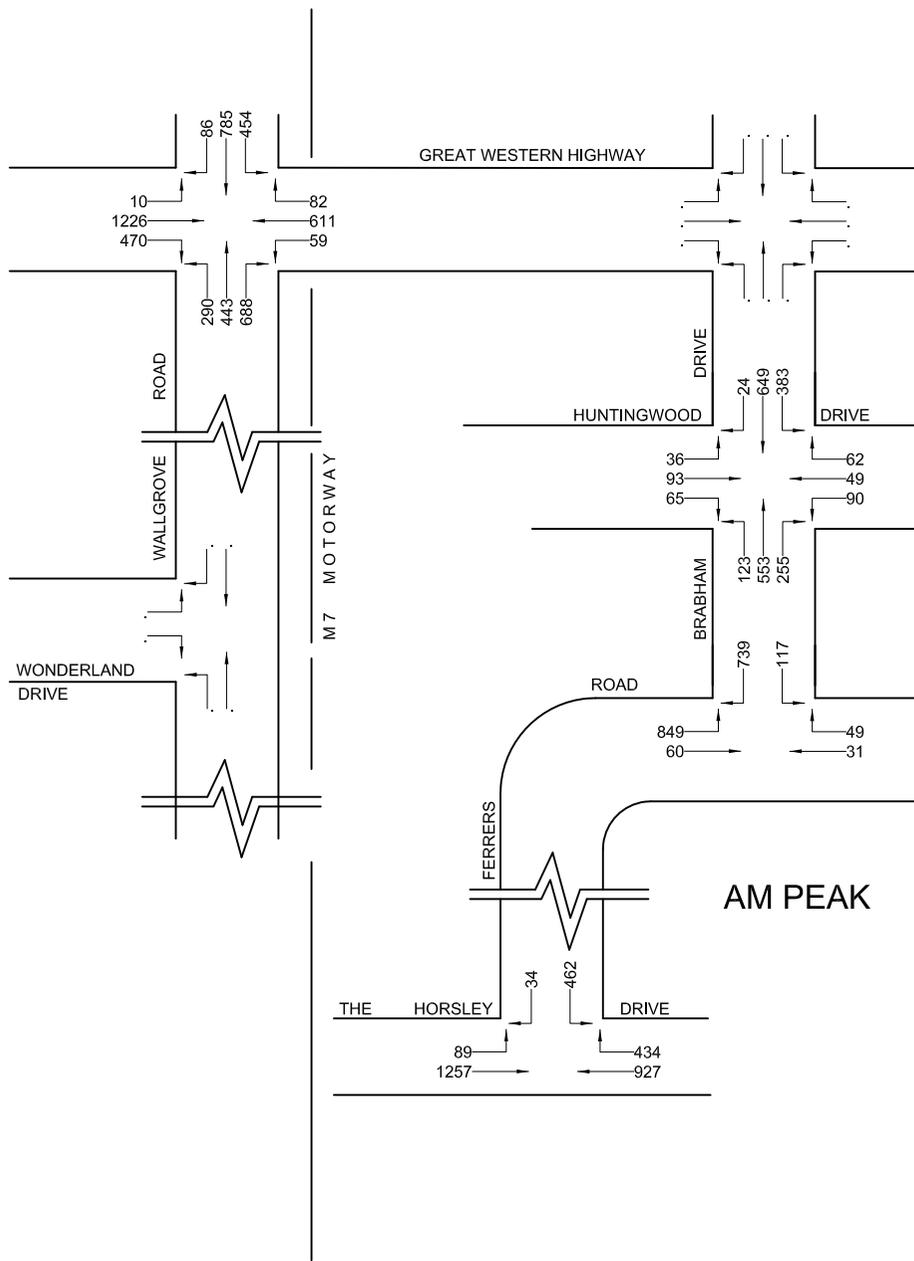
- ❖ the traffic signals at the Great Western Highway, Brabham Drive and Doonside Road intersection
- ❖ The traffic signals at the Wallgrove Road and the Great Western Highway intersection
- ❖ The traffic signals at the Wallgrove Road and M4 ramp intersection where there are two separate intersections serving the eastbound and westbound ramps
- ❖ The traffic signals at the intersection of The Horsley Drive and Ferres Road
- ❖ The roundabouts at the intersections of Brabham Drive/Huntingwood Drive and Brabham Drive/Ferres Road
- ❖ The 70 kmph speed restriction on Wallgrove Road and 60 kmph on Ferres Road

3.3 Traffic Conditions

An indication of the traffic conditions on the road system serving the site is provided by data published by TfNSW and other available data. The data published by TfNSW is expressed in terms of Annual Average Daily Traffic (AADT) and the most recent recorded volumes are provided in the following:

	AADT
Wallgrove Road North of M4 Motorway	39,904
Great Western Highway West of Wallgrove Road	31,827

Non Covid affected traffic data for the morning and afternoon peak periods at intersections serving the site as provided by TfNSW and the SSD Traffic Study is reproduced in Appendix D and summarised in the Figure 5.



LEGEND



**EXISTING PEAK
TRAFFIC VOLUMES**

FIG 5

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The operational performance of intersections has been analysed using SIDRA and the results of that assessment² are provided in the following table, while the criteria for interpreting the SIDRA output is provided overleaf.

	AM		PM	
	LOS	AVD	LOS	AVD
Great Western Highway/ Brabham/ Doonside	E	57	D	52
Great Western Highway/ Doonside	D	52	C	36
Brabham/Huntingwood	A	14	A	14
Brabham/Ferres	A	11	B	15
The Horsley/Ferres	C	38	B	20

The results indicate that these intersections currently operate satisfactorily during the morning and afternoon peak traffic periods.

3.4 Transport Services

Public transport services in the vicinity of the site are provided by the 'Busway' bus routes 723 and 738, which run along Wallgrove Road past the site and linking Mount Druitt and Rooty Hill stations. Route 724 also operates along Peter Brock Drive to the north of the site providing a link to Blacktown Railway Station.

² *Light Horse Interchange (SSD 9667)
Traffic Impact Assessment
Ason Group, May 2019*

Criteria for Interpreting Results of SIDRA Analysis

1. Level of Service (LOS)

LOS	Traffic Signals and Roundabouts	Give Way and Stop Signs
'A'	Good	Good
'B'	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
'C'	Satisfactory	Satisfactory but accident study required
'D'	Operating near capacity	Near capacity and Accident Study required
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
'F'	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below, which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabouts	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
E	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals** both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less.

4.0 Site Remediation Process

4.1 Timing

The remediation work will occur over a 6 week period with site establishment completed in Week 1 and trucked export commencing in Week 3. The demolition and site clearing processes will only proceed after the remediation process is completed.

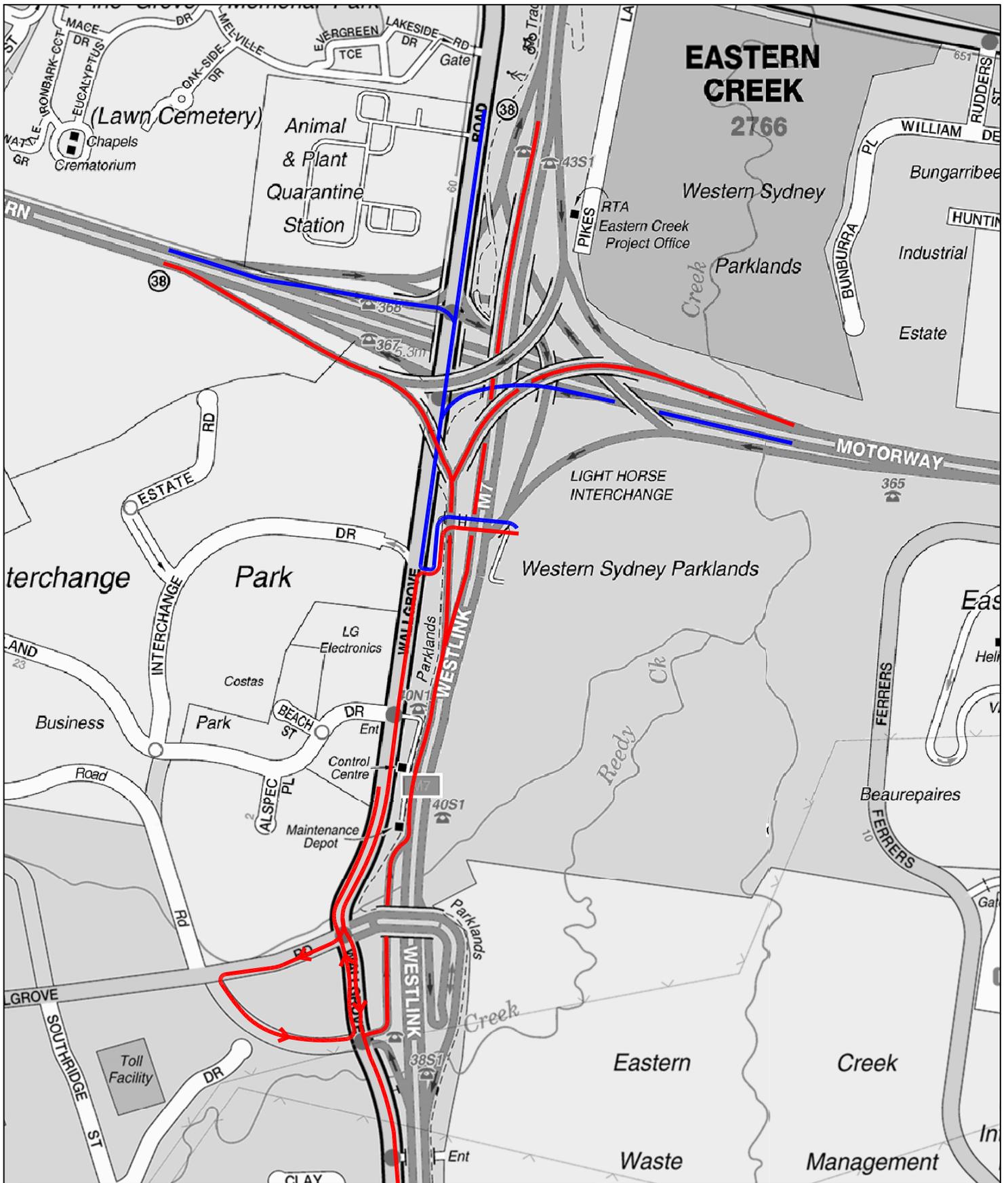
4.2 Vehicle Access

Due to the need to construct a bridge over Eastern Creek to provide the proposed access connection between the site and Ferres Road (and the prohibition of construction works prior to the completion of remediation) the only vehicle access available for the Remediation Process is the existing connection to Wallgrove Road. Details of this access intersection are provided in Section 2.1 with a right turn bay and left turn deceleration lane.

Gaps are introduced into the traffic flows along Wallgrove Road by the operation of the traffic signals to the north and south, however it would be proposed that the right turn movement out of the site be prohibited and this could be enforced by installation of temporary barriers subject to the requirements of TfNSW, Westlink M7 and TMC. The right turn movement into the site will be restricted to vehicles under 9m using normal regulatory signposting and accordingly, access for vehicles over 9m in length will be limited to left turn IN/OUT only.

4.3 Truck Routes

Due to the prohibition of right turn movements for trucks at the Wallgrove Road access and the arrangement of the interchange ramps etc, trucks will approach and depart the site as indicated on Figure 6. Trucks approaching from the south on the M7 or Wallgrove Road will be required to travel via The Horsley Drive and Ferres Road.



LEGEND

- ▬ ARRIVAL
- ▬ DEPARTURE



TRUCK ROUTES

FIG 6

4.4 Parking

Parking for workers and visitors will be provided in the Site Compound as indicated on the diagram in Section 2.2.

4.5 Vehicle Movements

The proposed vehicle visitations are as follows:

Movements	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Daily Light Vehicles	4	10	10	10	10	10
Daily Heavy Vehicles	6		2	2	15	10
Total IN/OUT (LV & HV)	10	10	12	12	25	20

Heavy vehicle activity will very largely involve Truck&Dog units and semi-trailers with some smaller trucks for fuel delivery etc. A visitation equates to 2 vtpd and the light vehicles will essentially be workers arriving in the morning and departing in the afternoon while the heavy vehicle movements will be evenly spread throughout the day.

4.6 Clean Up

All trucks will be required to have covers over their trailers particularly when loaded. A “cattle grid” will be installed at the egress to remove spoil from wheels and tyres while the pavement of Wallgrove Road will be constantly monitored and any spillage will be swept up as soon as possible.

4.7 Working Hours

The permitted working hours as per Consent Conditions B17 and B18 (unless otherwise agreed in writing by the Planning Secretary) are as follows:

Monday to Friday	7.00am to 6.00pm
Saturday	8.00am to 1.00pm
Sunday and Public Holidays	No work

5.0 Traffic

5.1 Traffic Implications

The existing traffic movements along Wallgrove Road are as follows:

	AM	PM
Southbound	1534	1194
Northbound	872	1330

The projected maximum vehicle access movements during the peak periods comprise:

	AM		PM	
	IN	OUT	IN	OUT
Workers	10	-	-	10
Trucks	2	2	2	2

The traffic movements associated with the remediation process will be so minor that they would be entirely imperceptible in any traffic modelling assessment because the movements through any intersection will be significantly less than 1% of the total intersection movements. Truck movements at the site access on Wallgrove Road will only be left turn IN/OUT and the peak worker arrival departure movements are only likely to be some 5 vtpm in each direction.

5.2 Traffic Control Plan

The only Traffic Control Plan required is for the Wallgrove Road access and this is provided in Appendix C.

Whether there will be a need to physically prevent the right turn out of the access road into Wallgrove Road (e.g. temporary barriers) will depend on the access needs for the M7 operator and the requirements of TfNSW.

6.0 Driver Code of Conduct

Safe Driver Policy For Light Horse Business Hub Construction Activities

6.1 Objective of the Drivers Code of Conduct

- to minimise the impact of earthworks and construction on the local and regional road network;
- Minimise conflict with other road users
- Minimise road traffic noise; and
- Ensure truck drivers only use the approved routes

6.2 Code of Conduct

The code of conduct requires that while driving any vehicle for work-related purposes, drivers are to be issued with a copy of the Drivers Code of Conduct, and must comply with all of the following:

- Demonstrate safe driving and road safety activities
- Abide by traffic, road and environmental legislations
- Follow site signage and instructions
- Drivers must only enter and exit the site via the approved entry and exit points and travel routes

The below activities in any vehicles will be considered as a breach of conduct and will result in removal from site:

- Reckless or dangerous driving causing injury or death
- Driving whilst disqualified or not correctly licensed
- Drinking or being under the influence of drugs while driving
- Failing to stop after an incident
- Loss of demerit points leading to suspension of licence
- Any actions that warrant the suspension of a licence
- Exceeding the speed limit in place on any permanent or temporary roads
- Not adhering to the prescribed restrictions on site access and truck routes

6.3 Driver Responsibility

All drivers on site must:

- Be responsible and accountable for their actions when operating a company vehicle or driving for the purposes of work
- Display the highest level of professional conduct when driving a vehicle at all times
- Ensure they have a current driver licence for the class of vehicle they are driving, and this licence is to be carried at all times
- Immediately notify their supervisor or manager if their driver's licence has been suspended, cancelled, or has had limitations applied
- Comply with all traffic regulations when driving
- Undertake daily pre-start checks of oil, tyre pressures, radiator and battery levels of company vehicles they regularly used
- Drive within the legal speed limits, including driving to the conditions
- Not drive outside of the approved heavy vehicle routes. All drivers must obey weight, length and height restrictions imposed by the National Heavy Vehicle Regulator, and other Local and State agencies
- Be cognisant of the noise and emissions requirements imposed within the EIS, and in a broader sense, the NSW / Australian Road Rules
- Do not queue on public roads unless a prior approval has been granted
- Never drive under the influence of alcohol or drugs, including prescription and over the counter medication if they cause drowsiness – to do so will merit disciplinary measures
- All drivers to report to their supervisor if they have been prescribed medication prior to the start of work
- Wear a safety seat belt at all times when in the vehicle
- Avoid distraction when driving
- Report any traffic incidents involving the vehicle
- Report any infringements to their manager at the earliest opportunity.
- Report any vehicle defects to their manager
- Follow the speed limits as imposed within the site
- Keep loads covered at all times.

6.4 Site Team Responsibilities

The Contractor is responsible to take all steps necessary to ensure company vehicles are as safe as possible and will not require staff to drive under conditions that are unsafe.

This will be achieved by undertaking the following:

- Ensuring all vehicles are well maintained and that the equipment enhances driver, operator and passenger safety by way of:
 - Pre-commencement checks for all new plant arriving on-site and prior to undertaking any work.
 - Daily prestart inspections for all plant, vehicles and equipment currently on-site.
 - All construction plant must be fitted with a flashing light, fire extinguisher and reverse alarms
 - Ensure all operators onsite have a current verification of competency (VOC) for their current driver's licence of the appropriate class.
 - Ensure maintenance requirements are met and recorded.
- Identify driver training needs and arranging appropriate training or re-training. This may include providing the below:
 - Operator VOC assessment as part of all inductions.
 - Regular Toolbox discussions on safety features, managing fatigue, approved heavy routes, driver responsibility and drink-driving
- Encouraging Safe Driving behaviour by:
 - Ensuring the subcontractor is informed if their staff become unlicensed
 - Not covering or reimbursing staff speeding or other infringement notices
 - Ensuring Legal use of mobile phones in vehicles while driving only and that illegal use does not occur.
- Encouraging better fuel efficiency by:
 - Use of other transport modes or remote conferencing, whenever practical.
 - Providing training on, and circulating information about, travel planning and efficient driving habits.

6.5 Crash or Incident Procedure

- Stop the vehicle as close to it as possible to the scene, making sure you are not hindering traffic. Ensure your own safety first, then help any injured people and seek assistance immediately if required.
- Ensure the following information is noted:
 - Details of the other vehicles and registration numbers
 - Names and addresses of the other vehicle drivers
 - Names and addresses of witnesses
 - Insurers details
- Give the following information to the involved parties:
 - Name, address and company details
- If the damaged vehicle is not occupied, provide a note with your contact details for the owner to contact the company.
- Ensure that the police are contacted should the following circumstances occur:
 - If there is a disagreement over the cause of the crash.
 - If there are injuries.
 - If you damage property other than your own.
- As soon as reasonably practical, report all details gathered to your manager.

6.6 Environmental Procedure

A range of measures – including those detailed in the Construction Environmental Management – shall be implemented to ensure the following:

- No dirt or debris from the construction vehicles is tracked on to the public road network;
- Reduce the impacts to sensitive receivers, including, where practicable, starting noisy equipment away from sensitive receivers and implementing respite periods;
- Watering of dusty activities will be undertaken, or activities temporarily halted and then resumed once weather conditions have improved;
- Containment measures for potential spillages will be provided at appropriate locations
- Keep an accurate record which includes the range of measures undertaken to reduce environmental impacts.

7.0 Monitoring, Review and Contingencies

7.1 Monitoring Program

This CTMP shall be subject to ongoing review and will be updated accordingly. Regular reviews will be undertaken by the on-site coordinator. As a minimum, review of the CTMP shall occur monthly. All and any reviews undertaken should be documented, however key considerations regarding the review of the CTMP shall be:

- Tracking deliveries against the volumes outlined within report. Deliveries will be tracked against approved volumes, and will keep a vehicle log - including rego & time of entry - for the purpose of assessing the effectiveness of these monitoring programs.
- To identify any shortfalls and develop an updated action plan to address issues that may arise during construction (Parking and access issues)
- To ensure TCP's are updated (if necessary) by "Prepare a Work Zone Traffic Management Plan" card holders to ensure they remain consistent with the set-up on-site.
- Regular checks undertaken to ensure all loads are entering and leaving site covered as outlined within this CTMP.
- A Dilapidation report shall be undertaken every periodically to assess the condition of the road, and note whether there has been any reduction in quality of the road as result of construction vehicles.

The development of a program to monitor the effectiveness of this CTMP shall be established by the Contractor. This process is expected to form part of the monitoring plan required to be included as part of the Construction Environmental Management Plan (CEMP), of which this CTMP forms a part.

7.2 Contingency Plan

A contingency plan shall be established by the Contractor and is to be included in the CEMP. Notwithstanding, the table overleaf outlines an indicative plan to be undertaken by the builder in the event that the monitoring program identifies the management plan is not effective in managing the construction impacts.

Contingency Plan

Rick		Condition Green	Condition Amber	Condition Red
Construction Movements	Trigger	Construction traffic volume is in accordance with permissible and programmed volume and time constraints	Construction traffic volumes exceeds programmed volume but is within permissible volume constraints	Construction traffic volumes exceeds programmed volume and time constraints
	Response	No response required Continue monitoring program	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: - Temporary halting of activities and resuming when conditions have improved - Review CTMP and update where necessary - Provide additional training	Review and investigate construction activities. Where appropriate, implement additional remediation measures such as: - Temporary halting of activities and resuming when conditions have improved - Stop all transportation into and out of the site - Review CTMP and update where necessary Provide additional training.
	Trigger	Construction traffic adheres to the nominated truck routes	Occasionally fails to Construction traffic utilise the nominated truck routes	Consistently fails to Construction traffic utilise the nominated truck routes
	Response	No response required Continue monitoring program	Review and investigate construction activities, and where appropriate, implement additional remediation measures such as: Review vehicles arriving to site and remind them of the strict exclusion time periods Provide additional training (including toolbox talks and further notification of	Review and investigate construction activities. Where appropriate, implement additional remediation measures such as: - Stop all transportation into and out of the site. - Review CTMP and update where necessary. - Provide additional

Transport and Traffic Planning Associates

			Drivers Code of Conduct)	training (including toolbox talks and further notification of Driver Code of Conduct)
Queuing	Trigger	No queuing identified	Queuing identified within site	Queuing identified on the public road
	Response	No response required Continue monitoring program	Review the delivery schedule prepared by the builder. If drivers are not following the correct schedule, then they should be provided with additional training and an extra copy of the Driver Code of Conduct.	Review and Investigate construction activities. Where appropriate, implement additional remediation measures such as: <ul style="list-style-type: none"> - Temporary halting of activities and resuming when conditions have improved - Stop all transportation into and out of the site. - Review CTMP and update where necessary
Noise	Trigger	Noise levels do not exceed imposed noise constraints	Noise levels in minor excess of imposed noise constraints	Noise levels greatly in excess of imposed noise constraints
	Response	No response required Continue monitoring program	Undertake all feasible and reasonable mitigation and management measures to minimise noise impacts	Undertake all feasible and reasonable mitigation and management measures to ensure noise levels are below Highly Noise Affected criteria. If noise levels cannot be kept below applicable limits, then a different construction method or equipment must be utilised.

Transport and Traffic Planning Associates

Traffic Control Plans	Trigger	No observable issues	Minor inconsistencies with TCP to onsite operations	Near miss or incident occurring regardless of/as a results of the TCP being implemented
	Response	No response required Continue monitoring TCPs	Traffic Controllers to amend TCP on site and to keep a log of all changes	Stop work until an investigation has been undertaken into the incident. There are to be changes made to the TCP to ensure that the safety of all workers, students and civilians are catered for.
Dust & Spoil	Trigger	No observable dust	Minor quantities of dust in the air and tracking on to the road	Large quantities of dust in the air and tracking on to the road
	Response	No response required Continue monitoring program	Review and investigate construction activities and respective control measures, where appropriate, implement additional remedial measures, such as: <ul style="list-style-type: none"> - Deployment of additional water sprays - Relocation or modification of dust-generating sources - Check condition of vibrating grids to ensure they are functioning correctly - Temporary halting of activities and resuming when conditions have improved 	Review and investigate construction activities and respective control measures. If it is concluded that construction activities were directly responsible for the exceedance, submit an incident report to government agencies. Implement relevant responses and undertake immediate review to avoid such occurrence in future.

The contingency plan outlines the most effective methods to ensure that each item identified within the Monitoring Program is adhered to, resulting in the impacts to the wider community being minimised. It also represents the efforts undertaken to continually improve CTMP and ensure that the process being utilised are indeed best practice.

7.3 Communications Strategy

A Community Consultation Strategy (CCS) for the Project has been developed to detail how the Proponent and their contractors will engage and interact with relevant stakeholders and the community. The CCS will form part of the CEMP and will be applicable to all works undertaken on site. All communications (including notification, consultation and complaints and enquiry handling) related to construction traffic management shall be undertaken in accordance with the CCS.

Where necessary, the following procedures (consistent with the CCS) will be utilised to notify residents and the community (including local schools), of any potential disruptions to routes:

Potential Impact or Issue	Method of Contact/Consultation	Timeframe
Known Traffic Route Disruption	Email, Text Message or Letterbox drop – notifying of expected commencement, duration, affected hours and contact phone number. Variable Message Signs	No less than 24 hours prior to the activity
Emergency Event	Email, Text Message or Letterbox drop – notifying of expected commencement, duration, affected hours and contact phone number.	As soon as possible.

All communication activities will be undertaken by and the responsibility of the appointed Communications and Community Liaison Representative at the direction of the Proponent.

8.0 Consultation

This CTMP has been submitted for the consideration of TfNSW, Blacktown City Council and the M7 operator and their responses are provided overleaf.

From: [Alexander Coates](#)
To: [Ross Nettle](#)
Subject: CTMP Site Remediation - Consent (SSD-9667) Light Horse Interchange Business Hub (ttpa ref 21077)
Date: Tuesday, 2 November 2021 2:42:24 PM

Transport for NSW (TfNSW), Greater Sydney Division has reviewed the CTMP and endorse the proposed temporary construction arrangements.

Endorsement of the CTMP is not an approval to the type of traffic management or delineation devices used, nor is it an approval to any traffic guidance schemes depicted within the CTMP. It is assumed that the proponent has used type approved devices and has developed its traffic guidance schemes in accordance with the relevant Australian Standards and Guidelines.

The proponent is to ensure local residents, businesses, schools and other stakeholders in the affected area as well as emergency service organisations are notified of the changes associated with the CTMP, prior to its implementation.

Please ensure this CTMP is shared and adhered to by all contractors. If the CTMP changes, please forward a copy to Developments.CJP@transport.nsw.gov.au for further review and endorsement.

Alex Coates
Operations Planning Manager, Customer Journey Planning
Operations
Greater Sydney
Transport for NSW

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From: [Andy Karklins](#)
To: [Ross Nettle](#)
Cc: [Nadeem Shaikh](#)
Subject: RE: CTMP Site Remediation - Consent (SSD-9667) Light Horse Interchange Business Hub (ttpa ref 21077)
Date: Tuesday, 19 October 2021 11:57:18 AM
Attachments: [image002.png](#)
[image005.png](#)

Good morning Ross

I have reviewed the attached CTMP – Site Remediation -Consent (SSD-9667) Light Horse Interchange Business Hub – 165 Wallgrove Road and 475 Ferrers Road, Eastern Creek. It appears to be in order based on the information provided. It is the project managers responsibility to implement the traffic control measures as identified in the CTMP.

Regards

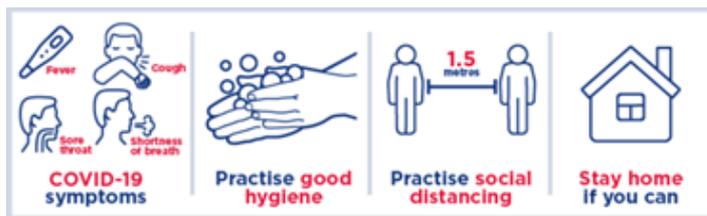


Andy Karklins
Traffic Management Officer

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PO Box 63 Blacktown NSW 2148
blacktown.nsw.gov.au

Follow us on social media



From: Ross Nettle <ross@ttpa.com.au>
Sent: Friday, 15 October 2021 10:51 AM
To: Nadeem Shaikh <Nadeem.Shaikh@blacktown.nsw.gov.au>; Blacktown Council <Blacktown.Council@blacktown.nsw.gov.au>
Cc: Dane Segail <Dane.S@atl.net.au>; Tom Game (Tom.Game@charterhall.com.au) <Tom.Game@charterhall.com.au>; Bonnie Simeonov (bonnie.simeonov@charterhall.com.au) <bonnie.simeonov@charterhall.com.au>
Subject: CTMP Site Remediation - Consent (SSD-9667) Light Horse Interchange Business Hub (ttpa ref 21077)
Importance: High

Nadeem

Consent (SSD-9667) for the Light Horse Interchange Business Hub requires:

- a Construction Traffic Management Plan for Remediation to be approved and enacted prior to any other works commencing

Appendix A

Concept Plan for Development

DEVELOPMENT DATA			
OVERALL SITE AREA	344,013m ²		
LOT 8 (RESIDUAL) - ESTATE BIO-BASIN/OSD	21,511m ²		
ACCESS ROAD RESERVE (PART OF LOT 11)	22,076m ²		
TOTAL DEVELOPABLE AREA (LOT 1 TO 7)	300,426m ²		
TOTAL BUILDING AREA	165,500m ²		
FLOOR SPACE RATIO	55.1%		
DEVELOPABLE LOT	W/H AREA	OFFICE AREA	TOTAL
LOT 1 SITE AREA (48,059m ²)	19,000	1,000	20,000
LOT 2 SITE AREA (34,141m ²)	16,900	800	17,700
LOT 3 SITE AREA (41,112m ²)	23,200	1,200	24,400
LOT 4 SITE AREA (38,686m ²)	21,400	1,000	22,400
LOT 5 SITE AREA (44,193m ²)	24,700	1,300	26,000
LOT 6 SITE AREA (38,406m ²)	20,000	1,000	21,000
LOT 7 SITE AREA (55,829m ²)	32,400	1,600	34,000
TOTAL	157,600	7,900	165,500
CARPARK PROVISIONS			
TOTAL CARPARK REQUIRED	723 spaces		
RMS - Warehouse: 1 space/300sqm Office: 1 space/40sqm			
TOTAL CARPARK PROVIDED	782 spaces		

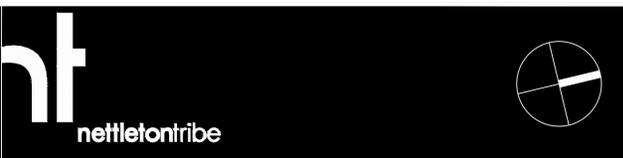
- LEGENDS**
- ESTATE SITE BOUNDARY
 - LIMIT OF WORKS



Light Horse Interchange Business Hub
Eastern Creek NSW [SSD 9667]

Concept Masterplan

DATE May, 2020
DRAWING NUMBER 10935_MP100[P9]



May 12, 2020 - 10:46am N:\10935\LightHorse Interchange\SSD_Audio\10935_MP100_CONCEPT MASTERPLAN.dwg

Appendix B

Traffic Data

TCS 1120

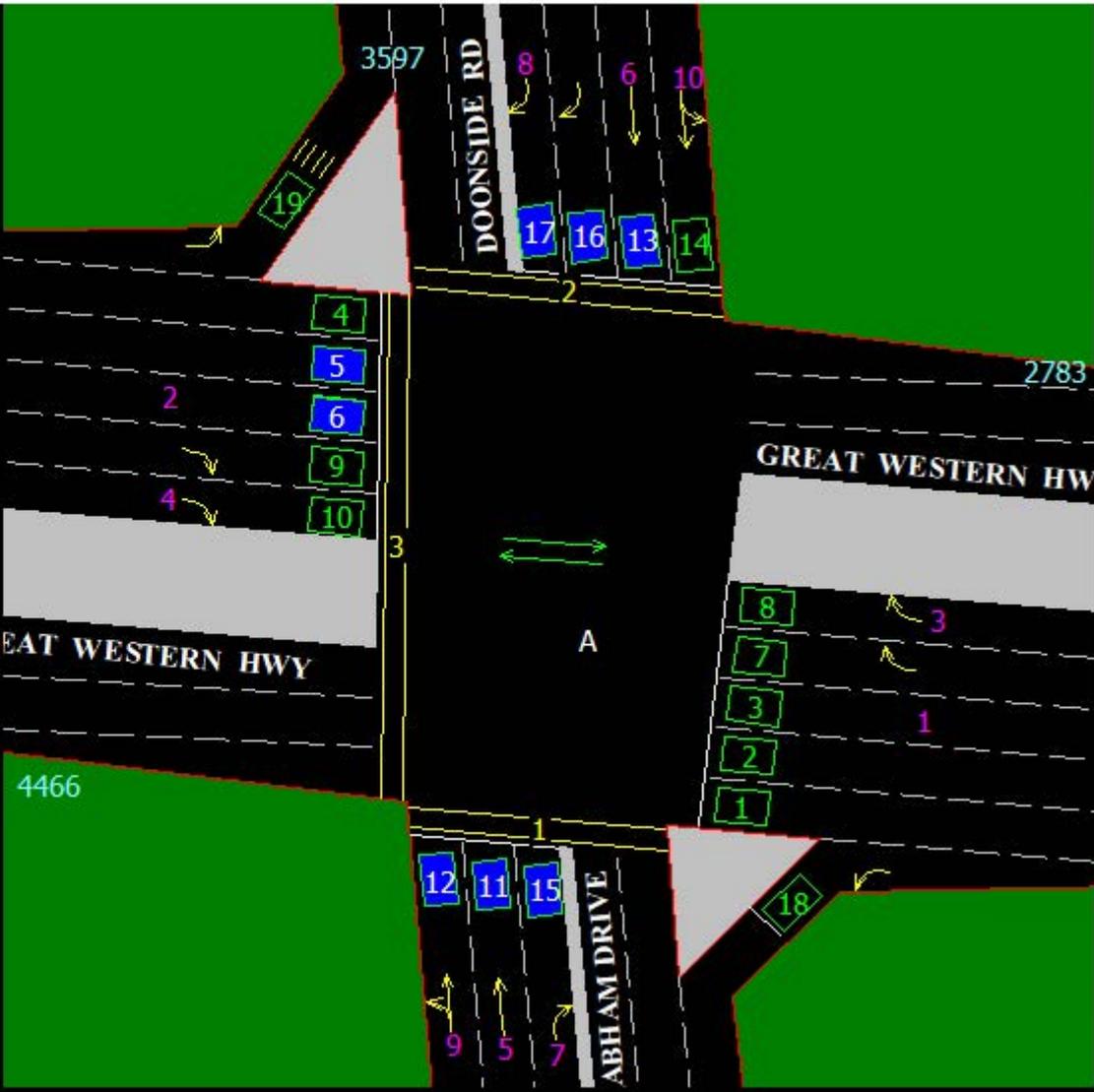
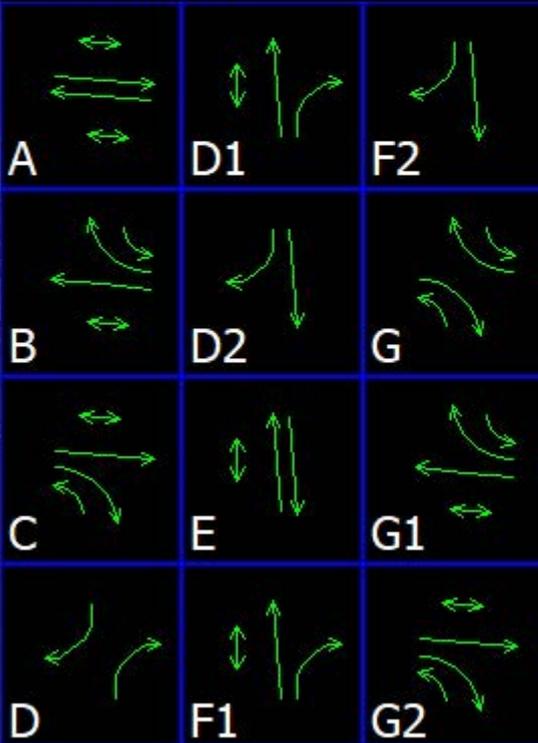
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12 PHASES



Date	Interval sta	Interval en	Detector 1	Detector 2	Detector 3	Detector 4	Detector 5	Detector 6	Detector 7	Detector 8	Detector 9	Detector 10	Detector 11	Detector 12	Detector 13	Detector 14
Monday, 25 May 2020	12:00:00 A	1:00:00 AM	2	17	14	1	30	14	15	11	8	2	17	19	19	41
Monday, 25 May 2020	1:00:00 AM	2:00:00 AM	8	12	3	0	26	10	10	4	4	3	10	11	14	20
Monday, 25 May 2020	2:00:00 AM	3:00:00 AM	6	15	8	1	36	15	8	6	7	3	7	13	30	29
Monday, 25 May 2020	3:00:00 AM	4:00:00 AM	11	20	10	3	60	32	13	7	8	7	18	21	45	72
Monday, 25 May 2020	4:00:00 AM	5:00:00 AM	24	44	28	10	107	59	22	14	54	33	61	42	140	164
Monday, 25 May 2020	5:00:00 AM	6:00:00 AM	61	91	49	42	234	191	59	35	107	73	111	107	280	360
Monday, 25 May 2020	6:00:00 AM	7:00:00 AM	63	110	111	112	332	318	79	55	137	121	194	175	368	435
Monday, 25 May 2020	7:00:00 AM	8:00:00 AM	70	149	171	171	422	416	91	87	167	128	183	184	415	445
Monday, 25 May 2020	8:00:00 AM	9:00:00 AM	68	149	173	110	336	300	89	88	150	115	147	182	342	438
Monday, 25 May 2020	9:00:00 AM	10:00:00 A	69	144	145	52	219	181	73	63	65	44	139	149	203	291
Monday, 25 May 2020	10:00:00 A	11:00:00 A	51	184	135	48	197	161	85	70	59	38	103	147	187	258
Monday, 25 May 2020	11:00:00 A	12:00:00 P	49	169	162	50	198	159	86	81	56	40	126	141	172	228
Monday, 25 May 2020	12:00:00 P	1:00:00 PM	75	187	190	59	242	196	100	76	62	39	144	166	178	273
Monday, 25 May 2020	1:00:00 PM	2:00:00 PM	80	190	181	60	226	192	109	130	74	54	177	182	237	341
Monday, 25 May 2020	2:00:00 PM	3:00:00 PM	106	243	287	74	275	261	133	155	72	47	278	294	261	364
Monday, 25 May 2020	3:00:00 PM	4:00:00 PM	129	310	312	65	259	217	194	184	64	57	325	324	335	417
Monday, 25 May 2020	4:00:00 PM	5:00:00 PM	160	324	372	63	222	192	200	197	42	50	343	362	291	367
Monday, 25 May 2020	5:00:00 PM	6:00:00 PM	118	322	334	37	213	172	199	184	29	19	269	254	230	283
Monday, 25 May 2020	6:00:00 PM	7:00:00 PM	47	170	173	22	153	98	138	120	26	10	114	122	133	177
Monday, 25 May 2020	7:00:00 PM	8:00:00 PM	21	111	80	22	123	56	78	67	13	9	61	66	78	125
Monday, 25 May 2020	8:00:00 PM	9:00:00 PM	12	83	57	5	99	60	53	42	14	3	62	51	60	98
Monday, 25 May 2020	9:00:00 PM	10:00:00 P	12	69	59	6	89	58	60	52	19	16	40	54	60	107
Monday, 25 May 2020	10:00:00 P	11:00:00 P	14	70	52	10	80	61	65	51	24	9	52	62	69	80
Monday, 25 May 2020	11:00:00 P	12:00:00 A	12	44	43	5	62	28	40	38	16	2	48	61	37	35

Detector 1	Detector 1	Detector 1	Detector 1	Detector 2	Total				
9	4	5	23	0	0	0	0	0	260
10	4	10	14	0	0	0	0	0	178
14	2	11	13	0	0	0	0	0	236
33	18	4	52	0	0	0	0	0	443
58	37	43	111	0	0	0	4	0	1086
99	75	64	158	0	0	0	5	0	2260
118	106	74	266	0	0	0	0	0	3247
121	115	75	425	0	0	0	0	0	3915
123	117	89	385	0	0	0	0	0	3482
119	113	44	266	0	0	0	0	0	2458
121	120	39	219	0	0	0	1	0	2277
118	116	67	242	0	0	0	1	0	2329
108	135	56	258	0	0	0	0	0	2608
119	168	73	265	0	0	0	0	0	2936
164	185	94	306	0	0	0	0	0	3691
188	208	67	329	0	0	0	0	0	4058
168	194	94	292	0	0	0	71	0	4091
150	170	60	275	0	0	0	0	0	3372
83	76	31	154	0	0	0	0	0	1910
57	49	22	99	0	0	0	0	0	1171
36	32	16	81	0	0	0	0	0	883
47	53	25	93	0	0	0	0	0	952
41	20	17	63	0	0	0	0	0	852
20	22	7	56	0	0	0	0	0	587

TCS 2643

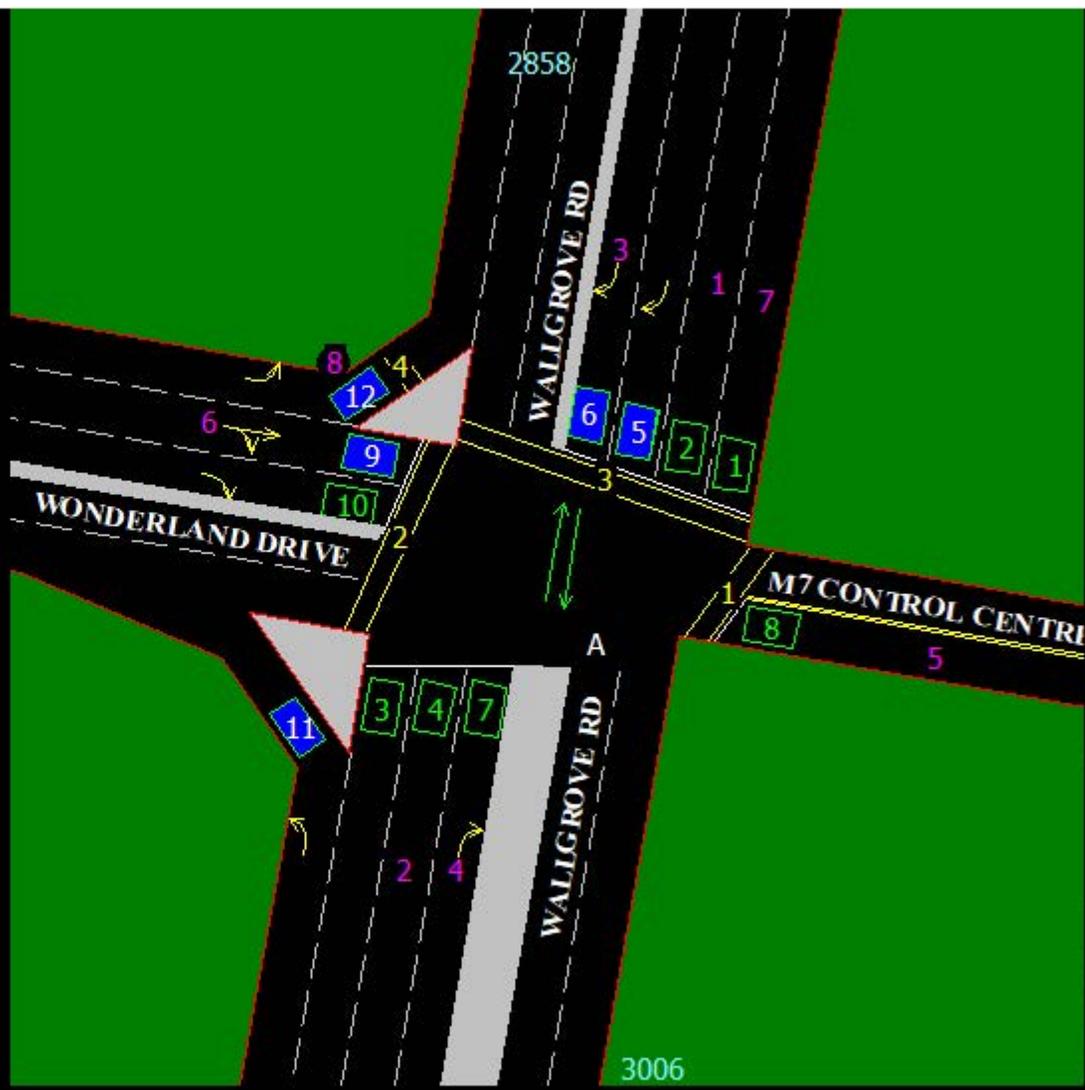
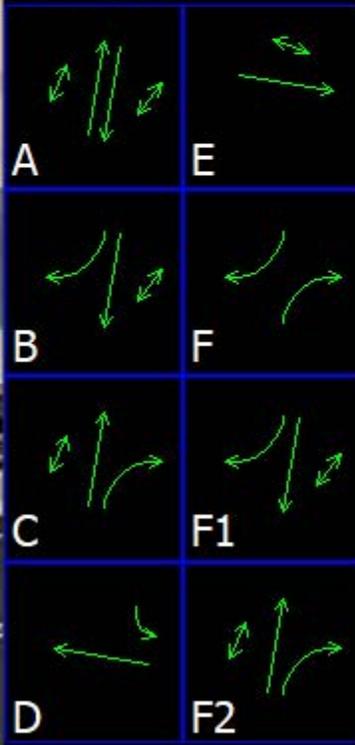
EASTERN CREEK

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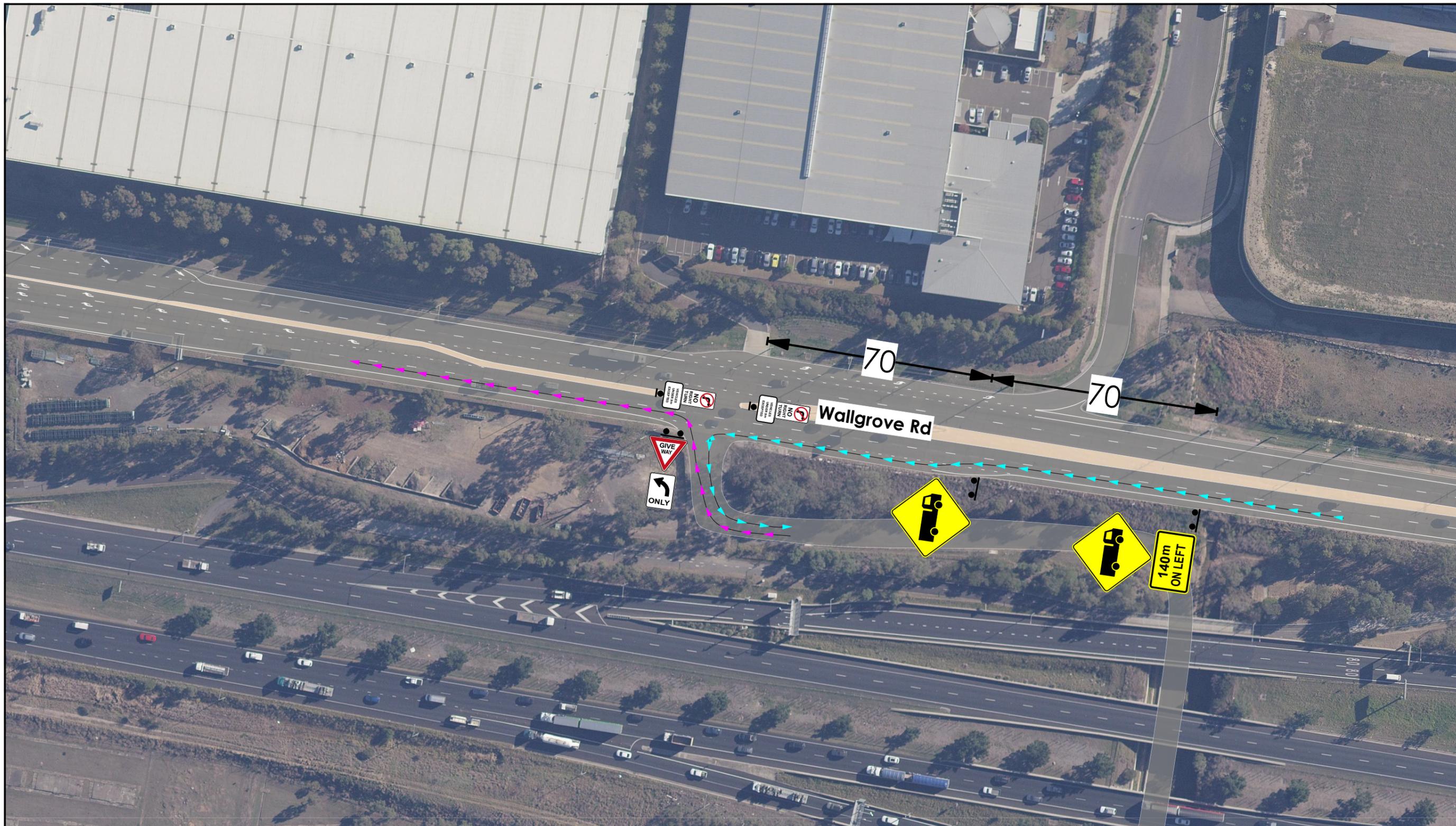
8 PHASES



Date	Interval sta	Interval en	Detector 1	Detector 2	Detector 3	Detector 4	Detector 5	Detector 6	Detector 7	Detector 8	Detector 9	Detector 10	Detector 11	Detector 12	Detector 13
Monday, 11 May 2020	12:00:00 A	1:00:00 AM	29	88	81	65	8	19	0	0	4	3	6	27	330
Monday, 11 May 2020	1:00:00 AM	2:00:00 AM	23	64	53	47	5	4	0	0	3	1	7	10	217
Monday, 11 May 2020	2:00:00 AM	3:00:00 AM	39	88	70	53	4	14	0	0	4	2	17	4	295
Monday, 11 May 2020	3:00:00 AM	4:00:00 AM	91	187	105	85	14	39	0	1	13	3	24	22	584
Monday, 11 May 2020	4:00:00 AM	5:00:00 AM	224	386	195	150	92	177	0	2	11	8	118	49	1412
Monday, 11 May 2020	5:00:00 AM	6:00:00 AM	416	672	266	184	174	336	4	4	32	13	269	101	2471
Monday, 11 May 2020	6:00:00 AM	7:00:00 AM	470	652	392	329	172	289	11	12	68	45	295	162	2897
Monday, 11 May 2020	7:00:00 AM	8:00:00 AM	478	672	386	271	140	244	5	11	67	47	271	215	2807
Monday, 11 May 2020	8:00:00 AM	9:00:00 AM	401	789	345	271	141	259	1	6	0	45	266	163	2687
Monday, 11 May 2020	9:00:00 AM	10:00:00 A	323	888	315	244	120	154	3	8	0	55	179	183	2472
Monday, 11 May 2020	10:00:00 A	11:00:00 A	368	800	336	278	115	70	4	7	0	61	187	187	2413
Monday, 11 May 2020	11:00:00 A	12:00:00 PM	343	722	325	242	101	90	1	9	1	62	169	234	2299
Monday, 11 May 2020	12:00:00 PM	1:00:00 PM	371	960	401	334	95	105	1	6	93	76	179	286	2907
Monday, 11 May 2020	1:00:00 PM	2:00:00 PM	377	907	461	385	120	162	3	6	108	120	171	407	3227
Monday, 11 May 2020	2:00:00 PM	3:00:00 PM	432	650	451	481	124	204	4	9	138	168	223	524	3408
Monday, 11 May 2020	3:00:00 PM	4:00:00 PM	474	626	480	367	84	107	3	7	122	145	137	472	3024
Monday, 11 May 2020	4:00:00 PM	5:00:00 PM	395	697	518	421	54	48	2	6	114	122	86	391	2854
Monday, 11 May 2020	5:00:00 PM	6:00:00 PM	323	650	486	361	38	38	5	13	88	95	51	348	2496
Monday, 11 May 2020	6:00:00 PM	7:00:00 PM	243	549	351	255	34	28	4	6	60	52	40	172	1794
Monday, 11 May 2020	7:00:00 PM	8:00:00 PM	143	190	243	187	19	32	10	4	27	20	29	67	971
Monday, 11 May 2020	8:00:00 PM	9:00:00 PM	119	143	180	115	14	17	0	16	11	18	28	59	720
Monday, 11 May 2020	9:00:00 PM	10:00:00 PM	104	220	196	139	23	36	0	2	20	21	31	92	884
Monday, 11 May 2020	10:00:00 PM	11:00:00 PM	107	178	178	150	12	35	0	0	28	25	17	159	889
Monday, 11 May 2020	11:00:00 PM	12:00:00 A	58	77	145	120	9	19	0	0	23	29	17	147	644

Appendix C

Traffic Control Plan



Compliance Notes:

1. Plans Scale 1:500
2. A or B size signs are to be used
3. 700mm cones are required with retroreflective bands
4. Cone spacing is in accordance with AGTTM-19
5. Appropriate PPE is to be worn for the conditions
6. Traffic Controllers to use radios when verbal communication is required
7. Any site specific conditions to be noted
8. All signs subject to +25%, -10% tolerances
9. Sign checks are required every hour
10. Any active Traffic Controllers to have escape route and 1.5 D sight site distance at their location
11. Drawn IAW AS 1742.3 2009, TCAWS V5 2018 & AGTTM-19

Designed by:
Ronak Gandhi

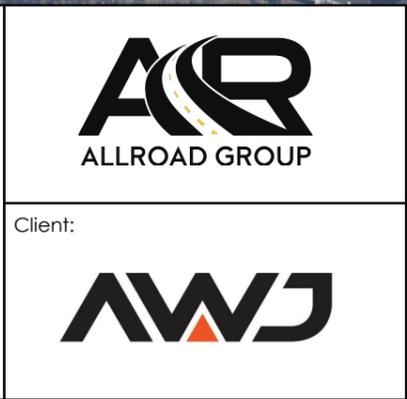
License No:
TCT 0063633

Signature:
R. Gandhi

Date:
23/09/2021

Legend

- Vehicle Egress
- Vehicle Ingress
- Work Area



Site Specific Notes:

Long Term Works
Heavy Vehicles

Modifications are to be marked on the plan. Only current Work Zone Traffic Management card holders can amend TGSs

Project:
Walgrove Road

Work Location:
165 Wallgrove Rd,
Eastern Creek, NSW 2766

Drawing No: ARG 21-1142 TGS
Page: 01 of 01

Annexure E- Construction Noise and Vibration Plan

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LIGHT HORSE BUSINESS HUB

Construction Noise and Vibration Management Plan

Prepared for:

Charter Hall
Level 20, 1 Martin Place
Sydney NSW 2000

SLR Ref: 610.30501-R01
Version No: -v1.0
October 2021

SLR 

PREPARED BY

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E: sydney@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Charter Hall (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
610.30501-R01-v1.0	8 October 2021	Steven Luzuriaga Joshua Ridgway	Aaron Miller	Aaron Miller

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APPENDICES

Appendix A	Acoustic Terminology
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1 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Charter Hall to prepare a Construction Noise and Vibration Management Plan (CNVMP) for construction works associated with the development of the Light Horse Business Hub (LHBH) located adjacent to the Light Horse Interchange in Eastern Creek, NSW.

The CNVMP addresses the potential noise and vibration impacts associated with the construction of the development and details the mitigation and management procedures for dealing with potential impacts. Construction noise and vibration impacts were previously assessed for Western Sydney Parklands Trust (WSPT) as part of the *Light Horse Interchange Business Hub SSDA Noise Impact Assessment* prepared by SLR in March 2019 (the NIA).

This CNVMP was prepared by a suitably qualified and experienced acoustics consultant and member of the Australian Acoustical Society (MAAS). SLR is a member firm of the Association of Australasian Acoustical Consultants (AAAC). Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in **Appendix A**.

2 Development Overview

The development site is located to the southeast of the Light Horse Interchange, adjacent to the M4 and M7 Motorways. The development will consist of twelve warehouses situated across seven lots, along with associated offices, hardstands, parking and landscaping.

The development site is surrounded primarily by other commercial/industrial estates, along with the Sydney Motorsport Park to the east. A small number of isolated residential receivers are located to the north of the development site adjacent to Pikes Lane on Western Sydney Parkland Trusts land, and a suburban residential area is located to the northwest.

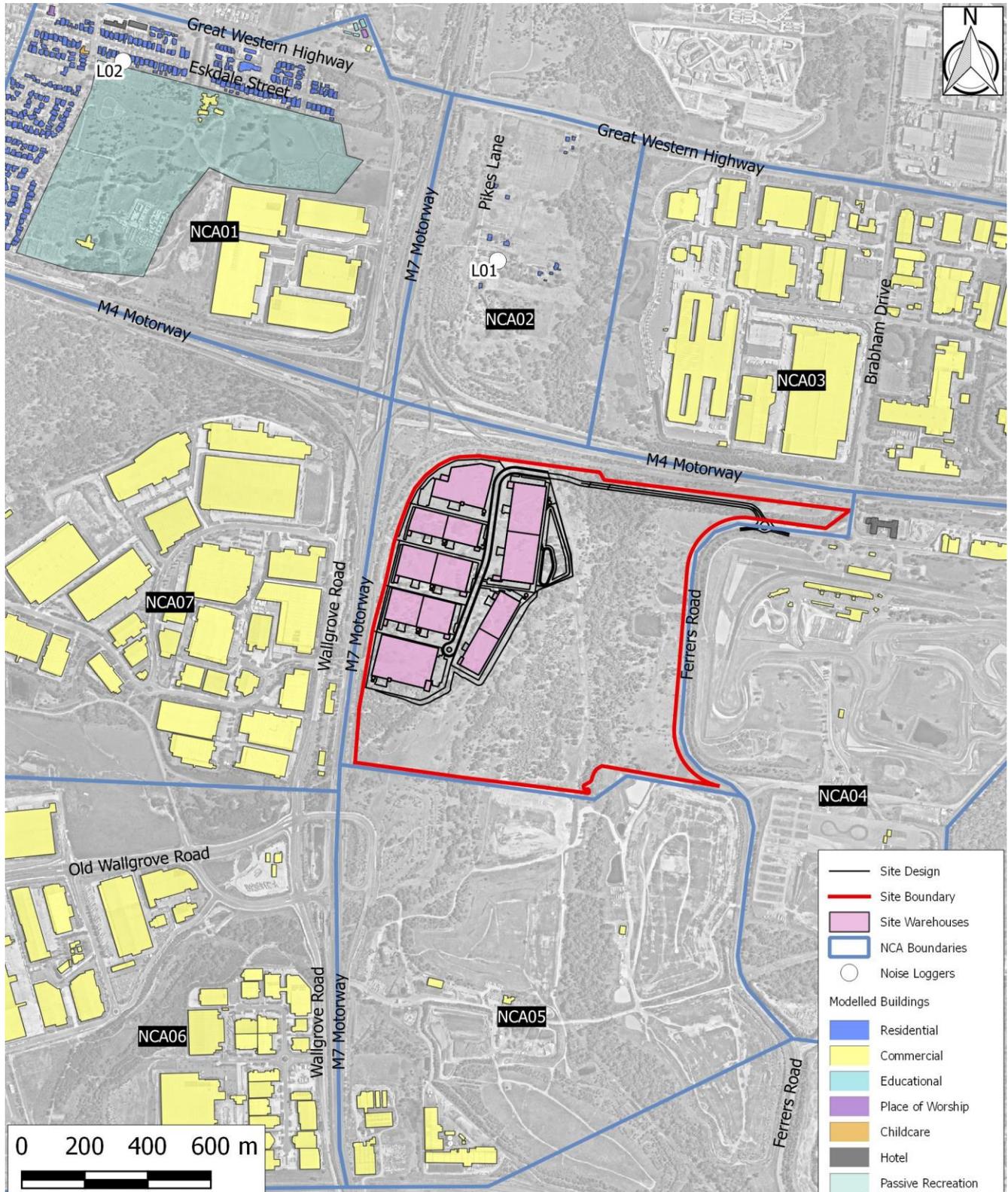
The project would allow for the future use of the site as a business hub with industrial, warehousing and distribution centre land uses. The project includes:

- establishment of up to 165,500 m² of gross floor area for general industrial, light industrial, warehouse and distribution centres and ancillary office land uses; and
- conceptual development levels, footprints and building envelopes for Lots 1-7, roads, parking, site access and landscape design.

The Concept Proposal for LHBH obtained Development Consent (SSD 9667), on 31 August 2020 from the Department of Planning, Industry and Environment (DPIE). The locations of the development, surrounding receivers and noise catchment areas (NCA) are shown in **Figure 1**.

In accordance with condition B21, construction of any relevant stage of works must not commence until this CNVMP is approved by the Planning Secretary.

Figure 1 Development Location and Sensitive Receivers Areas



3 Statutory Requirements

This CNVMP has been prepared to accompany the Construction Environmental Management Plan (CEMP) for the development of the LHBH. The conditions of consent, standards and guidelines relevant to this CNVMP are outlined in the following sections.

3.1 Development Consent

Conditions for the LHBH are specified in the DPIE Development Consent SSD 9667, dated 31 August 2020. The conditions relevant to this CNVMP are in Schedule 3 of SSD 9667, and are reproduced in **Table 1**.

Table 1 Development Consent Conditions

Development Consent	Comments								
Noise									
<p>Hours of Work</p> <p>B17. The Applicant must comply with the hours detailed in Table 3, unless otherwise agreed in writing by the Planning Secretary.</p> <p>Table 3 Hours of Work</p> <table border="1"> <thead> <tr> <th>Activity</th> <th>Day</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Earthworks and Construction</td> <td>Monday – Friday</td> <td>7 am to 6 pm</td> </tr> <tr> <td>Saturday</td> <td>8 am to 1 pm</td> </tr> </tbody> </table>	Activity	Day	Time	Earthworks and Construction	Monday – Friday	7 am to 6 pm	Saturday	8 am to 1 pm	Refer to Section 6.2
Activity	Day	Time							
Earthworks and Construction	Monday – Friday	7 am to 6 pm							
	Saturday	8 am to 1 pm							
<p>B18. Works outside of the hours identified in condition B17 may be undertaken in the following circumstances:</p> <ul style="list-style-type: none"> a) works that are inaudible at the nearest sensitive receivers; b) works agreed to in writing by the Planning Secretary; 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. 	Refer to Section 6.2								
<p>Construction Noise Limits</p> <p>B19. The development must be constructed to achieve the construction noise management levels detailed in <i>the Interim Construction Noise Guideline</i> (DECC, 2009) (as may be updated or replaced from time to time). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures in the Appendix 2.</p>	Refer to Section 5.1								

Development Consent	Comments
Construction Noise and Vibration Management Plan	
<p>B20. The Applicant must prepare a Construction Noise and Vibration Management Plan for the Stage 1 development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must:</p> <ul style="list-style-type: none"> a) be prepared by a suitably qualified and experienced noise expert; b) be approved by the Planning Secretary prior to the commencement of construction of each stage of the Stage 1 development; c) describe procedures for achieving the noise management levels in EPA's <i>Interim Construction Noise Guideline</i> (DECC, 2009) (as may be updated or replaced from time to time); d) describe the measures to be implemented to manage high noise generating works such as piling, in close proximity to sensitive receivers; e) include strategies that have been developed with the community for managing high noise generating works; f) describe the community consultation undertaken to develop the strategies in condition B20(e); and g) include a complaints management system that would be implemented for the duration of the development. 	<p>This CNVMP</p> <p>Refer to Section 1 Refer to Section 2</p> <p>Refer to Section 7</p> <p>Refer to Section 7</p> <p>Refer to Section 7</p> <p>Refer to Section 7 and Appendix B</p> <p>Refer to Section 9</p>
<p>B21. The Applicant must:</p> <ul style="list-style-type: none"> a) not commence construction of any relevant stage until the Construction Noise and Vibration Management Plan required by condition B20 is approved by the Planning Secretary; and b) implement the most recent version of the Construction Noise and Vibration Management Plan approved by the Planning Secretary for the duration of construction. 	<p>Refer to Section 2</p> <p>Refer to Section 13</p>
<p>B22. Vibration caused by construction at any residence or structure outside the site must be limited to:</p> <ul style="list-style-type: none"> a) for structural damage, the latest version of <i>DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures</i> (German Institute for Standardisation, 1999); and b) for human exposure, the acceptable vibration values set out in the <i>Environmental Noise Management Assessing Vibration: a technical guideline</i> (DEC, 2006) (as may be updated or replaced from time to time). 	<p>Refer to Section 5.4</p>
<p>B23. The limits in conditions B22 apply unless otherwise outlined in a Construction Noise and Vibration Management Plan, approved as part of the CEMP required by condition C2 of this consent.</p>	<p>Refer to Section 5.4</p>

Development Consent	Comments
Environmental Management	
<p>Management Plan Requirements</p> <p>C1. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p> <ul style="list-style-type: none"> a) detailed baseline data; b) details of: <ul style="list-style-type: none"> (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; d) a program to monitor and report on the: <ul style="list-style-type: none"> (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above; e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; f) a program to investigate and implement ways to improve the environmental performance of the development over time; g) a protocol for managing and reporting any: <ul style="list-style-type: none"> (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and h) a protocol for periodic review of the plan. <p><i>Note: the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</i></p>	<p>This CNVMP</p> <p>Refer to Section 4</p> <p>Refer to Section 3</p> <p>Refer to Section 5</p> <p>Refer to Section 7</p> <p>Refer to Section 8</p> <p>Refer to Section 10</p> <p>Refer to Section 13</p> <p>Refer to Section 9 and Section 10</p> <p>Refer to Section 13</p>
Appendices	
<p>Appendix 2 - Noise Impacts</p> <p>1. Management measures, source control, path controls and receptor control measures will be incorporated into the Construction Management Plan (CMP) to minimise noise emissions and avoid unacceptable impacts.</p>	<p>Refer to Section 7</p>
<p>Appendix 4 – Noise Receiver Locations</p>	<p>Refer to Figure 1</p>

3.2 Relevant Standards and Guidelines

The standards and guidelines relevant to the development are listed in **Table 2**. The guidelines aim to protect the community and environment from excessive noise and vibration impacts that may result from construction of the development.

Table 2 Construction Noise and Vibration Standards and Guidelines

Guideline/Policy Name	Where Used
Environment Protection Authority (EPA) (2009) <i>Interim Construction Noise Guideline</i> (ICNG)	Assessment of noise impacts on sensitive receivers.
Roads and Maritime Services (2016) <i>Construction Noise and Vibration Guideline</i> (CNVG)	Assessment and management protocols for noise and vibration impacts.
Environment Protection Authority (EPA) (2006) <i>Assessing Vibration: a technical guideline</i>	Assessment of vibration impacts on sensitive receivers.
British Standard Institution (BSI) (1993) <i>BS 7385 Part 2-1993 Evaluation and measurement for vibration in buildings Part 2</i> (BS 7385)	Assessment of vibration impacts (structural damage) to sensitive structures.
German Institute for Standardisation (Deutsches Institut für Normung) (2016) <i>DIN 4150 – Structural vibration - Effects of vibration on structures</i> (DIN 4150)	Assessment of vibration impacts (structural damage) to sensitive structures.

4 Existing Noise Environment

Unattended noise monitoring was completed at the nearest residential receivers on Pikes Lane, Eastern Creek (NCA02) and Eskdale Street, Minchinbury (NCA01) in December 2018 to measure the existing ambient noise environment of the area. This baseline noise monitoring was undertaken by SLR as part of the NIA.

The measured data was processed with reference to the NSW *Noise Policy for Industry* (NPfI) and the data was filtered to remove extraneous noise events and periods affected by adverse weather conditions, based on Bureau of Meteorology automated weather station data (Horsley Park AWS 67119). A summary of the background noise monitoring locations and results are provided in **Table 3** and **Table 4**, and presented in **Figure 1**.

Further information regarding the baseline noise assessment, including methodology and detailed data is provided in the NIA.

Table 3 Ambient Noise Monitoring Locations

Noise Monitoring Location ID	Location Address	Representative Receiver Area	Monitoring Dates	Location Details
L01	51 Pikes Lane, Eastern Creek	NCA02	6 December 2018 to 17 December 2018	Noise logger deployed in open area adjacent to residence entrance driveway.
L02	60 Eskdale Street, Minchinbury	NCA01	6 December 2018 to 14 December 2018	Noise logger deployed in rear yard (southern side) of residence.

Table 4 Summary of Ambient and Background Noise Levels

Location ID	Address	Measured Noise Level (dBA) ¹					
		Daytime		Evening		Night-time	
		RBL	LAeq	RBL	LAeq	RBL	LAeq
L01	51 Pikes Lane, Eastern Creek	47	52	47	51	41	52
L02	60 Eskdale Street, Minchinbury	41	50	43	50	38	46

Note 1: The Rating Background Levels (RBLs) and Ambient (LAeq) noise levels have been obtained from the measured data using the calculation procedures outlined in the NPfI.

Note 2: NPfI time periods – Day: 7:00 am to 6:00 pm Monday to Saturday, 8:00 am to 6:00 pm Sundays and public holidays; Evening: 6:00 pm to 10:00 pm; Night: the remaining periods.

5 Construction Noise and Vibration Criteria

5.1 Noise Guidelines

5.1.1 Interim Construction Noise Guideline

The NSW *Interim Construction Noise Guideline* (ICNG) is used to assess and manage impacts from construction noise on residences and other sensitive land uses in NSW.

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 of the project.

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.

Residential Receivers

The ICNG approach for determining NMLs at residential receivers is shown in **Table 5**.

Table 5 ICNG NMLs for Residential Receivers

Time of Day	NML LAeq(15minute)	How to Apply
Standard Construction Hours Monday to Friday 7:00 am to 6:00 pm Saturday 8:00 am to 1:00 pm No work on Sundays or public holidays	RBL ¹ + 10 dB	<ul style="list-style-type: none"> The noise affected level represents the point above which there may be some community reaction to noise Where the predicted or measured LAeq(15minute) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practises 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	<ul style="list-style-type: none"> 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 restructuring the hours that the very noisy activities can occur, taking into account: <ul 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.

Time of Day	NML LAeq(15minute)	How to Apply
Outside Standard Construction Hours	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 practises have been applied and noise is more than 5 dB above the noise affected level, the proponent should negotiate with the community.

Note 1: 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 EPA *Noise Policy for Industry* (NPfi).

‘Other Sensitive’ Land Uses and Commercial Receivers

The ICNG NMLs for ‘other sensitive’ non-residential land uses are shown in **Table 6**. The ICNG references AS 2107 for criteria for other sensitive receivers which are not listed in the guideline.

Table 6 Construction Noise Management Levels at ‘Other Sensitive’ Land Uses

Land Use	Noise Management Level LAeq(15minute) (Applied when the property is in use)
Classrooms at schools and other education institutions	External noise level 55 dBA ¹
Hospital wards and operating theatres	External noise level 55 dBA ¹
Places of Worship	External noise level 55 dBA ¹
Active recreation areas (characterised by sporting activities and activities which generate their own noise or focus for participants)	External noise level 65 dBA
Passive recreation areas (characterised by contemplative activities that generate little noise and where benefits are compromised by external noise intrusion)	External noise level 60 dBA
Community centres	Refer to the recommended ‘maximum’ internal levels in AS 2107 for specific uses
Commercial	External noise level 70 dBA
Industrial	External noise level 75 dBA

Note 1: External noise level derived from 45 dBA internal NML. A conservative estimate of the difference between internal and external noise levels of 10 dBA was adopted.

Sleep Disturbance

In accordance with Condition B17, works will be undertaken during standard daytime construction hours. Where works are required during the night-time period and are approved under Condition B18, the following sleep disturbance criteria would apply.

A method for assessing sleep disturbance is contained in the NPfi. Although the NPfi sleep disturbance criteria relates to industrial noise, it is also considered relevant for reviewing potential impacts from construction noise as a screening criteria to identify the need for further assessment. The NPfi notes that a detailed maximum noise level assessment should be undertaken where a project results in night-time noise levels which exceed 52 dBA LA_{Fmax} or the prevailing background level plus 15 dB, whichever is the greater.

For the LHBH development, the existing night-time RBL plus 15 dB has been adopted as the sleep disturbance screening level.

5.1.2 NML Summary

A summary of the NMLs adopted for the project are presented below in **Table 7**. Further information regarding the NMLs is provided in the NIA.

Table 7 Project Specific Noise Management Levels (dBA)

Receiver Type	NCA ²	NML (LAeq(15minute) – dBA)				Sleep Disturbance Screening Level (RBL+15 dB) (L _{Amax} dBA)
		Standard Construction Hours (RBL+10dB)	Out of Hours ⁵ (RBL+5dB)			
		Daytime	Daytime ³	Evening	Night-time	Night-time
Residential	NCA01	51	46	46 ¹	43	53
Residential	NCA02	57	52	52	46	56
Educational	NCA01	55	55 (when in use)			-
Place of Worship	NCA01	55	55 (when in use)			-
Passive Recreation	NCA01	60	60 (when in use)			-
Child Care (play areas)	NCA01	65 (internal 55 ⁴)	65 (when in use)			-
Child Care (sleep areas)	NCA01	50 (internal 40 ⁴)	50 (when in use)			-
Hotel (sleep areas)	NCA01/04	50 (internal 40 ⁴)	50 (when in use)			-
Commercial	Various	70	70 (when in use)			-
Industrial	Various	75	75 (when in use)			-

Note 1: Where the evening RBL is higher than the daytime RBL, the daytime RBL has been adopted.

Note 2: No residential receivers are located in NCA03 to NCA07.

Note 3: Daytime out of hours is 7 am to 8 am and 1 pm to 6 pm on Saturday, and 8 am to 6 pm on Sunday and public holidays.

Note 4: Internal Noise level. It should be conservatively assumed that these receivers have operable windows, therefore a conservative estimate of the difference between internal and external noise levels of 10 dBA should be adopted.

Note 5: In accordance with Condition B17, works will be undertaken during standard daytime construction hours. Where out of hours works are required and are approved under Condition B18, the out of hours NMLs would apply.

5.2 Construction Road Traffic Noise Guidelines

The potential impacts from construction traffic on public roads are assessed under the NSW EPA *Road Noise Policy* (RNP) and *Roads and Maritime Construction Noise and Vibration Guideline* (CNVG).

To assess noise impacts that may result from construction traffic, an initial screening test is first applied to evaluate if existing road traffic noise levels are expected to increase by more than 2 dB with the addition of construction traffic at nearby residential and other sensitive receivers. Where road traffic noise levels are increased by more than 2 dBA, further assessment is required using the RNP base criteria shown in **Table 8**.

Table 8 RNP Criteria for Assessing Construction Vehicles on Public Roads

Road Category	Type of Project/Land Use	Assessment Criteria (dBA)	
		Daytime (7 am - 10 pm)	Night-time (10 pm - 7 am)
Freeway/ arterial/ sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	LAeq(15hour) 60 (external)	LAeq(9hour) 55 (external)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	LAeq(1hour) 55 (external)	LAeq(1hour) 50 (external)

Based on the NIA, the proposed construction traffic is predicted to result in a minimal increase (ie <1 dBA) in the overall traffic noise levels along the construction vehicle routes to the development. As such, construction traffic noise have not been addressed further in this plan.

5.3 Construction Ground-borne Noise Guidelines

Construction works can cause ground-borne noise impacts in nearby buildings when vibration generating equipment is in use. Vibration can be transmitted through the ground and into the structure of nearby buildings, which can then create audible noise impacts inside buildings. The ICNG provides evening and night-time ground-borne noise NMLs for residences to protect the amenity and sleep of residents. The ICNG ground-borne noise NMLs are:

- Evening LAeq(15minute) 40 dBA
- Night-time LAeq(15minute) 35 dBA

The NMLs only apply where internal ground-borne noise levels are higher than noise transmitted through the air. This situation can occur where buildings near to construction works have high performing facades which attenuate the airborne component or where sensitive internal areas do not have facades which face the construction works.

The majority of receivers are sufficiently distant from the works for ground-borne noise impacts to be minimal. Due to the surface nature of the construction works for the development, airborne noise levels would typically be dominant over the ground-borne component where receivers are located near to construction works. As such, ground-borne noise has not been addressed further in this plan.

5.4 Vibration Guidelines

The effects of vibration from construction works can be divided into three categories:

- Those in which the occupants of buildings are disturbed (human comfort)
- Those where building contents may be affected (building contents)
- Those where the integrity of the building may be compromised (structural or cosmetic damage).

5.4.1 Human Comfort Vibration

People can sometimes perceive vibration impacts when vibration generating construction works are located close to occupied buildings.

Vibration from construction works tends to be intermittent in nature and the EPA's *Assessing Vibration: a technical guideline* (2006) provides criteria for intermittent vibration based on the Vibration Dose Value (VDV). The 'preferred' and 'maximum' VDV's for human comfort impacts are shown in **Table 9**.

Table 9 Vibration Dose Values for Intermittent Vibration

Building Type	Assessment Period	Vibration Dose Value ¹ (m/s ^{1.75})	
		Preferred	Maximum
Critical Working Areas (eg operating theatres or laboratories)	Day or night-time	0.10	0.20
Residential	Daytime	0.20	0.40
	Night-time	0.13	0.26
Offices, schools, educational institutions and places of worship	Day or night-time	0.40	0.80
Workshops	Day or night-time	0.80	1.60

Note 1: The VDV accumulates vibration energy over the daytime and night-time assessment periods, and is dependent on the level of vibration as well as the duration.

5.4.2 Effects on Building Contents

People perceive vibration at levels well below those likely to cause damage to building contents. For most receivers, the human comfort vibration criteria are the most stringent and it is generally not necessary to set separate criteria for vibration effects on typical building contents.

Exceptions to this can occur when vibration sensitive equipment, such as electron microscopes, are located in buildings near to construction works. No such items of equipment have been identified in the project area.

5.4.3 Structural and Cosmetic Damage Vibration

If vibration from construction works is sufficiently high it can cause damage to structural elements of affected buildings. The levels of vibration required to cause cosmetic damage tend to be at least an order of magnitude (10 times) higher than those at which people can perceive vibration.

Examples of damage that can occur includes cracks or loosening of drywall surfaces, cracks in supporting columns and loosening of joints. Structural damage vibration limits are contained in British Standard BS 7385 and German Standard DIN 4150. In accordance with condition B22 the German Standard DIN 4150 have been adopted for the LHBH development.

DIN 4150

German Standard DIN 4150 provides guideline vibration limits for different buildings and buried pipework. Damage is not expected to occur where the values are complied with and the values are generally recognised to be conservative. The DIN 4150 values for buildings and structures are shown in **Table 10**.

Table 10 DIN 4150 Guideline Values for Short-term Vibration on Structures

Group	Type of Structure	Guideline Values Vibration Velocity (mm/s)				
		Foundation, All Directions at a Frequency of			Topmost Floor, Horizontal	Floor Slabs, Vertical
		1 to 10 Hz	10 to 50 Hz	50 to 100 Hz	All frequencies	All frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40	20
2	Residential buildings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15	20
3	Structures that, because of their particular sensitivity to vibration, cannot be classified as Group 1 or 2 and are of great intrinsic value (e.g. heritage listed buildings)	3	3 to 8	8 to 10	8	20 ¹

Note 1: It may be necessary to lower the relevant guideline value markedly to prevent minor damage.

The site is adjacent to the M4 and M7 motorways. DIN 4150 states that for civil engineering structures such as reinforced concrete constructions used as abutments or block foundations, a value of 80 mm/s shall be used as a guideline value, provided no hazards arise as a result of soil mechanical processes in the ground.

5.4.3.1 Heritage Items

Heritage buildings and structures should be considered on a case-by-case basis but as noted in BS 7385 should not be assumed to be more sensitive to vibration, unless structurally unsound. Where a heritage building is deemed to be sensitive, the more stringent DIN 4150 Group 3 guideline values in **Table 10** can be applied.

Some Aboriginal and Non-Aboriginal heritage items have been identified in the heritage reports for the site. Where these items are not being removed or demolished as part of the project, vibration monitoring must be undertaken on structures within the minimum working distances of vibration intensive equipment.

5.4.4 Minimum Working Distances for Vibration Intensive Works

Minimum working distances for typical vibration intensive construction equipment are provided in the Roads and Maritime *Construction Noise and Vibration Guideline* (CNVG) and are shown in **Table 11**. The minimum working distances are for both cosmetic damage (from BS 7385 and DIN 4150) and human comfort (from the NSW EPA Vibration Guideline). They are based on empirical data which suggests that where works are further from receivers than the quoted minimum distances then impacts are not considered likely.

Table 11 Recommended Minimum Working Distances from Vibration Intensive Equipment

Plant Item	Rating/Description	Minimum Distance	
		Cosmetic Damage	Human Response
		Heritage Items (DIN 4150, Group 3) ²	(NSW EPA Guideline)
Vibratory Roller	<50 kN (1–2 tonne)	11 m	15 m to 20 m
	<100 kN (2–4 tonne)	13 m	20 m
	<200 kN (4–6 tonne)	15 m	40 m
	<300 kN (7–13 tonne)	31 m	100 m
	>300 kN (13–18 tonne)	40 m	100 m
	>300 kN (>18 tonne)	50 m	100 m
Small Hydraulic Hammer	300 kg (5 to 12 t excavator)	5 m	7 m
Medium Hydraulic Hammer	900 kg (12 to 18 t excavator)	15 m	23 m
Large Hydraulic Hammer	1,600 kg (18 to 34 t excavator)	44 m	73 m
Vibratory Pile Driver	Sheet piles	5 m to 40 m	20 m
Piling Rig – Bored	≤ 800 mm	5 m	4 m
Jackhammer	Hand held	3 m	2 m

Note 1: Criteria reference from Roads and Maritime CNVG.

Note 2: Criteria reference from DIN 4150.

The minimum working distances are indicative and will vary depending on the particular item of equipment and local geotechnical conditions. The distances apply to cosmetic damage of typical buildings under typical geotechnical conditions.

For works with large vibratory rollers or hydraulic hammers adjacent to the M4 and M7 Motorway structures a minimum working distance of 25 m shall be applied to meet the vibration criteria detailed in DIN 4150.

6 Construction Works

6.1 Construction Activities

The NIA assessed noise impacts from general construction activities required for the development. The activities and equipment are listed in **Table 12**. Sound power levels for the typical operation of construction equipment used in the modelling have been taken from verified test data and global standards that form part of SLR's noise database.

Table 12 Sound Power Levels for Construction Equipment

ID	Construction Activity	Equipment	Operating minutes in 15-min period ²	No of items in same location	Sound Power Level LWA (dB)	
					Item	Activity
W.001	Site Clearing and Earthworks	Dozer	15	1	100	116
		Dump Truck (approx. 15 tonne)	15	2	100	
		Excavator (25 tonne)	15	1	102	
		Front End Loader	15	1	112	
		Grader	15	1	108	
		Roller – Vibratory (12 tonne) ¹	15	1	105	
W.002	Construction of Roadways	Bitumen Spray Truck	15	1	100	111
		Line Marking Plant	15	1	98	
		Paving Machine	15	1	104	
		Roller – Vibratory (12 tonne) ¹	15	1	109	
W.003	Paving Works including Concrete Pours	Concrete Mixer Truck	7.5	1	106	112
		Concrete Pump	7.5	1	106	
		Concrete Vibrator	15	1	102	
		Paving Machine	15	1	104	
		Roller – Vibratory (12 tonne) ¹	15	1	109	
W.004	Construction of Warehouse and Office Buildings	Elevated Working Platform	15	2	97	107
		Flatbed Truck	15	1	100	
		Hand Tools (Electric)	15	4	96	
		Mobile Crane (100 tonne)	15	1	101	
W.005	Landscaping and Finishing Works	Hydromulching Equipment	15	1	97	102
		Skidsteer Loaders (approx. 0.5 tonne)	15	1	97	
		Light Vehicle (Ute/4WD)	15	1	98	

Note 1: In accordance with the ICNG, for activities identified as particularly annoying (such as jackhammering, rock breaking and power saw operations), a 5 dB 'penalty' is added to the source sound power level when predicting noise using the quantitative method.

Note 2: This refers to the amount of time in minutes that individual items of equipment would be in use for during the worst-case 15 minute assessment period, based on site observations. Some items of plant, such as Concrete Pumps, are not typically used in a continuous manner.

6.2 Hours of Construction

In accordance with Condition B17, the construction activities associated with the project will only be undertaken during the following hours:

- 7:00 am to 6:00 pm, Mondays to Fridays
- 8:00 am to 1:00 pm on Saturdays;
- at no time on Sundays or Public Holidays.

In accordance with Condition B18, works outside of the hours identified in condition B17 may be undertaken in the following circumstances:

- works that are inaudible at the nearest sensitive receivers;
- works agreed to in writing by the Planning Secretary;
- 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.

6.3 Construction Noise Predictions

A summary of the NIA predicted noise levels (without additional mitigation) for each of the closest residential receivers for the various work activities is presented in **Table 13**.

A qualitative description of the NML exceedance bands is given below, noting that the impact of these potential exceedances would depend on the period in which they were to occur:

- Noise levels 1 to 10 dB above NML – impact would typically be marginal to minor
- Noise levels 11 dB to 20 dB above NML – impact would typically be moderate
- Noise levels >20 dB above NML – impact would typically be high

For most construction activities, it is expected that the construction noise levels would frequently be lower than predicted at the most-exposed receiver, as the noise levels presented in this report are based on each scenario occurring at the site boundary.

Table 13 Predicted Worst-Case Construction Airborne Noise Levels

NCA	Receiver Type	Period	NML	Predicted Noise Level - LAeq(15 minutes) (dBA)				
				W.001	W.002	W.003	W.004	W.005
NCA01	Residential	Daytime – Standard Hours	51	46	41	42	37	32
		Daytime – OOH	46	46	41	42	37	32
		Evening	46	46	41	42	37	32
		Night-time	43	46	41	42	37	32
	Childcare	When in use	50	39	34	35	30	<30
	Educational	When in use	55	43	38	39	34	<30
	Place of Worship	When in use	55	43	38	39	34	<30
	Hotel	When in use	50	42	37	38	33	<30
	Passive Recreation	When in use	60	45	40	41	36	31
Commercial	When in use	70	51	46	47	42	37	
NCA02	Residential	Daytime – Standard Hours	57	55	50	51	46	41
		Daytime – OOH	52	55	50	51	46	41
		Evening	52	55	50	51	46	41
		Night-time	46	55	50	51	46	41
NCA03	Commercial	When in use	70	61	56	57	52	47
NCA04	Hotel	When in use	50	58	53	54	49	44
	Commercial	When in use	70	57	52	53	48	43
NCA05	Commercial	When in use	70	44	39	40	35	30
NCA06	Commercial	When in use	70	47	42	43	38	33
NCA07	Commercial	When in use	70	56	51	52	47	42

Note 1: Green cell colour indicates noise levels 1 to 10 dB above NML; Yellow cell colour indicates noise levels 11 to 20 dB above NML; Red cell colour indicates noise levels >20 dB above NML.

6.3.1 Summary of Findings

The predicted noise levels in **Table 13** and the outcomes of the NIA identify the following:

- Construction airborne noise levels up to 58 dBA are predicted at the nearest sensitive receivers.
- No exceedances of the NMLs during daytime standard hours are predicted at any of the surrounding residential receivers during any of the works. No residential receivers are predicted to be Highly Noise Affected (>75 dBA).
- Minor exceedances of the Out of Hours NMLs of up to 9 dBA are predicted at the nearest residential receivers during W.001 (site clearing and earthworks), W.002 (construction of roadways), and W.003 (paving works including concrete pours). However, it is understood that generally these works would not be conducted outside of standard construction hours. Sleep disturbance impacts are therefore not anticipated.

- Minor exceedances of the NMLs of up to 8 dBA at the hotel in NCA04 are predicted during W.001 (site clearing and earthworks), W.002 (construction of roadways), and W.003 (paving works including concrete pours).
- No exceedances of the NMLs are predicted at other sensitive receivers during any period during any of the works.

Implementation of feasible and reasonable construction noise mitigation measures will be undertaken where exceedances of the NMLs are predicted. Construction noise and vibration mitigation measures are discussed in **Section 7**.

6.4 Construction Vibration

Vibration intensive items of plant proposed for use during the construction of the development would include vibratory rollers. These items of equipment are proposed to be used during site clearing and earthworks (W.001), construction of roadways (W.002), and paving works including concrete pours (W.003).

The nearest existing vibration sensitive receivers to the development construction works are commercial receivers located over 100 m to the west of the development. As such, there are no vibration sensitive receivers located within the minimum working distances outlined in **Table 11**. The separation distance between the works location and the nearest vibration sensitive receivers is considered sufficient to mitigate potential vibration generated from the site and specific vibration mitigation measures are not required.

Where large vibratory rollers or hydraulic hammers are proposed to be used within 25 m of M4 or M7 Motorway structures vibration monitoring should be undertaken to verify that vibration levels do not exceed the criteria detailed in **Section 5.4.3**. Alternatively, smaller vibratory rollers or hydraulic hammers can be used without vibration monitoring where works are more than 10 m from these structures.

As noted in **Section 5.4.3.1**, some Aboriginal and Non-Aboriginal heritage items have been identified in the heritage reports for the site. Where these items are not being removed or demolished as part of the project, vibration monitoring must be undertaken on structures within the minimum working distances of vibration intensive equipment.

7 Mitigation and Management Measures

The ICNG acknowledges that due to the nature of construction works it is inevitable that there will be impacts where construction is near to sensitive receivers. The impacts during construction of the project are predicted to be relatively minor. Notwithstanding, all feasible and reasonable mitigation measures will be implemented by the project to minimise the potential impacts as far as practicable. The measures relevant to the project are detailed in **Table 14**.

As detailed in **Section 6.3**, no exceedances of the NMLs during daytime standard hours are predicted at any of the surrounding residential receivers during any of the works and no receivers are predicted to be Highly Noise Affected (>75 dBA). As such, it is considered that there are no high noise generating works near sensitive receivers and consent conditions B20 e) and f) do not require specific measures to be implemented. Regardless, community notification has been undertaken in accordance with the Community Consultation and Complaints Handling section within the CEMP. A copy of the Consultation Summary Report is provided in **Appendix B**.

Table 14 Environmental Management Controls for Construction Noise and Vibration

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Project Planning			
Use quieter and less vibration emitting construction methods where feasible and reasonable.	Project Manager	Ongoing	Best practice
Works will be completed during standard daytime construction hours outlined in Section 6.2 .			
Truck routes to site should be limited to major roads.			
Scheduling			
Respite offers should be considered where high noise and vibration generating activities are near receivers. As a guide, work should be carried out in blocks that do not exceed three hours, with a minimum respite period of one hour between each block.	Project Manager/ Communications and Community Liaison Representative	Ongoing	Best practice
Consult with the affected community to determine the need for respite periods.			
Site Layout			
Compounds and worksites will be designed to promote one-way traffic and minimise the need for vehicle reversing.	Project Manager	Ongoing	Best practice
Where practicable, work compounds, parking areas, and equipment and material stockpiles will be positioned away from noise-sensitive locations and take advantage of existing screening from local topography.			
Equipment that is noisy will be started away from sensitive receivers			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Training			
Training will be provided to all personnel on noise and vibration requirements for the project. Inductions and toolbox talks to be used to inform personnel of the location and sensitivity of surrounding receivers.	Project Manager	Ongoing	Best practice
Plant and Equipment Source Mitigation			
Where practicable, tonal reversing alarms (beepers) will be replaced with non-tonal alarms (squawkers) on all equipment in use (subject to occupational health and safety requirements).	Project Manager	Ongoing	Best practice
Noisy equipment will be sited 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.			
Noise generating equipment will be regularly checked and effectively maintained, including checking of hatches/enclosures regularly to ensure that seals are in good condition and doors close properly against seals.			
Dropping materials from a height will be avoided.			
Loading and unloading will be carried out away from noise sensitive areas, where practicable.			
Trucks will not queue outside residential properties. Truck drivers will avoid compression braking as far as practicable.			
Truck movements will be kept to a minimum, i.e. trucks are fully loaded on each trip.			
Screening			
Where possible, install purpose-built screening or enclosures around long-term fixed plant that has the potential to impact nearby receivers	Project Manager	Ongoing	Best practice
Site layout should take advantage of existing screening from local topography, where possible. Position site huts, maintenance sheds and/or shipping containers between noisy equipment and the affected receivers.			
Community Consultation			
Notifications will be provided to the affected community where high impacts are anticipated or where out of hours works are required, in accordance with the CEMP. Notification will be a minimum of 24 hours.	Communications and Community Liaison Representative	Ongoing	Best practice
Where complaints are received, work practices will be reviewed and feasible and reasonable practices implemented to minimise any further impacts. Refer to Section 9 .			

Measure	Person Responsible	Timing / Frequency	Reference / Notes
Monitoring			
Noise and/or vibration monitoring will be conducted (as appropriate) in response to any complaints received to verify that levels are not substantially above the predicted levels.	Environmental Coordinator	Ongoing	Best practice
Refer to Section 8 for full details of monitoring requirements.			
Vibration			
If vibration generating works are required within the minimum cosmetic damage working distances and considered likely to exceed the criteria: <ul style="list-style-type: none"> Different construction methods with lower source vibration levels will be investigated and implemented, where feasible Attended vibration measurements will be undertaken at the start of the works to determine actual vibration levels at the item. Works will cease if the monitoring indicates vibration levels are likely to, or do, exceed the relevant criteria. 	Environmental Coordinator	Ongoing	Best practice
Where works are required within the cosmetic damage minimum working distances, building condition surveys will be completed before and after the works to ensure no cosmetic damage has occurred.			

8 Monitoring

Construction noise and vibration impacts were previously assessed for the project as part of the NIA. Project specific NMLs have been established, as outlined in **Section 5**.

The NMLs are not mandatory limits, however, in the event construction noise levels are predicted to be above the NMLs, feasible and reasonable work practices are to be investigated to minimise noise emissions. Noise and/or vibration monitoring may be required in response to any formal complaints received to verify that levels are not substantially above the predicted levels.

Should monitoring be required in the case of receipt of a complaint regarding noise or vibration, monitoring will be conducted by suitably qualified specialists. The location and extent of attended monitoring will be determined in consultation with project staff and would be dependent on the activities taking place.

Noise monitoring will take place during the expected noisiest construction periods and be representative / indicative of any impact across all potentially affected sensitive receivers.

Vibration monitoring will be undertaken with geophones installed by an acoustic consultant at the closest points of the sensitive structure to the vibration intensive works to continuously monitor vibration for the duration of the works. Should the works location change, the geophones will be relocated to remain at the closest point of the structure to the works.

All items of acoustic and vibration instrumentation utilised will be designed to comply with applicable guidelines and carry current calibration certificates.

A monitoring report will be prepared after each monitoring survey which will be to the site manager and Charter Hall for review. Monitoring reports will be provided to the relevant regulatory authorities after review, unless otherwise agreed by the relevant regulatory authorities. Monitoring reports should include the following details, at a minimum:

- Noise/vibration monitoring/measurement locations
- Date, time and length of noise monitoring/measurements
- Weather conditions during the measurements
- Name and position of personnel undertaking measurements
- Construction activities being undertaken during measurements
- Locations of construction equipment and distance from monitoring location
- Measured L_{Aeq} and L_{Amax} noise levels during construction works (for each activity) along with a comparison to the predicted noise levels (noise monitoring only)
- Measured L_{A90} background noise level in absence of the construction works (noise monitoring only)
- Measured vibration levels during construction works (for each activity) along with a comparison to the relevant vibration criteria (vibration monitoring only)
- Measured vibration levels and relevant details of any of exceedance of the warning vibration level or vibration limits (vibration monitoring only)
- Measured background vibration level in absence of the construction works (vibration monitoring only)
- Operator observations noting any extraneous noise/vibration sources or other points of relevance.

9 Complaints Management

Complaints will be able to be made via a dedicated contact telephone number which will be included on the site signage. Responses will be provided to the complainant within 24 hours.

Information recorded in the complaints register with respect to each complaint will include:

- Date and time of complaint
- Name, address and telephone number of complainant
- Nature of complaint
- Response actions taken to date.

A report of complaints will be provided to the relevant regulatory authorities every three months throughout the construction of the project, or as otherwise agreed by the relevant regulatory authorities.

Preliminary investigations into the complaint will commence within 48 hours of the complaint receipt and adequate measures to identify and manage will be considered and implemented. Where required, noise monitoring will be undertaken as per **Section 8**.

10 Contingency Plan

In the event that a non-compliance with the noise conditions is identified, the Contractor will implement the following Contingency Plan:

- The Contractor will report any non-compliance to the relevant regulatory authorities within five working days.
- The Contractor will identify an appropriate course of action with respect to the identified impact(s), in consultation with specialists and the relevant regulatory authorities, as necessary.
- The Contractor will notify affected landholders and tenants at the location of the exceedance within five working days and provide them with details of actions taken, including noise or vibration monitoring results (if applicable), until it can be shown that the site is complying with the noise and vibration criteria.
- The Contractor will, on request, submit the proposed course of action to the relevant regulatory authorities for approval.
- The Contractor will implement the approved course of action.

11 Internal Audits

Periodic internal audits will be conducted to ensure that the development consent conditions and commitments and environmental management controls outlined in this CNVMP are being properly implemented. Audit reports will be used to inform of any corrective actions.

12 Roles and Responsibilities

Overall roles and responsibilities relating to the project are outlined in the overarching CEMP. The key responsibilities specifically for noise and vibration management are as follows:

12.1 Contractor's Project Manager

- Ensuring appropriate resources are available for the implementation of this CNVMP;
- Assessing data from inspections and providing project-wide advice to ensure consistent approach and outcomes are achieved;
- Providing necessary training for project personnel to cover noise and vibration management;
- Reviewing and update of this CNVMP;
- Commissioning a suitably qualified consultant to install and maintain noise and vibration monitors and ensuring that the environmental coordinator undertakes any attended noise and vibration measurements required by this CNVMP;
- Assessing and (as required) mitigating risks of elevated noise and vibration levels before commencing works each day and ensuring that the appropriate controls are implemented and effective;
- Reviewing weather forecasts and current observations of meteorological conditions (as recorded at Horsley Park AWS);
- Ceasing works in the event of excessive noise and vibration generation due to noise enhancing weather conditions or inadequately controlled construction activities (e.g. strong winds blowing from the noise source to nearby receivers, temperature inversions, etc.); and
- In the event that a noise or vibration complaint is received, implementing the procedure outlined in **Section 9**.

12.2 Environmental Coordinator

- Coordinating noise and/or vibration monitoring program (as required);
- Review that control measures are working in accordance with the CNVMP; and
- Identifying and reporting noise and vibration emissions incidents.

12.3 All Workers on Site

- Observing any noise and vibration emission control instructions and procedures that apply to their work;
- Taking action to prevent or minimise noise and vibration emission incidents; and
- Identifying and reporting noise and vibration emission incidents.

13 Review and Improvement of Noise Management Plan

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

- Significant changes to the equipment, machinery and plant operated within the site.
- Where it is identified via monitoring that the performance of the project is not meeting the objectives of the CNVMP
- At the request of the relevant regulatory authority or other relevant government agency.

All employees and contractors will be informed of any revisions to the CNVMP by Site Management during toolbox talks. The most recent version of the CNVMP as approved by the Planning Secretary, will be implemented for the duration of construction works.

APPENDIX A

Acoustic Terminology

1. Sound Level or Noise Level

The terms ‘sound’ and ‘noise’ are almost interchangeable, except that ‘noise’ often refers to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure. The human ear responds to changes in sound pressure over a very wide range with the loudest sound pressure to which the human ear can respond being ten million times greater than the softest. The decibel (abbreviated as dB) scale reduces this ratio to a more manageable size by the use of logarithms.

The symbols SPL, L or LP are commonly used to represent Sound Pressure Level. The symbol LA represents A-weighted Sound Pressure Level. The standard reference unit for Sound Pressure Levels expressed in decibels is 2×10^{-5} Pa.

2. ‘A’ Weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an ‘A-weighting’ filter. This is an electronic filter having a frequency response corresponding approximately to that of human hearing.

People’s hearing is most sensitive to sounds at mid frequencies (500 Hz to 4,000 Hz), and less sensitive at lower and higher frequencies. Different sources having the same dBA level generally sound about equally loud.

A change of 1 dB or 2 dB in the level of a sound is difficult for most people to detect, whilst a 3 dB to 5 dB change corresponds to a small but noticeable change in loudness. A 10 dB change corresponds to an approximate doubling or halving in loudness. The table below lists examples of typical noise levels.

Sound Pressure Level (dBA)	Typical Source	Subjective Evaluation
130	Threshold of pain	Intolerable
120	Heavy rock concert	Extremely noisy
110	Grinding on steel	
100	Loud car horn at 3 m	Very noisy
90	Construction site with pneumatic hammering	Loud
80	Kerbside of busy street	
70	Loud radio or television	
60	Department store	Moderate to quiet
50	General Office	
40	Inside private office	Quiet to very quiet
30	Inside bedroom	
20	Recording studio	Almost silent

Other weightings (eg B, C and D) are less commonly used than A-weighting. Sound Levels measured without any weighting are referred to as ‘linear’, and the units are expressed as dB(lin) or dB.

3. Sound Power Level

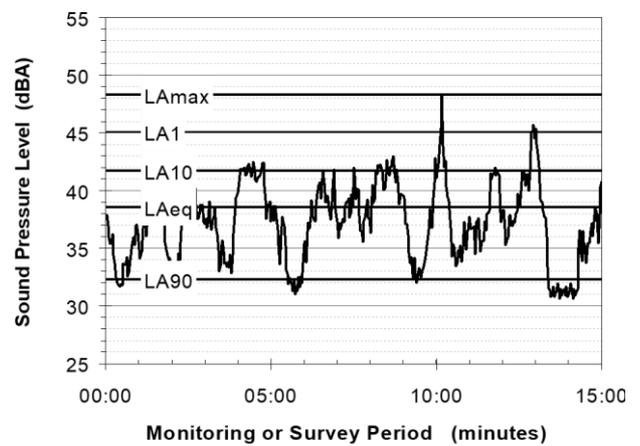
The Sound Power of a source is the rate at which it emits acoustic energy. As with Sound Pressure Levels, Sound Power Levels are expressed in decibel units (dB or dBA), but may be identified by the symbols SWL or LW, or by the reference unit 10^{-12} W.

The relationship between Sound Power and Sound Pressure is similar to the effect of an electric radiator, which is characterised by a power rating but has an effect on the surrounding environment that can be measured in terms of a different parameter, temperature.

4. Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels LAN, where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time, LA10 the noise exceeded for 10% of the time, and so on.

The following figure presents a hypothetical 15 minute noise survey, illustrating various common statistical indices of interest.



Of particular relevance, are:

- LA1 The noise level exceeded for 1% of the 15 minute interval.
- LA10 The noise level exceeded for 10% of the 15 minute interval. This is commonly referred to as the average maximum noise level.
- LA90 The noise level exceeded for 90% of the sample period. This noise level is described as the average minimum background sound level (in the absence of the source under consideration), or simply the background level.
- LAeq The A-weighted equivalent noise level (basically, the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

5. Frequency Analysis

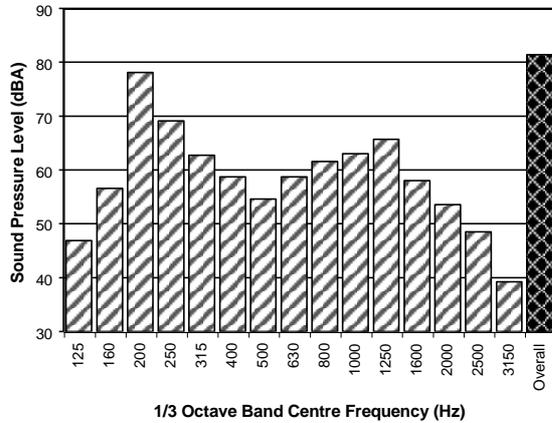
Frequency analysis is the process used to examine the tones (or frequency components) which make up the overall noise or vibration signal.

The units for frequency are Hertz (Hz), which represent the number of cycles per second.

Frequency analysis can be in:

- Octave bands (where the centre frequency and width of each band is double the previous band)
- 1/3 octave bands (three bands in each octave band)
- Narrow band (where the spectrum is divided into 400 or more bands of equal width)

The following figure shows a 1/3 octave band frequency analysis where the noise is dominated by the 200 Hz band. Note that the indicated level of each individual band is less than the overall level, which is the logarithmic sum of the bands.



6. Annoying Noise (Special Audible Characteristics)

A louder noise will generally be more annoying to nearby receivers than a quieter one. However, noise is often also found to be more annoying and result in larger impacts where the following characteristics are apparent:

- **Tonality** - tonal noise contains one or more prominent tones (ie differences in distinct frequency components between adjoining octave or 1/3 octave bands), and is normally regarded as more annoying than 'broad band' noise.
- **Impulsiveness** - an impulsive noise is characterised by one or more short sharp peaks in the time domain, such as occurs during hammering.
- **Intermittency** - intermittent noise varies in level with the change in level being clearly audible. An example would include mechanical plant cycling on and off.
- **Low Frequency Noise** - low frequency noise contains significant energy in the lower frequency bands, which are typically taken to be in the 10 to 160 Hz region.

7. Vibration

Vibration may be defined as cyclic or transient motion. This motion can be measured in terms of its displacement, velocity or acceleration. Most assessments of human response to vibration or the risk of damage to buildings use measurements of vibration velocity. These may be expressed in terms of 'peak' velocity or 'rms' velocity.

The former is the maximum instantaneous velocity, without any averaging, and is sometimes referred to as 'peak particle velocity', or PPV. The latter incorporates 'root mean squared' averaging over some defined time period.

Vibration measurements may be carried out in a single axis or alternatively as triaxial measurements (ie vertical, longitudinal and transverse).

The common units for velocity are millimetres per second (mm/s). As with noise, decibel units can also be used, in which case the reference level should always be stated. A vibration level V , expressed in mm/s can be converted to decibels by the formula $20 \log (V/V_0)$, where V_0 is the reference level (10⁻⁹ m/s). Care is required in this regard, as other reference levels may be used.

8. Human Perception of Vibration

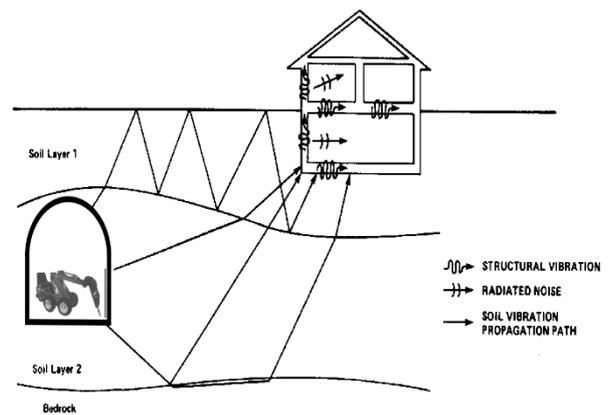
People are able to 'feel' vibration at levels lower than those required to cause even superficial damage to the most susceptible classes of building (even though they may not be disturbed by the motion). An individual's perception of motion or response to vibration depends very strongly on previous experience and expectations, and on other connotations associated with the perceived source of the vibration. For example, the vibration that a person responds to as 'normal' in a car, bus or train is considerably higher than what is perceived as 'normal' in a shop, office or dwelling.

9. Ground-borne Noise, Structure-borne Noise and Regenerated Noise

Noise that propagates through a structure as vibration and is radiated by vibrating wall and floor surfaces is termed 'structure-borne noise', 'ground-borne noise' or 'regenerated noise'. This noise originates as vibration and propagates between the source and receiver through the ground and/or building structural elements, rather than through the air.

Typical sources of ground-borne or structure-borne noise include tunnelling works, underground railways, excavation plant (eg rockbreakers), and building services plant (eg fans, compressors and generators).

The following figure presents an example of the various paths by which vibration and ground-borne noise may be transmitted between a source and receiver for construction activities occurring within a tunnel.



The term 'regenerated noise' is also used in other instances where energy is converted to noise away from the primary source. One example would be a fan blowing air through a discharge grill. The fan is the energy source and primary noise source. Additional noise may be created by the aerodynamic effect of the discharge grill in the airstream. This secondary noise is referred to as regenerated noise.

APPENDIX B

CNVMP Consultation Summary Report

To: [REDACTED]
From: [REDACTED]
Date: 15 October 2021
Subject: Light Horse Business Hub
CNVMP Consultation Summary Report

At: AT&L
At: SLR Consulting Australia Pty Ltd
Ref: 660.30136.00000-M01-v1.0-20211015.docx

SLR Consulting were engaged by Charter Hall (The Developer) to undertake consultation with relevant stakeholders regarding the Construction Noise and Vibration Management Plan (CNVMP) prepared for the Light Horse Interchange Business Hub, an approved development including:

A Concept Proposal for:

- establishment of up to 165,500m² of gross floor area for general industrial, light industrial, warehouse and distribution centres and ancillary office land uses; and
- conceptual development levels, footprints and building envelopes for Lots 1-7, roads, parking, site access and landscape design.

And Stage 1 works for:

- demolition of existing structures;
- remediation of the site;
- site preparation and bulk earthworks;
- construction of road access and internal roads and installation of essential infrastructure services;
- flood and stormwater management infrastructure works; and
- subdivision of the site into 11 Torrens title lots, including seven future development lots and four lots comprising the stormwater detention basin, access road reserve and residual land to remain within Western Sydney Parklands.

The site is located at 165 Wallgrove Road & 475 Ferrers Road, Eastern Creek and is legally described as Part Lot 10 DP 1061237 and Part Lot 5 DP 804051. The development was approved under SSD 9667 with consultation on the CNVMP forming condition B20 (e) and (f) of the consent.

Conditions B20 (e) and (f) of SSD 9667 state:

B20. The Applicant must prepare a Construction Noise and Vibration Management Plan for the Stage 1 development to the satisfaction of the Planning Secretary. The Plan must form part of a CEMP in accordance with condition C2 and must

...

(e) include strategies that have been developed with the community for managing high noise generating works; and

(f) describe the community consultation undertaken to develop the strategies in condition B20(e).

To satisfy these conditions, SLR Consulting undertook a consultation campaign to notify and consult with potential sensitive receivers surrounding the site.

1 Consultation Campaign – Methodology and Outcomes

Potential receivers were identified within the CNVMP as properties within proximity to the site, including residential receivers to the north and a hotel located to the east. It is noted that the CNVMP concluded that the approved development was unlikely to result in high noise generating works that would impact on surrounding receivers, however consultation was still undertaken, taking a precautionary approach and undertaken in accordance with the Community Consultation Strategy (CCS) which forms part of the Construction Environmental Management Plan (CEMP) for the Project.

For the purposes of consultation, all properties in proximity to the site were identified as Stakeholders and were notified of the development and invited to engage via formal letter, delivered via Australia Post. Identified properties are included in **Attachment 1**. The engagement letter sought to introduce Charter Hall and SLR Consulting and their role in the approved development and provide general awareness among the local community about the proposal and specific information with respect to the CNVMP. The correspondence included a summary of the approved development, including a site plan and outlined proposed strategies to manage high noise generating works, including:

- The establishment of a construction phonenumber upon commencement of works, for the receipt of comment or complaint relating to the project, with respect to noise or any other impact experienced. Phonenumber details to be distributed by mail to surrounding land occupiers prior to the commencement of works.
- The notification of surrounding land occupiers of upcoming high noise generating works via letterbox drop prior to the event (noting these events are not expected to occur)

Stakeholders were invited to participate in consultation regarding the strategies and provided contact details should they have any queries with respect to the development. A copy of the engagement letter is included at **Attachment 2**.

This method of engagement was chosen as most effective for reaching geographically targeted community stakeholders given the reliability of the postal service. Alternative methods of contact (such as door knocking or community drop in sessions) were not considered given the COVID 19 Pandemic. The engagement options offered within the mail out correspondence were designed to accommodate various preferences, abilities and willingness to engage in the consultation process.

The options included phone or email address provided for written submissions. It is considered that the method of engagement was appropriate in both scale and form, allowing for the sharing of information with the raising of awareness for surrounding Stakeholders to the proposed strategies for managing high noise generating works, whilst acknowledging that these works are not expected to occur in the course of the project's construction. The approach taken provided information and avenues for comment and obtaining further information whilst respecting the privacy of surrounding landholders.

No contact or response was received from Stakeholders following the mail out campaign.

The consultation required under B20 (e) and (f) of SSD 9667 is concluded. Should you have any questions please contact the undersigned.

Kind Regards,

A handwritten signature in black ink, appearing to read "Kneak".Two lines of contact information (likely phone and email) that have been redacted with black bars.

Checked/
Authorised by: DT

Attachment 1: List of Mail Out Stakeholders

Attachment 2: Engagement Letter (Copy)

Attachment 1: List of Mailout Stakeholders

Street Address	Suburb	State	Postcode
1 PETER BROCK DRIVE	Eastern Creek	NSW	2766
45 PIKES LANE	Eastern Creek	NSW	2766
47 PIKES LANE	Eastern Creek	NSW	2766
2 WONDERLAND DRIVE	Eastern Creek	NSW	2766
65 HUNTINGWOOD DRIVE	Huntingwood	NSW	2148
51 PIKES LANE	Eastern Creek	NSW	2766
55 PIKES LANE	Eastern Creek	NSW	2766
28 WALLGROVE ROAD	Minchinbury	NSW	2770
1 WONDERLAND DRIVE	Eastern Creek	NSW	2766
41 PIKES LANE	Eastern Creek	NSW	2766
733 GREAT WESTERN HIGHWAY	Eastern Creek	NSW	2766
5 PETER BROCK DRIVE	Eastern Creek	NSW	2766
25 PIKES LANE	Eastern Creek	NSW	2766
39 PIKES LANE	Eastern Creek	NSW	2766
10 INTERCHANGE DRIVE	Eastern Creek	NSW	2766
18 PETER BROCK DRIVE	Eastern Creek	NSW	2766
10 PETER BROCK DRIVE	Eastern Creek	NSW	2766
14 PETER BROCK DRIVE	Eastern Creek	NSW	2766
3 ALSPEC PLACE	Eastern Creek	NSW	2766
5 WONDERLAND DRIVE	Eastern Creek	NSW	2766
7 WILLIAM DEAN STREET	Eastern Creek	NSW	2766
60 WALLGROVE ROAD	Minchinbury	NSW	2770
400 FERRERS ROAD	Eastern Creek	NSW	2766
12A PETER BROCK DRIVE	Eastern Creek	NSW	2766
71-73 HUNTINGWOOD DRIVE	Eastern Creek	NSW	2766
715 GREAT WESTERN HIGHWAY	Eastern Creek	NSW	2766
711 GREAT WESTERN HIGHWAY	Eastern Creek	NSW	2766
100 WALLGROVE ROAD	Eastern Creek	NSW	2766
9 INTERCHANGE DRIVE	Eastern Creek	NSW	2766
13 INTERCHANGE DRIVE	Eastern Creek	NSW	2766

5 October 2021

660.30165.00000-L01-v1.0-20211005.docx

Attention: The Occupier

Community and Stakeholder Consultation - Noise and Vibration Light Horse Interchange Business Hub

To whom it may concern,

This letter has been prepared by SLR Consulting on behalf of Charter Hall. Charter Hall are undertaking development approved under SSD-9667 for:

A Concept Proposal for:

- establishment of up to 165,500m² of gross floor area for general industrial, light industrial, warehouse and distribution centres and ancillary office land uses; and
- conceptual development levels, footprints and building envelopes for Lots 1-7, roads, parking, site access and landscape design.

And Stage 1 works for:

- demolition of existing structures;
- remediation of the site;
- site preparation and bulk earthworks;
- construction of road access and internal roads and installation of essential infrastructure services;
- flood and stormwater management infrastructure works; and
- subdivision of the site into 11 Torrens title lots, including seven future development lots and four lots comprising the stormwater detention basin, access road reserve and residual land to remain within Western Sydney Parklands.

At 165 Wallgrove Road & 475 Ferrers Road, Eastern Creek, legally described as Part Lot 10 DP 1061237 and Part Lot 5 DP 804051. A plan identifying the proposed development area is attached.

We are writing to you today to introduce ourselves, outline the likely noise impacts of the proposed development and identify ways you can obtain further information, raise questions or make comments.

As part of the Conditions of Consent for SSD-9667, the developer is required to prepare a Construction Noise and Vibration Management Plan (CNVMP), inclusive of strategies developed to mitigate the impact of high noise generating works on the surrounding area. In developing these strategies, Charter Hall are seeking to engage with the land users and occupiers surrounding the development. SLR Consulting have been engaged to undertake this consultation. Investigations undertaken to inform the CNVMP have revealed that the proposed development is unlikely to result in high noise generating works or impacts to the surrounding area. It is proposed however that the following strategies be adopted to manage unforeseen noise impacts arising from the development:

- The establishment of a construction phonenumber upon commencement of works, for the receipt of comment or complaint relating to the project, with respect to noise or any other impact experienced. Phonenumber details to be distributed by mail to surrounding land occupiers prior to the commencement of works.
- The notification of surrounding land occupiers of upcoming high noise generating works via letterbox drop prior to the event (noting these events are not expected to occur)

If you would like to provide feedback or have queries relating to the above or would like a copy of the CNVMP, please contact the undersigned utilising the following contact details:

Contact: [REDACTED]
Ph: [REDACTED]
Email: [REDACTED]

Yours sincerely



[REDACTED]
[REDACTED]

Checked/ Authorised by: DT



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Annexure F– Aboriginal Cultural Heritage Plan

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TO AUSTRALIA AND
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Light Horse Interchange Business Hub, Eastern Creek, NSW (SSD 9667)

Aboriginal Cultural Heritage Management Plan

Prepared for Western Sydney Parklands Trust

June 2021 - Version 2

Sydney
Melbourne
Brisbane
Perth

extent.com.au

Document Control Page

CLIENT: Western Sydney Parklands Trust

PROJECT: Aboriginal Cultural Heritage Management Plan

SITE NAME: Light Horse Interchange Business Hub, Eastern Creek, NSW (SSD 9667)

EXTENT HERITAGE PTY LTD INTERNAL REVIEW/SIGN OFF

WRITTEN BY	DATE	VERSION	REVIEWED	EDITED	EDIT LEVEL	APPROVED
Ryan Taddeucci	10.3.21	1	Madeline Shanahan	19.3.21	Technical/QA	19.3.21
Ryan Taddeucci	18.6.21	2	Coral Hardwick	26.6.21	QA and minor edits	15.7.21

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Plan Control

The latest version of this plan will be available for all Project personnel. Distribution of the plan will be to those detailed on the distribution listing below. This distribution will be by “hard copy” or electronically via email.

The Project Manager will maintain, review and update this plan.

Distribution List of Registered Copies

Copy Number	Issued to	Date	Name

Details of Document Revision

Each new revision to the plan will be distributed to all registered copyholders with an instruction that the superseded copy be destroyed or marked as superseded.

The Project Director or Environmental Manager will approve amendments by initial in the Approval column below.

The following provides a record of amendments made to this document:

Revision	Date	Description	Page	Prepared by	Approved

Abbreviations

Acronyms	Glossary
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHMP	Aboriginal Cultural Heritage Management Plan

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Acronyms	Glossary
AHD	Australian Height Datum
AHIMS	Aboriginal Heritage Information Management System
ASIRF	Aboriginal Site Impact Recording Forms
DECCW	Department of Environment Climate Change and Water (now Heritage NSW - DPC)
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act, 1979
Heritage NSW – DPC	Heritage NSW – Department of Premier Cabinet
Ka	1,000 years ago
MCoA	Minister's Conditions of Approval
NPW Act	National Parks & Wildlife Act, 1974
OEH	Office of Environment and Heritage (now Heritage NSW - DPC)
RAP	Registered Aboriginal Party
SSD	State Significant Development



Executive Summary

Western Sydney Parklands Trust intends to redevelop part of 475 Ferrers Road, Eastern Creek and 165 Wallgrove Road, Eastern Creek (hereafter referred to as the 'subject area') to accommodate industrial and light industrial land use activities. The proposed development was determined to be a State Significant Development (SSD 9667) and was issued the Secretary's Environmental Assessment Requirements (SEARs) on 7 November 2018. In accordance with the requirements of the SEARs, Extent Heritage was commissioned by WSPT, to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) of the subject area.

The ACHAR resulted in the identification of nine Aboriginal sites registered on Aboriginal Heritage Information Management System (AHIMS) database:

- LHIBH BS (AHIMS ID 45-5-5285)
- LHIBH Eskdale Creek terrace (AHIMS ID 45-5-5283)
- LHIBH Eastern Creek terrace (AHIMS ID 45-5-5284)
- IF1 (AHIMS ID 45-5-2564)
- IF2 (AHIMS ID 45-5-2565)
- LIBH AS1 (AHIMS ID 45-5-5183)
- LIBH AS2 (AHIMS ID 45-5-5185)
- EC6 (Eastern Creek) (AHIMS ID 45-5-0756)
- WSP17 (AHIMS ID 45-5-3264)

The ACHAR assessed LHIBH Eskdale Creek terrace (AHIMS ID 45-5-5283) and LHIBH Eastern Creek terrace (AHIMS ID 45-5-5284) as being of high archaeological significance. The remaining sites were assessed as being of low archaeological significance. An assessment of impacts was completed, and it was identified that LHIBH Eastern Creek terrace (AHIMS ID 45-5-5284) would not be impacted by the proposed development. As a result, salvage excavations were recommended at LHIBH Eskdale Creek terrace (AHIMS ID 45-5-5283).

Approval for the Project was granted by the Minister for Planning and Public Spaces on 31 August 2020, under Division 4.7 of the Environmental Planning and Assessment Act 1979 (Minister's Conditions of Approval [MCoA] SSD-9667). Condition B24 of this approval notes that an Aboriginal Heritage Management Plan (ACHMP) (this document) is needed. In accordance with the recommendations of the ACHAR and the requirements of the MCoA SSD-9667 this ACHMP includes the following:

- Processes, timing, and methods for maintaining Aboriginal community consultation through the remainder of the project.
- Descriptions and procedures for development impact mitigation, including archaeological salvage, to be undertaken in advance of proposed development.
- Description and methods of post-excavation analysis of chronological, soil, and environmental samples that will be recovered as part of the archaeological mitigation of development impacts.
- Procedures for the long-term curation of Aboriginal cultural materials recovered as part of the project.
- Processes for reviewing, monitoring, and updating the ACHMP as the project progresses.

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1. Introduction

1.1 Project Description

Western Sydney Parklands Trust intends to redevelop part of 475 Ferrers Road, Eastern Creek and 165 Wallgrove Road, Eastern Creek (hereafter referred to as the 'subject area') to accommodate industrial and light industrial land use activities (Figure 1 and Figure 2). Key features of this are the demolition of existing structures and bulk earthworks, the creation of approximately 29.5 hectares of developable industrial zoned land and its associated access roads, bridge crossings, estate road, estate basin and infrastructure, as well as the realignment of Eskdale Creek. Approval for the Project was granted by the Minister for Planning and Public Spaces on 31 August 2020, under Division 4.7 of the *Environmental Planning and Assessment Act 1979* (Minister's Conditions of Approval [MCoA] SSD-9667). Condition B24 of this approval notes that an Aboriginal Heritage Management Plan (ACHMP) (this document) is needed (Table 1).

This document provides guidance on the process and management of Aboriginal cultural heritage in the post-approval phase of the Project. It further outlines the processes and timeframes associated with Aboriginal consultation, and any off-site heritage measures that may be required as part of the project.

1.2 Purpose of the ACHMP

The purpose of this plan is to define the rationale, policies and procedures to be implemented for management and mitigation of known, and as yet unknown, Aboriginal objects, sites and/or deposits during the construction phase of the Project.

1.2.1 Objectives

The overall objectives of this ACHMP are to:

- Present overall heritage management principles and guidelines for the design and construction phase of the Project;
- Summarise potential impacts on identified heritage sites arising from the Project;
- Describe how measures will be implemented to prevent or mitigate Aboriginal heritage impacts;
- Provide specific guidelines for the mitigation of known heritage sites that will be directly and indirectly impacted by the Project;
- Provide specific guidelines and procedures for unexpected finds and possible discovery of human remains;
- Provide procedures for consultation with the Aboriginal community including Registered Aboriginal Parties (RAPs) timeframes and processes; and
- Outline an effective monitoring, auditing and reporting framework to assess the effectiveness of the controls implemented.
- Fulfil the requirements of the Project Approval issued by DPE (Table 1)

The draft ACHMP will be provided to the RAPs for the Project for a 21-day review period. Comments and recommendations made by the RAPs (Appendix 1) are included in this document.



Table 1. Project Approval conditions and where this report addresses them.

Condition	Location in this Report
B24. Before the commencement of any clearing or construction works, the Applicant must prepare an ACHMP for the development to protect and manage aboriginal heritage within the site. The plan must form part of the CEMP required by Condition C2 and must:	Entire report.
(a) be prepared by a suitably qualified and experienced expert in consultation with the Registered Aboriginal Parties;	This report was written by Extent Heritage Pty Ltd (Document Control Page cover page for specific authorship details). Section 5.2 provides details regarding consultation with the RAPs
(b) be submitted to the satisfaction of the Planning Secretary prior to construction of any part of the development;	See Document Distribution and Control for details regarding this task.
(c) address the recommendations within the Aboriginal Cultural Heritage Assessment Report prepared by Extent Heritage dated February 2020.	The Aboriginal Cultural Heritage Assessment Report (ACHAR) (Extent Heritage 2020) recommended the preparation of this ACHMP. Therefore, this entire report has been prepared to meet this requirement.

1.2.2 Approach

This ACHMP is designed to articulate how the conditions of planning approval, statements of commitment and relevant legislative requirements are to be met as design and construction of this Project occurs. The ACHMP is an operational document to guide the specific heritage mitigation measures.

1.3 Limitations

This report is based on existing and publicly available environmental and archaeological information, previous investigations of the study area, and the findings of the ACHAR. It did not include any independent verification of the results or interpretations of externally sourced reports (except where archaeological investigation indicated inconsistencies). The Aboriginal Heritage Information Management System (AHIMS) data was provided to Extent Heritage by Heritage NSW – Department of Premier Cabinet (DPC). Information in the archaeological assessment report reflects the scope and the accuracy of the AHIMS site data, which in some instances is limited.

This report does not address historical archaeological heritage, built heritage or landscape components (Condition B28 and B29 of MCoA SSD-9667).

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

EXTENT HERITAGE ADVISORS

 Study area

Drawn by: Tom Sapienza
Checked by: Georgia Burnett
Date: 27 August 2018
Projection: GDA 1994 MGA Zone 56
Data sources: Extent, LPI, Nearmap, OSM

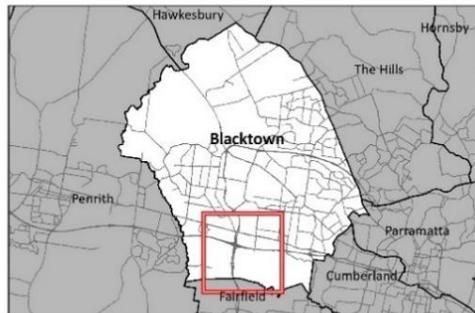
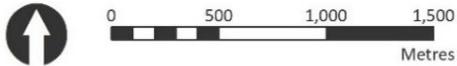


Figure 1. The subject area.

EXTENT

HERITAGE ADVISORS
TO AUSTRALIA AND
THE ASIA PACIFIC

EXTENT HERITAGE ADVISORS

 Study area
Engineer plan lines

Drawn by: Tom Sapienza
Checked by: Megan Sheppard Brennan
Date: 18 November 2019
Projection: GDA 1994 MGA Zone 56
Data sources: Extent, LPI, NSW DFSI, OSM, WSPT

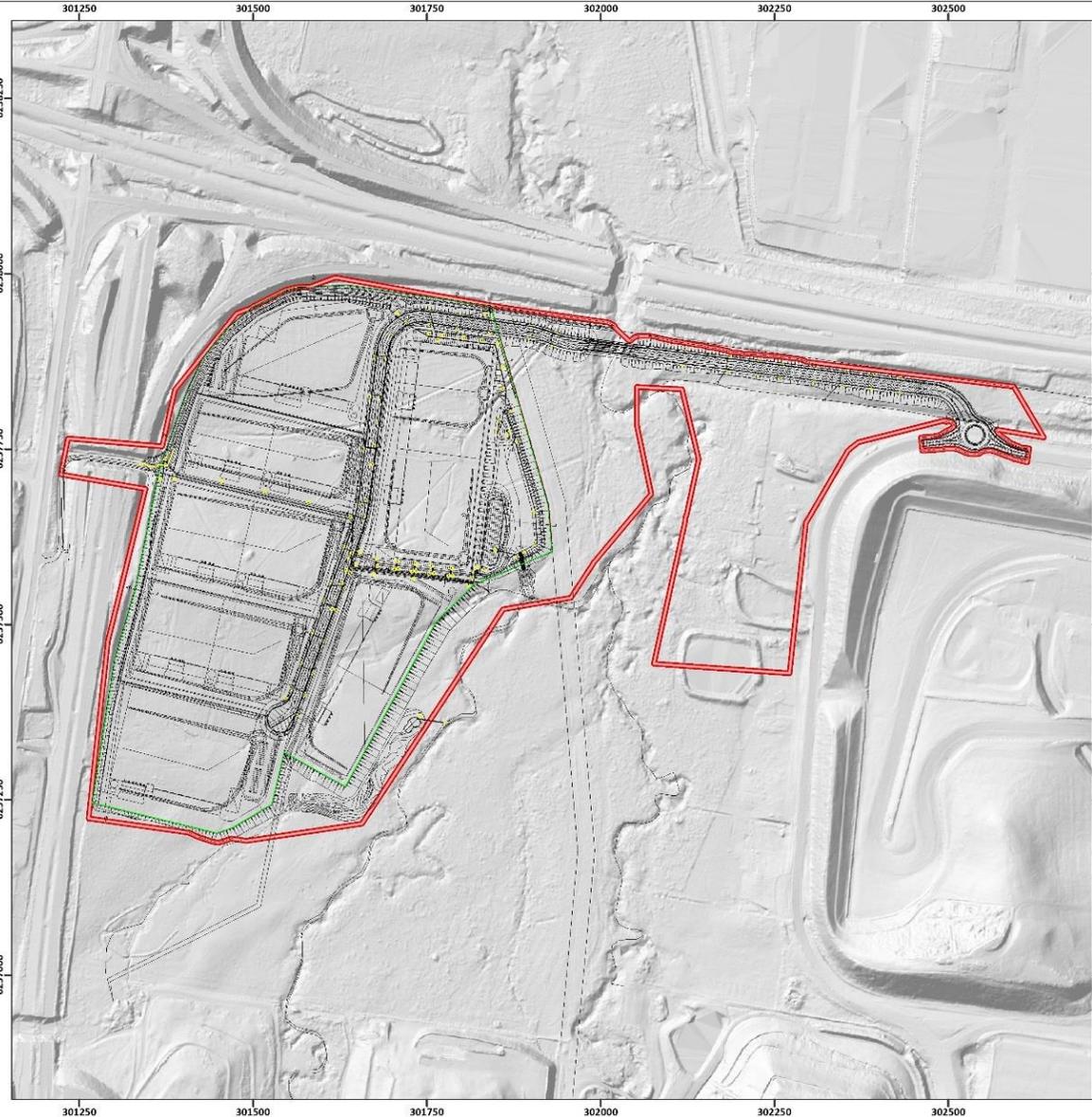
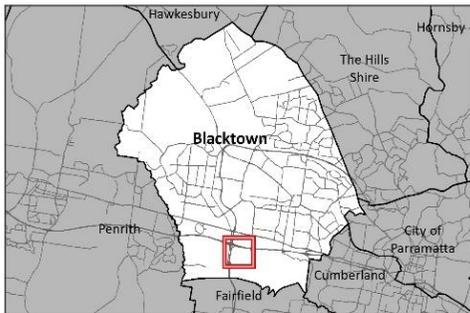
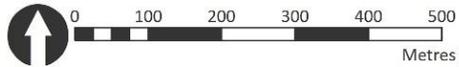


Figure 2. The proposed development. Source: WSPT (April 2019).



2. Legislative and Regulatory Requirements

2.1 Key Environmental Legislation

Aboriginal heritage is protected and managed under the following legislation:

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999;*
- *Commonwealth Native Title Act, 1993*
- *NSW National Parks and Wildlife Act 1974;*
- *NSW Heritage Act 1977; and*
- *NSW Environmental Protection and Assessment Act 1979.*

The National Parks & Wildlife Act, 1974 (NPW Act) provides blanket protection for Aboriginal objects (material evidence of indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW.

The Environmental Planning and Assessment Act, 1979 (EP&A Act) requires that environmental impacts are considered in land-use planning, including impacts on Indigenous heritage. Where Project approval is to be determined under Division 4.7 of the Act, further approvals under the *National Parks & Wildlife Act, 1974* are not required. In those instances, management of Aboriginal heritage follows the applicable Aboriginal assessment guidelines, any relevant EIS recommendations and the MCoA developed for the Project.

2.2 Approvals, Permits, Licences

Approval of a project under Division 4.7 of the EP&A Act removes the requirement to obtain certain statutory approvals including:

- The requirement to obtain an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974*.

2.3 Guidelines and Standards

The ACHMP has been developed using best practice heritage guidelines and standards. These guidelines and standards, established by the Heritage NSW – DPC, were developed to guide the assessment, conservation and mitigation of Aboriginal heritage in New South Wales. Many of the guidelines are designed to obtain permits and approvals under the *National Parks and Wildlife Act 1974*.

Not all guidelines are applicable for Division 4.7 project approvals (such as Aboriginal community consultation guidelines); however, they are useful documents to guide the general direction of assessment of the significance of heritage sites; and their conservation and mitigation.

Relevant guidelines include:

- *Due Diligence Code of Practise for the Protection of Aboriginal Objects* in New South Wales (Department of Environment Climate Change and Water [DECCW] 2010a) [the Due Diligence Code].



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

3. Identified Aboriginal Heritage Sites

3.1 Background

Extent Heritage was commissioned by WSPT, to prepare an ACHAR of the subject area in advance of proposed development. The ACHAR included:

- Comprehensive Aboriginal stakeholder consultation completed in accordance with the Consultation Requirements.
- A search of AHIMS database to identify previously recorded Aboriginal heritage sites within the subject area.
- An archaeological survey to relocate known Aboriginal heritage sites and to identify any previously unknown Aboriginal heritage sites by project archaeologist(s) and Aboriginal community members.
- A test excavation program to determine if any subsurface Aboriginal objects are present within the study area.

In addition, as part of the document finalisation process, consultation was undertaken with the RAPs (Section 5.2), and any information provided in relation to tangible and/or intangible cultural heritage is included here.

3.2 Assessment Results

The ACHAR resulted in the identification of nine AHIMS registered sites:

- LHIBH BS (AHIMS ID 45-5-5285)
- LHIBH Eskdale Creek terrace (AHIMS ID 45-5-5283)
- LHIBH Eastern Creek terrace (AHIMS ID 45-5-5284)
- IF1 (AHIMS ID 45-5-2564)
- IF2 (AHIMS ID 45-5-2565)
- LIBH AS1 (AHIMS ID 45-5-5183)
- LIBH AS2 (AHIMS ID 45-5-5185)
- EC6 (Eastern Creek) (AHIMS ID 45-5-0756)
- WSP17 (AHIMS ID 45-5-3264)

LHIBH BS

Small, low-density artefact scatters and isolated finds

Low-density distribution (<10 artefacts/0.25m²) of cultural material across the study area, present on a variety of upper, mid, and lower slope landforms, and occasionally in association with low-order drainage lines and tributaries of Eastern, Eskdale and Reedy Creek. Cultural material is present both on the partly-eroded ground surface, or in shallow, duplex topsoils of the Blacktown and South Creek soil landscapes. Historical development, drainage management works and erosional processes have caused localised disturbance to underlying soils, but has not completely removed evidence for Aboriginal occupation.

This low-density distribution of background material reflects an ephemeral or transient use of much of the study area in the past.

LHIBH Eskdale Creek terrace

Artefact, PAD

Elevated terrace of varying depth (between 500 and 900mm) above Eskdale Creek, characterised by deep, fine sandy clay alluvium overlying fine sandy clay with increasing clay content and ironstone staining at depth. Artefact densities within the Eskdale Creek terrace are broadly comparable with the rest of the study area; however, a discrete, highly localised ~100m² patch of increased artefact density centred on TP151 was identified. The main artefact concentrations typically occurred between 100 and 500mm below the current land surface (between 46.3 and 45.9m AHD), with peaks at 200 and 300mm below ground surface. These levels broadly date to within the last 3,000 years.

The localised patch is considered to reflect a focus of intense, but perhaps short-lived, visitation of the study area in the past, within which heat treatment of raw materials occurred.

LHIBH Eastern Creek terrace

Artefact, PAD

Elevated, flat terrace above Eastern Creek, characterised by moderately deep, fine sandy clay alluvium, to depths of 500mm. Artefact densities within the Eastern Creek terrace are broadly comparable with the rest of the study area; however, a discrete, highly localised ~100m² patch of increased artefact density centred on TP57 was identified. Artefact concentrations typically occurred between 0 and 400mm below the current land surface (between 45.1 and 44.7m AHD), with peaks at 200 and 300mm below ground surface. These levels broadly date to within the last 4,000 years.

The localised patch is considered to reflect a focus of intense, but perhaps short-lived, visitation of the study area in the past, where the manufacture of stone artefacts occurred.

IF2

Isolated find

An isolated white chert flake on the eroded edge of a minor drainage line in the area to the west of the ex-RAAF transmission station.

IF1

Isolated find

An isolated red-brown silcrete flake exposed in a dirt track just west of the ex-RAAF transmission station.

EC6 (Eastern Creek)

Artefact scatter

A total of 35 artefacts located on two dam walls in the south east of the study area. Majority of the artefacts recorded were silcrete with some chert.



WSP17

Artefact scatter

A total of eight artefacts located along a dirt track (20m x 20m) in the north east of the study area immediately adjacent to M4. 200m west of Eastern Creek on a hill slope. Surrounding area quite disturbed with clay, ploughing, animal grazing and dams.

Eastern Creek 1

Artefact scatter

A total of 11 artefacts were recorded, 9 silcrete, 1 chert and 1 indurated mudstone. The artefacts were found in exposures either side of the drainage line <100m from creek. Very disturbed

EC 11

Artefact scatter

Ten artefacts (nine silcrete and one indurated mudstone) found in a 3m x 3m area, on a haul road immediately adjacent to study area and on a flat rise adjacent to Eastern Creek tributary.

3.2.1 The Archaeological Resource

Based on the archaeological investigations undertaken to date, the archaeological resource of the study area conforms well with the model of Aboriginal occupation for the south western Cumberland Plain. Systematic archaeological excavation identified several Aboriginal archaeological sites within the study area and recovered 276 lithics (made up of 253 artefacts and 23 heat shatter fragments) from the excavation of 66.25m². The study area is dominated by a low-density distribution (<10 artefacts) of cultural material across the site on a variety of upper, mid, and lower slope landforms. Cultural material is present both on the ground surface or in shallow duplex topsoils. This background reflects an ephemeral or transient use of the region in the past. For management purposes, this background scatter has been registered as a single AHIMS site on the AHIMS database, LHIBH BS (AHIMS ID 45-5-5285) and incorporates a large proportion of the low-density scatter sites and isolated finds, and artefacts recovered from test excavation, within the study area.

Within this broader background, two landforms of archaeological interest were identified along elevated terrace landforms adjacent to Eskdale and Eastern Creeks and have subsequently been registered as AHIMS sites on the DPIE AHIMS database ('LHIBH Eskdale Creek terrace' AHIMS ID 45-5-5283 and 'LHIBH Eastern Creek terrace' AHIMS ID 45-5-5284). Overall, when considering these landforms, an artefact density was identified that is broadly comparable with the wider study area (<10 artefacts). However, two discrete and highly localised ~100m² patches of increased artefact density were identified at each location, centred on TP151 and TP57 respectively. These sites are considered to reflect foci of intense, but perhaps short-lived, visitation of the study area in the past.

These two high-density artefact foci provide a number of interesting observations about the past use of the region. Of note is the dominance of silcrete raw materials and the presence of backed artefacts, which is suggestive of a late Holocene occupation; as well as evidence for heat treatment along Eskdale Creek (TP151) and manufacture and production of backed blades, elongated flakes and other tools along Eastern Creek (TP57). A suite of OSL ages from both sites suggest that formation of the terrace



deposits likely began in the LGM approximately 26,000 years ago; but with little evidence of occupation until the late Holocene (3-4,000 years ago), as the soil profile developed and human populations intensified with improved climate relative to that prevailing during the early-mid Holocene.

Unsurprisingly, the sites located and excavated during the fieldwork program conform well to the accepted site patterning of the south western Cumberland Plain, and the predictive modelling for the site is broadly in agreement with the accepted model of settlement, but with some caveats. Predictive modelling undertaken before excavation highlighted areas within 200m of major third- and fourth-order creeklines as having high and very high archaeological potential; and that sites of increased density and complexity would be located within these zones. However, targeted archaeological excavation undertaken for this project found that low-lying areas adjacent to Eastern Creek, and at the confluence of Reedy and Eskdale Creek below 44m AHD recovered little, if any, artefactual material. It is plausible that areas below 44m AHD were subjected to periodic, high-energy flooding rendering them periodically unsuitable for occupation. Alternatively, it may have been the case that the soil deposits below these elevations—and which may have contained physical remains of Aboriginal occupation—have been scoured away by flooding. Other studies have noted a preference for more complex and extensively used sites on elevated terraces and levees above major watercourses, and we suggest here a tangible elevation of 44m AHD as an appropriate flood consideration benchmark for future studies in the Eastern Creek locality. In addition to the low-lying areas of Eskdale Creek not being conducive to occupation, there has been disturbance to this creek line in the past to allow for the surrounding floodplain to drain or dry and therefore improve its suitability for agricultural purposes. This alteration would have resulted in significant change to the hydrology of Eskdale and Reedy Creeks, which would account for the deep incision and channel widening evident along the lower reaches of Reedy Creek and the establishment of Eskdale Creek as a more permanent waterbody.

Systematic archaeological survey and test excavation of the study area provides an understanding of the archaeological resource and its significance, as well as raising additional questions on the nature and use of the area by Aboriginal people in the past. Specifically, the excavations demonstrated the presence of two source-bordering alluvial terraces along Eskdale and Eastern Creek, within which discrete ~100m² patches formed key locales of Aboriginal visitation and occupation over the last 4,000 years. The nature of the cultural assemblage suggests intense but short-lived occupation, with a focus on the exploitation of locally available stone resources for artefact and tool production. Certain raw lithic material improvement strategies in the form of heat treatment were also employed on site, especially along Eskdale Creek. Though both source-bordering terrace landforms began forming in the LGM, in drier and windier conditions, the findings demonstrate little evidence for Aboriginal occupation until the late Holocene, as the soil profile developed and population intensified with improved climatic conditions.

Along with other regional findings of work at Riverstone (AHMS 2016), the assemblage here lends strong support to Aboriginal populations exploiting and using levee banks and locally elevated areas along the Eastern Creek corridor from the late Holocene (<5,000ka); and it is therefore considered these deposits, while unique, are ultimately representative of other similar sites in the region. It is considered, however, that additional information on the nature, size and integrity of these foci of occupation may be obtained through further investigation and analysis of the material evidence of these sites, and as such these discrete ~100m² areas are still considered to contain significant research potential. In addition, despite the modification of the study area by Defence in the past, these source-bordering terrace deposits are on the banks of some of the few permanent and large rivers within the Cumberland Plain, and have aesthetic significance not typically found for these types of site.



In contrast, the remainder of the study area is dominated by a low-density distribution of cultural material (<10 artefacts) in the form of small artefact scatter sites and isolated artefacts, and reflects an ephemeral or transient use of the wider area in the past. Such sites have limited research potential (typically restricted to only the technological attributes of the artefact assemblage), limited stratigraphic integrity, and are representative of other sites in the south western Cumberland Plain; and as such are considered of low archaeological significance.

3.2.2 Cultural Values

While no formal written feedback from the Aboriginal stakeholders has been received regarding cultural significance to date, several on-site discussions identified the discrete patches of high-density cultural material as being of importance to the RAPs. More broadly, sites of increased artefact density and/or complexity are frequently identified as being of cultural significance to local Aboriginal stakeholders.

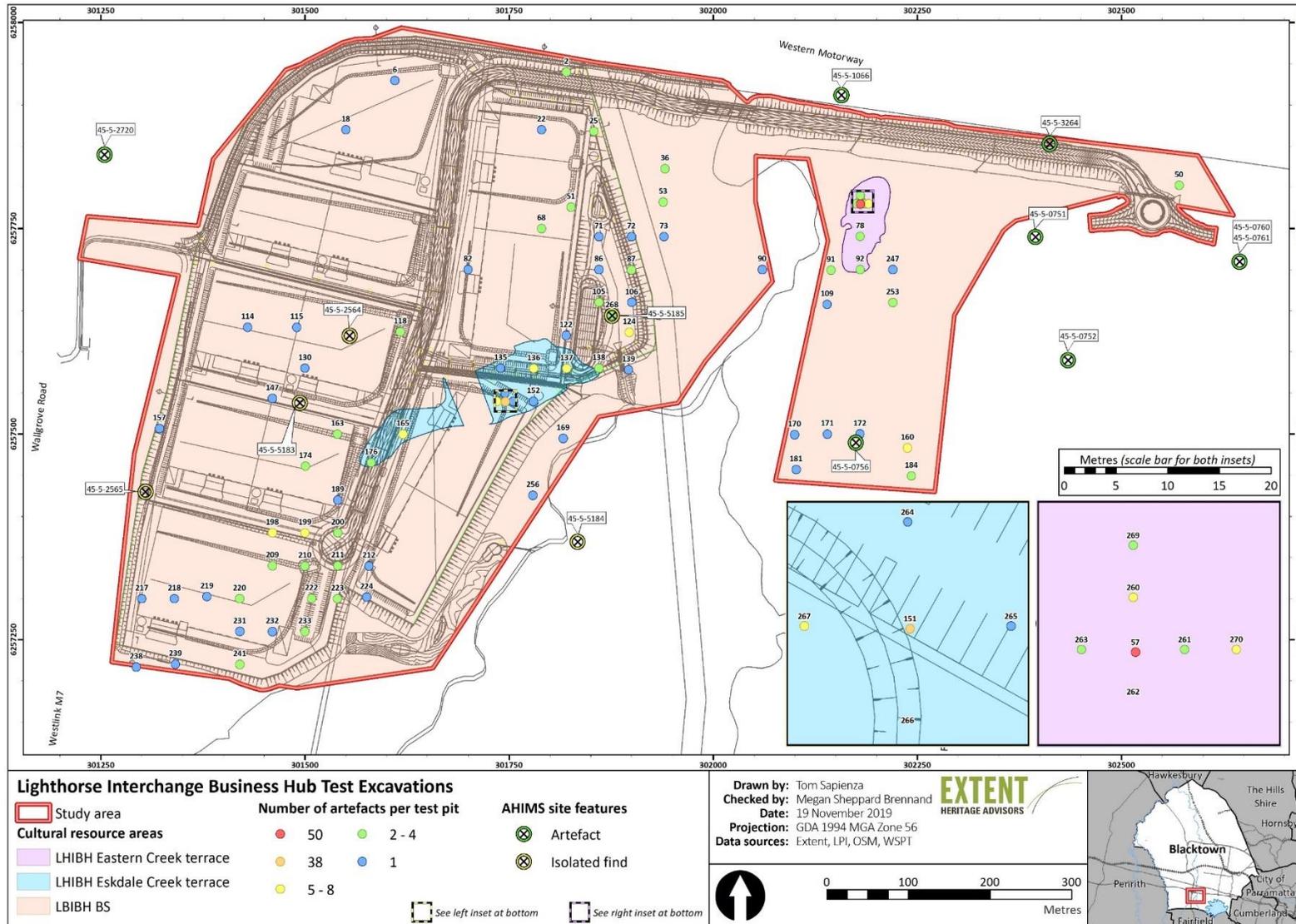


Figure 3. Archaeological resources identified within the subject area.

4. Project Impacts

4.1 Evaluation of Impacts

Western Sydney Parklands Trust intends to redevelop the study area to accommodate industrial and light industrial land use activities. This is in accordance with the *State Environmental Planning Policy (Western Sydney Parklands) 2009*, the Western Sydney Parklands Trust Plan of Management 2030 and the Western Sydney Parklands Trust Plan of Management 2020 supplement.

An indicative concept masterplan and subdivision plan have been prepared for the study area and illustrates indicative building development areas and works. Key features of the concept proposal are:

- ◆ **Land use and built form:** indicative building envelopes are provided for the future construction of largescale industrial-style buildings including:
 - Approximately 157,000m² floorspace to accommodate a range of industrial and light industrial land use activities, which could include advanced manufacturing, freight and logistics and warehouse and distribution facilities.
 - Approximately 8,000m² floorspace comprising ancillary offices to support the primary industrial and light industrial use.
- ◆ **Landscaping:** the front setbacks of the future industrial lots will be landscaped to complement the architectural design of the future industrial buildings and present an attractive appearance within the streetscape. Additional landscaping will be provided within the rear and side setbacks where required to provide visual screening of the proposed buildings from the surrounding road network.
- ◆ **Transport, access and car parking:** primary vehicle access to the development site is proposed from Ferrers Road. Any new roads and road improvement works required to service the proposed development will be designed to address Blacktown City Council requirements and facilitate their dedication as part of the industrial subdivision. A secondary access point for lighter vehicles (i.e. excluding B-double trucks) may be provided via the existing Wallgrove Road entry/exit driveway, however this is for emergency only.
- ◆ **Stormwater management and flooding:** a comprehensive stormwater management system will be provided to manage the quality and quantity of water flows across the site, including mitigation measures to address potential flooding risk and avoid adverse impacts to the development potential of the upstream and downstream properties.
- ◆ **Biodiversity:** the site contains scattered trees and more concentrated areas of vegetation along the riparian corridors and within the south-western corner which will be assessed in further detail during the preparation of the SSDA. The final concept masterplan, the EIS and the BDAR address the removal of vegetation, including any biodiversity off-set requirements.
- ◆ **Bushfire protection measures:** the site is identified as Vegetation Category 2 bushfire prone land and the final concept masterplan and EIS addresses the required bushfire protection measures to avoid risk and provide adequate safety for future building occupants and fire-fighting personnel (Peterson Bushfire 2019). This involves including defendable space, consideration of ember protection for building works, access and egress for emergency response, perimeter access and internal roads, and accessibility of reticulated water supply and hydrant provisions for fire-fighting.

- ◆ **Utility services:** the final siting and design of the proposed industrial subdivision will incorporate the existing easements for high-pressure gas and sewer, as well as any required augmentation of existing utility services to service the proposed development.

The detailed proposal will include the following early site works:

- ◆ **Demolition and remediation:** removal of existing buildings and structures and completion of any site remediation works required to ensure the site is suitable for its intended use as a business hub.
- ◆ **Bulk earthworks:** cut and fill details for the future building pad sites to facilitate the future development of the site as an industrial business hub.
- ◆ **Infrastructure:** provision of roads, utility services, stormwater works and flood mitigation (if required) measures required to facilitate the future development of the site as a business hub.
- ◆ **Subdivision:** creation of development lots, public roads, easements/restrictions, etc to facilitate the leasing and development of individual lots to accommodate industrial and light industrial land use activities, including freight and logistics and warehouse and distribution centres.

4.2 Potential Aboriginal Heritage Impact

Development for uses in accordance with the plan will likely result in impacts to the ground surface resulting from demolition works, cutting, levelling and fill works, installation of services and infrastructure, as well as landscaping and revegetation works. These works, with perhaps the exception of some minor landscaping and revegetation works, would likely result in the removal of much, or all, of the upper soil profile.

Based on the proposed development above, the greatest impacts to the Aboriginal heritage resource of the study area would result from the construction of large-scale industrial style buildings and associated roads and landscaping, in the western half of the study area between the Westlink M7 and Eskdale Creek. This would include impacts to 100% of the Eskdale Creek terrace landform (equivalent to 12,851m²) and its associated patch of high density cultural material and would also include impacts to a large portion of the low density background scatter, which is present across much of the rest of the study area (Figure 3).

It was initially considered that there would be considerable impacts to the Aboriginal cultural resource of the eastern half of the study area, from the proposed construction of the flood mitigation infrastructure. However, through design progression the eastern portion of the study area has been largely avoided. Therefore, there will be no impact to the Eastern Creek terrace landform (equivalent to 4,798 m²) and its associated patch of high-density cultural material.

Other proposed works within the study area have the potential to cause localised impacts to the low-density background scatter present across the site. These include construction of an OSD basin and access road (northern boundary), and realignment of Eskdale Creek.

At present, there is potential for small portions of the background scatter (equivalent to 157,487m² or 29% of the deposit) to be conserved as part of the proposed development, in areas designated as passive open space, environmental conservation, and/or riparian corridor.

5. Aboriginal Archaeological Management Plan

5.1 General Approach

To implement a consistent and clear framework for the Aboriginal cultural heritage management for the subject area, this ACHMP proposes a strategic approach to manage Aboriginal heritage for the subject area which puts in place measures for the investigation, assessment and management of unexpected finds throughout the course of the development.

The following mitigation policies and procedures should be adopted as part of the overall management of the site's archaeological resource.

5.1.1 Prior to Construction

- An Aboriginal cultural heritage awareness induction should be included in the general site induction for all staff and contractors involved in the works, so that all personnel involved are aware of heritage and archaeological requirements.
- The heritage induction should be formulated to include information on the Aboriginal archaeological and cultural resource of the subject area, its cultural values, archaeological sensitivity zones, and protocols that apply to their protection.
- Salvage excavation program must be completed within any locations of high archaeological significance to be impacted by the proposed works.

5.1.2 During Construction

- In order to implement relevant Aboriginal cultural heritage controls, the Project Archaeologist should be regularly involved in the Project team communication about the progress of development within the subject area. Depending on the nature of impact, activities in accordance with Section 6 should be implemented, which may include archaeological excavation. This should include documented inspections by specialised staff (heritage architect, arborist, environmental officer and/or the Project archaeologist) to ensure mitigation measures are working effectively, and to ensure timely decision making and timely delivery of advice in the event of any unexpected changes to the Project, or unexpected archaeological discoveries.
- In the event that suspected or known Aboriginal object/s are identified, the unexpected finds procedures as defined in this document must be implemented. This would likely involve all works in the area to cease, while the find is managed.

5.1.3 Post Construction

- Within 12 months of the construction being completed, a report summarising any archaeological excavations and/or monitoring undertaken during the works must be developed and lodged with Heritage NSW – DPC. Further details of this report are presented in Section 6.5.

5.2 Aboriginal Community Consultation

The engagement and involvement of the Aboriginal community is an important part of the heritage management processes of the Project. Formal Aboriginal consultation commenced in 2018 during the completion of the ACHAR. The process resulted in the identification of 21 stakeholder organisations

who registered an interest in the Project. Consultation with these (21) Aboriginal stakeholders should continue throughout the course of the Project. Consultation includes the following (Table 2):

1. **Liaison and development of the ACHMP** – the RAPs has been provided with a copy of the draft ACHMP for their review and feedback, prior to its adoption. Comments have been received and incorporated, where relevant. A period of 21 days will be provided for stakeholder review, or when comments from all RAPs are received. This phase has been completed, with changed made throughout the document, as well as the specific discussions in Appendix 1.
2. **Involvement in archaeological investigation and/or mitigations** – all RAPs with appropriate OH&S and insurance requirements will be asked to tender for works on the project, and were successful afforded the opportunity to participate in the mitigation works outlined in this ACHMP.
3. **Provision of post-excavation reports** – Any reports prepared to document the results of mitigation works will be provided to the RAPs for their records.

Table 2: Aboriginal community consultation tasks and timeframes for the Project.

Task	Details	Timeframe (estimate)	Dates (estimate)
Liaison and development of the ACHMP	The RAPs will be provided with a copy of the ACHMP for their feedback and review, prior to its implementation	3 weeks	24 June 2021 - 15 July 2021
Review of updated ACHMP	RAPs will be provided with a copy of the updated ACHMP for their feedback and review, prior to its endorsement	1 week	Varies Over course of the Project
Involvement in archaeological mitigation works	Timeframes will vary depending on the type of mitigation (collection, monitoring, salvage excavation) and the work area.	Varies Over course of the Project	Varies Over course of the Project
Final Reporting	Finalised versions of archaeological reports will be provided to the RAPs in digital format (or hardcopy where specifically requested).	Varies Over course of the Project	Varies Over course of the Project

The ACHMP was distributed to RAPs on 24 June 2021 for a 21 day review period, ending on 15 July 2021. Three responses were received:

- Kamilaroi Yankuntjatjara Working Group: KYWG support the findings and management recommendations of the ACHMP. KYWG reiterated their close connection to country and the significance of waterways and burial sites. KYWG wish for an interpretation plan to be undertaken for this development, with examples including native gardens, art, design, digital display, yarning circles and an app (digital).
- A1 Indigenous Services emailed in support of the ACHMP.
- Muragadi indicated an issue in the consultation section, with the incorrect number of registered parties included. This was amended and has been included in the final report.

5.3 Hierarchical Management Actions

With types of impact broadly defined based on current knowledge (Section 3), the strategic approach proposed includes the following hierarchical management options, each of which will be further described in Section 6.

5.3.1 Areas of High Archaeological Significance

Currently, **two areas of high archaeological significance** have been identified within the subject area. Where avoidance of impact in these areas is unfeasible, minimising such impact through development design and controls should be prioritised, and appropriate heritage mitigation measures should be implemented. This may include a staged program of archaeological salvage excavation.

5.3.2 Areas of Moderate Archaeological Significance

Currently, **no areas of moderate archaeological value or potential** have been identified within the subject area, however, this may require revision as work is undertaken and cultural material (if present) is identified and assessed. Should such deposits be identified, the development should consider re-design and/or modifications to avoid impact.

Where avoidance of impact is unfeasible, minimising such impact through development design and controls should be prioritised, and appropriate heritage mitigation measures should be implemented. This may include a staged program of archaeological salvage excavation.

5.3.3 Areas of Low Archaeological Significance

An area of low archaeological significance has been identified across the majority of the subject area (Figure 3). The procedure for discovery of possible human remains and unexpected finds procedure as outline in Condition B26 and B27 of MCoA SSD-9667 should be implemented for this area.

6. Methods and Procedures

6.1 General

This section provides information relating to the overarching archaeological methodology, team, timeframes and other requirements to meet the strategic Aboriginal heritage approach outlined in Section 5.

The methodologies are also based on the type of impact (direct or indirect) and the type of construction techniques. The construction methodologies include demolition of existing structures, piling and excavation. Indirect impacts may include vehicle movement, spoil removal, site facilities establishment, and other logistical activities.

6.2 Areas of High – Moderate Archaeological Significance

The ACHAR resulted in the identification of **two areas of high archaeological significance** (LHIBH Eskdale Creek terrace and LHIBH Eastern Creek terrace). Based on the current design plans, only LHIBH Eskdale Creek terrace will be impacted by the proposed works.

Any areas identified as of high archaeological significance should be subject to development avoidance and/or additional heritage mitigation. As a default, additional heritage mitigations would consist of further sub-surface (salvage) archaeological excavation. However, other types of mitigation may be considered instead or, and/or in addition to such works, where agreed by the Project Archaeologist and the RAP. Any mitigation that does not consist of sub-surface (salvage) archaeological excavation must be correlated to the cultural values and/or material culture of the subject area.

Research Objectives

In the event that sub-surface (salvage) archaeological excavation is undertaken, the following research objectives should form the focus of the work:

- Using fine resolution excavation and environmental analyses to further characterise the archaeological deposits relating to the past Aboriginal occupation of the Eskdale and Eastern Creek alluvial terraces. This includes a greater understanding of resource exploitation; technological attributes (e.g., heat treatment); identification of any change through time in spatial and chronological phases of activity; and site formation processes.
- To obtain the largest possible assemblage of Aboriginal objects, for detailed documentation and long-term curation, within the spatial limits of the development footprint and the financial/time constraints of the project.
- To allow greater cultural association between the site and the Aboriginal stakeholders (i.e., a form of 'cultural salvage') through involvement in the excavation, and options for the interpretation of the results, should the community decide that this is appropriate.
- To ensure that the development can proceed with a minimised risk of unknown or unexpected significant Aboriginal objects/features being harmed during construction.
- To further supplement the existing knowledge of past Aboriginal activities along this portion of the Eastern Creek corridor.

Archaeological salvage program

Overall, we propose to undertake up to 100m² of open area excavation, with a series of hold points, in the Eskdale Creek terrace landform within the impact footprint. This number provides an equitable balance between the volume of archaeological material that may be recovered, compared with the costs and time to undertake such works.

The area would be up to 10 x 10m in size (equating to a maximum of 100m²) and centred on TP151. It is considered that this approach is similar in extent, approach and methodology to other sites in the Cumberland Plain (that usually undertake open area excavations in 100m² (10 m x 10 m) increments (e.g. ENSR AECOM, 2008; Jo McDonald Cultural Heritage Management, 2005; Staib, 2002, Williams et al., 2014; O'Connell Street Public School site (undertaken as part of a SSD [SSD 15/7372], Extent 2018), Moorebank Intermodal Terminal (also a SSD [SSD 6766], Extent in prep), Fernadell Precinct, Pitt Town (AHIP no. 1129099; Williams et al., 2014), Tarro-Beresfield water main renewal (AHIP no. C0000616) and 21 Hassall Street, Parramatta (AHIP no. C0001505).

It should be noted that an assessment conducted by Ecoplanning (2019) reported a low contamination risk across the site (EIS). The Eskdale Creek terrace landform is located ~50m southeast of a hydrocarbon leak detected from two underground storage tanks in the former army compound. The horizontal extent of the leak is constrained to the immediate surrounds of the tanks (<2 m) due to the high plasticity clay soils. Additionally, there was bonded asbestos containing material detected at the former army compound, and in topsoil around the impacted buildings. There was no asbestos noted during the excavation of TP151 (within the Eskdale Creek landform) in the test excavation, and there is little potential for it to be present in this wider area, which is located ~35m from the nearest structure with asbestos recorded. The Eskdale Creek terrace is located outside the area of concern assessed by Environmental Earth Sciences in 2018, and there appears to be no threat of contamination within the salvage area.

The excavation would be conducted with a series of hold points to determine whether to continue expanding the salvage area, or whether to cease the archaeological program. For this consideration, the following criterion will be adopted:

- The identification of any features of archaeological interest, such as hearths, burnt clay features, shell middens or burials;
- The potential to recover significant artefact densities reflective of occupation must be obtainable. Based on regional information above, it is considered that >30 artefacts/m² on average would be needed to achieve these aims, and as such this is the limit at which further archaeological works would be considered.
- Artefacts of potential great antiquity, typologically dated to the Pleistocene (>10,000 years ago (ka));
- Artefacts manufactured of unusual or rare raw stone materials—those exotic to the region, and which may provide further information on trade and exchange between Aboriginal populations;
- Unusual or rare artefact tool types and formal tools, such as Bondi points, shell artefacts, core tools, burin blades, hammerstones, ground edge implements etc, or those with potential to retain usewear/residue for further analysis; and/or
- Aboriginal objects made during or shortly after the period of European contact, such as worked glass, worked flint etc.

It will be for the Excavation Director in consultation with the RAP representatives present on site during the fieldwork and WSPT to determine whether these thresholds are met and prompt the requirement for further expansion of archaeological works.

The proposed salvage works would adopt the following methods:

- Excavation would consist of contiguous 1m² test pits totalling up to 100m² of targeted manual excavation undertaken as a series of hold points. At each hold point, the above criteria would be considered, and only where the triggers continue to be met would work proceed. The decision to continue would be made by the Excavation Director, in consultation with RAPs present on site and WSPT. The initial hold point would be at 25m² (5 m x 5 m) centred on the area of archaeological interest, the next hold points would be at 36m², 49m², and 81m².
- All excavation would be undertaken manually, using shovels and trowels, etc, by a team of archaeologists and Aboriginal stakeholders.
- Excavations would be undertaken in 50mm spits, with Australian Height Datum (AHD) heights being obtained every fourth spit, to ensure vertical integrity. Excavations would extend to either the geological substrate, or until three consecutive cultural sterile spits are encountered.
- Each test pit would be given an alphanumeric label for identification purposes. A standard site recording form would be used for each spit of each excavation unit (1m²). Details would include site name, date, site recorder, spit number and depth, description of finds, description of soil, sketch plan of excavation (if relevant to show features) and a bucket tally.
- Sediment from each 50mm spit would be bucketed separately and wet-sieved through 3mm mesh. Any Aboriginal objects recovered from the sediments would be retained in a plastic bag with the relevant pit alpha-numeric code written upon it.
- Soil samples may be collected for description, sedimentological, palaeo-environmental and chronological analysis where such analysis is considered likely to contribute significant information. Radiocarbon and/or OSL samples would be taken in areas where Aboriginal objects are found, and generally try to bracket the deposit (to provide a maximum and minimum age), as well as provide further understanding on the formation history of the deposits. Material for radiocarbon analysis may also be undertaken opportunistically if archaeological features containing charcoal or other dateable material are evident.
- If dangerous material, such as asbestos or contaminated soils, is encountered, the extent of the salvage could be amended. This would be at the discretion of the Excavation Director, in consultation with the RAPs present on site and WSPT.

If discrete high-density artefact concentrations or cultural features, such as hearths, are revealed during the excavation, these will be excavated and recorded (by photography and planning). The locations of in situ artefacts in such features may also be individually recorded.

Excavation procedures and protocols may be modified at the discretion of the Excavation Director, in consultation with the Aboriginal stakeholders present on site and WSPT as the conditions in the field and nature of the excavations develop.

6.3 Areas of Low Archaeological Significance

The procedure for discovery of possible human remains and unexpected finds procedure as outline in Condition B26 and B27 of MCoA SSD-9667 should be implemented for areas of low-nil archaeological potential (Figure 3).

6.4 Post Excavation Analysis

If archaeological excavations were to occur, post excavation analysis would be required to appropriately document the archaeological and cultural findings of the field program. The post-excavation analysis would be designed to address the research objectives and specific research questions, along with other relevant questions that may arise based on the results of the excavation. Results of analysis would be presented in relation to comparative site data where possible and where useful in addressing the research questions.

Post-excavation analysis may include (but not be limited to):

- **Lithic Analysis:** cataloguing of all cultural material recovered, including measurements, weight, raw material, reduction and tool identification. A program of conjoin analysis, and investigation of usewear/residue analysis may also be considered.
 - It is recommended that a programme of conjoining using the Minimum Analytic Nodule methodology is applied to a maximum of three suspected knapping floors with a total maximum of 300 stone artefacts. This would provide a good sample of the knapping events and the opportunity to understand reduction behaviour and post-depositional movement. It would place a clear limit on the extent of analysis required.
 - It is recommended that usewear analysis using a x20 stereo microscope with oblique lighting is limited to complete or broken tools. With an upper cap of usewear analysis on a maximum of 100 tools.
 - It is recommended that residue analysis is limited to formal tools that have the greatest potential to retain residue, based on their typology and preservation conditions. With an upper cap of residue analysis on a maximum of 20 tools.
- **Geomorphology:** collection of soil samples excavation to assist in understanding the site formation and post-depositional disturbance.
 - It is recommended that the allowance for limited additional soil micromorphological analysis and or palaeo-environmental analysis, and only in circumstances where it would build on or clarify earlier analysis.
 - It is recommended that the allowance is limited to analysis of up to a maximum of three soil or environmental samples.
- **Palaeo-environmental:** this analysis can utilise the material from the geomorphological samples and should include the investigation of pollen and phytoliths to understand the past vegetation and climate of the region prior to, and during periods of Aboriginal visitation and occupation.
 - It is recommended that the allowance for limited additional palaeo-environmental analysis, and only in circumstances where it would build on or clarify earlier analysis.
 - It is recommended that the allowance is limited to analysis of up to a maximum of three soil or environmental samples.
- **Chronology:** OSL and/or radiocarbon samples should be collected during the program, and should bracket any cultural materials recovered from each open area excavation to provide a strong chronology for the deposit. Radiometric dating would be limited to the dating of any Aboriginal hearths encountered during the salvage, up to a maximum of three conventional C14 dates.

The aim of this work is to both adequately document, analyse and record the cultural deposits and assemblages for future generations, and to build upon the findings of the archaeological test excavation analysis.

6.5 Reporting

Each area investigated, salvaged and/or mitigated in some way would have a brief interim or compliance report developed. This avoids the need to undertake detailed and time-consuming post excavation analysis before or during the construction. Post excavation analysis would be ongoing throughout the Project, and at, or nearing, completion of the Project, a detailed report on all archaeological works would be compiled.

The following general approach would apply to all reporting:

- A short summary.
- Describe Aboriginal consultation undertaken during the project.
- Provide details of the Aboriginal objects which were partially or completely harmed (i.e., recovered through the excavations) during the works.
- Provide a description of the methods and results of the any excavations.
- Comment on the effectiveness of the mitigation measures (i.e., salvage excavations).
- Comment on the effectiveness of any management plan if in place.
- The current and proposed long term location of any Aboriginal objects recovered.
- Details the results of any analysis of recovered Aboriginal objects.
- Ensure the necessary Aboriginal Site Impact Recording Forms (ASIRF) are lodged with Heritage NSW – DPC at completion of the project.

6.6 Storage of Archaeological Material Collected

The mitigation program may result in artefactual material and the long-term curation of this material needs to be ensured. This will be developed in consultation with the RAPs, but is likely to include (in preferential order):

- Re-burial on site, in an appropriate location in the vicinity of the subject area;
- Lodged with a RAP under a Care and Control Agreement; or
- Deposition with the Australian Museum.

The following general approach would apply to artefact storage:

- During the Project, all archaeological materials would be stored with the Project Archaeologist for analysis and documentation. Storage and labelling would be undertaken in accordance with Australian Museum collection policies, since these currently form the most rigorous curation methods.
- Towards the end of the Project, the Project Archaeologist would undertake steps to determine the long term storage of any archaeological material collected, with a focus on the preferential order outlined above.
- Once the archaeological materials have been situated in their long term storage location, a site card should be lodged with the AHIMS database. The site card should lodge all relevant information about the archaeological materials, including where it was found/recovered, relevant reports associated with it, and its final storage location.

6.7 Discovery of Potential Human Remains Procedures

During construction works, it is possible that previously possible human remains may be discovered. Refer to Appendix 2 for the Possible Discovery of Human Remains Procedure.

6.8 Unexpected Finds Procedures

During construction works, it is possible that previously unknown Aboriginal objects or sites may be discovered. Refer to Condition B26 and B27 of MCoA SSD-9667 and Appendix 3 for the Unexpected Finds Procedures.

7. Risk Assessment

7.1 Basis for Assessment

The key construction activities and potential impacts on Aboriginal archaeology are summarised in Table 3.3. The risk assessment is based on (1) the likelihood of an impact occurring as a result of a proposed activity; and (2) the consequences of the impact if the event occurs. The risk matrix, and definition of likelihood and consequence are provided in Table 3 and Table 4.

Table 3: Key construction activities, risks and impacts.

Activity	Potential Impact	Residual Risk		
		Consequence	Likelihood	Risk
Demolition work results in physical disturbance of Aboriginal sites/objects.	Damage to Aboriginal archaeological resources. Non-compliance with development consent conditions.	Moderate	Unlikely	Medium
Construction work results in physical disturbance of Aboriginal sites/objects.	Damage to Aboriginal archaeological resources. Non-compliance with development consent conditions.	Moderate	Unlikely	Medium
Construction work results in disturbance of previously unidentified of Aboriginal sites/objects, or skeletal remains.	Inadvertent damage, destruction or removal of Aboriginal archaeological resources.	Moderate	Unlikely	Medium
	Failure to notify and properly manage discovered objects.	Moderate	Unlikely	Medium

Table 4: Risk matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium
Extreme	Intolerable - Risk reduction is mandatory wherever practicable. Residual risk can only be accepted if endorsed by senior management.				
High	Intolerable or tolerable if managed to as low as reasonably practicable - Senior management accountability				

Medium	Tolerable if managed to as low as reasonably practicable - Management responsibility
Low	Tolerable - Maintain systematic controls and monitor

Table 5: Classification of Likelihood and Consequence.

Likelihood	Description
Almost Certain	The event is expected to occur in most circumstances. This event could occur at least once during a project of this nature. 91-100% chance of occurring during the Project
Likely	The event will probably occur in most circumstances. This event could occur up to once during a project of this nature. 51-90% chance of occurring during the Project
Possible	The event could occur but not expected. This event could occur up to once every 10 projects of this nature. 11-50% chance of occurring during the Project
Unlikely	The event could occur but is improbable. This event could occur up to once every 10-100 projects of this nature. 1-10% chance of occurring during the Project
Rare	The event may occur only in exceptional circumstances. This event is not expected to occur except under exceptional circumstances (up to once every 100 projects of this nature). Less than 1% chance of occurring during the Project
Consequence	Description
Insignificant	Minor disturbance of archaeological resources. No damage to Aboriginal sites/objects or historical relics.
Minor	Moderate disturbance of archaeological resources or repairable damage to Aboriginal sites/objects or historical relics.
Moderate	Considerable damage to Aboriginal sites/objects or historical relics.
Major	Major damage to Aboriginal sites/objects or historical relics.

7.2 Risk Management

The following risk management measures will be implemented to minimise potential impact to Aboriginal archaeological resources (Table 6). The measures identified are based on:

- Anticipated impacts to archaeological resources;
- Assessed scientific (archaeological) significance, and (where known) overall heritage significance;
- Legislative requirements and the planning approval framework; and
- Recommendations in previous reports.

Overarching mitigation policies and procedures for the risk management measures outlined below are provided in Section 5.

Table 6: Risk Management Measures.

Activity	Risk Management Measure
Demolition or construction work results in physical disturbance of Aboriginal sites/objects.	<p>All staff, contractors and other relevant personnel carrying out activities with potential to disturb subsurface cultural deposits must undertake a project induction to ensure that they have an understanding and are aware of the Aboriginal archaeological issues which may affect the activity.</p> <p>Mitigation measures and procedures from this ACHMP will be included in relevant activity or area specific Work Method Statements, where required.</p>
Discovery of possible human remains	If human remains are uncovered, all works in the area would cease and project would follow procedures outlined in Appendix 2.
Discovery of previously unidentified Aboriginal or historical archaeological resources.	In the case of unexpected Aboriginal objects or historical archaeological relics being uncovered by the works, immediately stop all works that would impact on the find and follow the procedure detailed in Appendix 3.

8. Compliance Management

All project personnel, sub-contractors, consultants and visitors will receive training in environmental and heritage obligations during the site inductions and toolbox talks. Training will include an archaeological awareness component to reinforce the importance of heritage issues and the management measures that will be implemented. Specific archaeological awareness training will cover:

- Protection of identified Aboriginal sites and archaeological resources;
- Adherence to approval conditions and any consultation requirements with RAPs;
- The means of identifying Aboriginal archaeological resources and the roles of personnel with regard to archaeological management measures.

Records would be kept of all personnel undertaking the site induction and training, including the contents of the training, date and name of trainer/s.

Key staff will undertake more comprehensive training relevant to their position and/or responsibility. This training may be provided as 'toolbox' training or at a more advanced level by the Site/Environmental Manager or delegated representatives.

8.1 Auditing

Audits (both internal and external) will be undertaken to assess the effectiveness of environmental controls, and compliance with this ACHMP.

The planned audit process is detailed in the relevant Environmental Management Plan.

8.2 Reporting and Review

Reporting will be undertaken by an appointed officer and will include a staged Performance Report/Review. Each report will detail relevant training, inspections, monitoring and auditing undertaken for the reporting period relating to archaeological management on the Project.

This ACHMP will be updated every six months or as required.

9. Review and Improvement

9.1 Continual Improvement

Continual improvement of this plan will be achieved by the continual evaluation of environmental management performance against environmental policies, objectives and targets for the purpose of identifying opportunities for improvement. The continual improvement process will be designed to:

- ◆ Identify areas of opportunity for improvement of environmental management which leads to improved environmental performance;
- ◆ Determine the root cause or causes of non-conformances and deficiencies;
- ◆ Develop and implement a plan of corrective and preventative action to address non-conformances and deficiencies;
- ◆ Verify the effectiveness of the corrective and preventative actions; and
- ◆ Document any changes in procedures resulting from process improvement.

9.2 Plan Update

This plan would be updated and revised as necessary every six months from finalisation, until the completion of the ground disturbance phase of the Project.

Changes to this plan will be approved by the client and in consultation with RAPs (if required) and documented in the document control section for each revision. A copy of the updated plan and changes will be distributed to all RAPs.

References

AHMS. 2016. Aboriginal Cultural Heritage Assessment Report 81 Riverstone Parade Riverstone NSW. Prepared for Riverstone Parade Pty Ltd.

Extent Heritage (2020) Aboriginal Cultural Heritage Assessment Report Light Horse Interchange Business Hub, Eastern Creek, NSW (SSD 9667). Unpublished Report to Western Sydney Parklands Trust.



Appendix 1: Aboriginal Community Consultation

ACHMP Review				
All RAPs	Various	21.06.2021	Emailed all registered RAPs a copy of the ACHMP for review. ACHMP feedback required by 15 July 2021.	Coral Hardwick
Kamilaroi Yankuntjatjara Working Group	Kadibulla Khan	01.07.2021	Kadibulla emailed in support of the ACHMP, further highlighting the significance of waterways and burial locations.	Coral Hardwick
A1 Indigenous Services	Carolyn Hickey	04.07.2021	Carolyn emailed in support of the ACHMP.	Coral Hardwick
Muragadi	Darleen	05.07.2021	Darleen emailed some issues with the consultation section of the report (including incorrect registered group numbers). This was amended and conveyed to Darleen by return email.	Coral Hardwick
All RAPs	Various	12.07.2021	Coral emailed all registered RAPs to remind them that the draft ACHMP review period ends 15 July 2021.	Coral Hardwick

Coral Hardwick

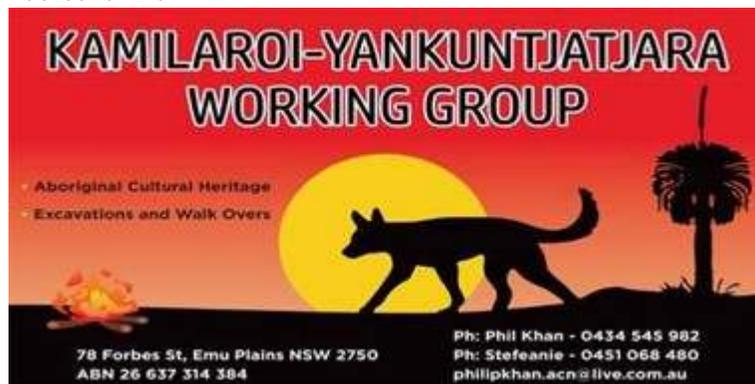
From: philip khan <philipkhan.acn@live.com.au>
Sent: Thursday, 1 July 2021 3:34 PM
To: Coral Hardwick
Subject: Re: Lighthouse Business Hub ACHMP Review

Dear Coral,

Thank you for your ACHA for Light Horse Interchange Business Hub. Aboriginal people have walked this land for tens of thousands of years and continue to do so. We have had as spiritual connection to this land since long ago. Our ancestors passed their knowledge to the younger generations and so on. We hold lore and kingship within our community, we have a belief system one practiced for tens of thousands of years, some still practiced today. We did not just hunt and gather we utilised the land through craftsmanship, our tools were made of organic materials. Our way of giving back to mother earth our way of conservation. Our water ways are highly significant to us as we follow the water ways, utilised them for fishing, bathing, drinking water, healing etc. we looked to the skies for guidance. Our burials are still unfound and we need to be aware of them, as they are highly significant to our people. Interpretation plans, is there a plan in place other wise some ways you can incorporate culture in interpretation is through native gardens, art work, design, digital display, yarning circles and or an app are some examples. We would like to agree ACHA and support your report, we look forward to working with you on this project.

Kind Regards

Kadibulla Khan



Coral Hardwick

From: Carolyn .H <cazadirect@live.com>
Sent: Sunday, 4 July 2021 8:52 PM
To: Coral Hardwick
Subject: Re: Lighthorse Business Hub ACHMP Review
Attachments: A1.PL2022.pdf; A1.WC2022.pdf



Contact: Carolyn Hickey
M: 0411650057
E: Cazadirect@live.com
A: 10 Marie Pitt Place, Glenmore Park, NSW 2745
ACN: 639 868 876
ABN: 31 639 868 876

Hi,
I have reviewed the document and support the Information for the ACHMP.

A1 would like to be involved in any future Meetings and field work.

I am a traditional custodian with over 20 years experience in helping preserve Aboriginal cultural heritage on projects.

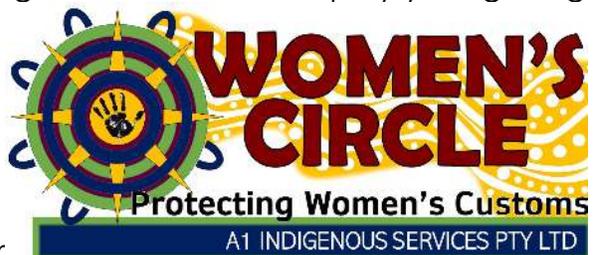
I hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and values that exist in the project area.

I have attached A1 Indigenous Services Insurances.

We would like the Proponent to consider including A1's, Kawalkan youth and the Women's Circle Employees for all future field work.



The Kawalkan Youth Program is a designed program created to employ young indigenous



youths between the ages of (18-29) year

The Women's Circle was created with the need to always have Experienced Indigenous Women present in all field work.

To aim for not only gender equality in the workplace but, to help identify and protect any women's sacred places.

OUR MISSION

Building strength in aboriginal families, communities, and services.

It is our mission to commit to an innovative approach to a better future for indigenous employment.

Giving our people the opportunity to gain employment in a culturally sensitive work environment also giving them the opportunity to work on country and continue the tradition of protecting and passing down

Cultural knowledge from one generation to the next – continuing the importance of keeping culture.

Please feel free to contact me on details supplied

Kind Regards,
Carolyn Hickey
Managing Director

INSURANCES ARE ATTACHED

Kind regards
Carolyn Hickey

Coral Hardwick

From: jesse johnson <muragadi@yahoo.com.au>
Sent: Monday, 5 July 2021 12:34 PM
To: Coral Hardwick
Subject: Re: Lighthorse Business Hub ACHMP Review
Attachments: BRW9C305B451BEF_003611.pdf

Hi Coral

I was just reading through the reports for the above project, and I noticed that we are not on the letter as being registered for the project. We did register, can you give me a call on 0490051102

Thanks

Darleen

On Thursday, 24 June 2021, 02:44:49 pm AEST, Coral Hardwick <chardwick@extent.com.au> wrote:

Dear All,

Thank you for your ongoing involvement in the Aboriginal heritage assessment for the proposed Light Horse Interchange Business Hub. As you will be aware, the Aboriginal Cultural Heritage Assessment (ACHA) report for this project was drafted in 2019. Since distribution of the survey and test excavation ACHA reports, Extent Heritage has been commissioned to develop an Aboriginal Cultural Heritage Management Plan (ACHMP) for the development.

Please find the link below to the draft ACHMP report for your review and input. The link is live for a three weeks, please let me know if you need another one sent. If you wish to provide input and/or comment, please can you do so by the **15 July 2021**. Once comments have been received, the document will be modified and finalised.

<https://we.tl/t-DlmeFilgzH>

Kind Regards,

Coral Hardwick

Coral Hardwick | BA (Hons), MRes (Macquarie University)

Heritage Advisor

T 02 9555 4000 | M 0436 333 686

chardwick@extent.com.au

extent.com.au

Connect with us on:



Appendix 2: Procedure for Unexpected Finds – Human Skeletal Remains

Procedure for Discovery of Possible Human Skeletal Remains

Purpose

This procedure details the actions to be taken when possible human skeletal material (remains) are found during construction activities.

Scope

This section outlines the procedure for handling human remains in accordance with the Skeletal Remains: Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977 (NSW Heritage Office 1998) and the Aboriginal Cultural Heritage Standards and Guidelines Kit (NPWS 1997); and the relevant NSW legislation.

Procedure

In the event that possible human skeletal material (remains) are encountered during construction, the following steps shall be taken:

- ◆ STOP ALL WORK in the vicinity of the find (≤ 50 m) and immediately notify the relevant Site Supervisor, who will immediately notify the Environment Manager and the Project Manager. The Site Supervisor will demark the area to protect the possible human skeletal material (remains), and inform all site personnel of restricted access to the area of discovery until further notice.
- ◆ The Environment Manager is to record the details, take photos of the find and its context (without causing further excavation or disturbance) and notify the Project Archaeologist and the NSW Police.
- ◆ All directions dictated by the NSW Police, in discussion with the Project Archaeologist (where relevant), must be followed.
- ◆ In the event that the human remains are considered archaeological, and NSW Police release the finds location, the Environment Manager must contact Heritage NSW - DPC on 02 9995 6864. Notification should provide a verbal description of the remains as well as the burial context.
- ◆ All directions dictated by the Heritage NSW - DPC, in discussion with the Project Archaeologist (where relevant), must be followed. This may include the need to engage technical specialist (e.g. Forensic Anthropologist), and liaison with the RAPs, to recover the remains.
- ◆ Work is not to commence in the area unless authorised in writing by OEH and/or the NSW Police.

Appendix 3: Procedure for Unexpected Finds – Aboriginal Heritage

Procedure for Discovery of Unexpected Finds – Aboriginal Heritage

Purpose

This procedure details the actions to be taken when a previously unidentified and/or potential Aboriginal heritage item/object/site is found during construction activities.

Scope

This section outlines the procedure for managing unexpected finds in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (DECCW 2010) and the Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011); and the relevant NSW legislation.

Procedure

In the event that a potential heritage artefact/item/object/site is encountered during construction the following steps shall be taken.

- STOP ALL WORK in the vicinity of the find and immediately notify the relevant Site Supervisor. The Supervisor will then notify the Environment Manager and the Project Manager, and demark the area to protect the find.
- The Environment Manager is to record the details, take photos of the find and ensure that the area is adequately protected from additional disturbance.
- The Environment Manager contacts the Project Archaeologist to notify them of the location of the find.
- All instructions provided by the Project Archaeologist are to be followed. This may include:
 - The find is not a potential Aboriginal object: work can recommence.
 - The find is a potential Aboriginal object: appropriate approvals and/or mitigation measures require implementation.
 - The find is a potential historical relic: appropriate approvals and/or mitigation measures require implementation.
- Work is not to commence in the area unless authorised in writing by the Project Archaeologist.

Management measures

Community collection

The RAPs will be provided with an opportunity to collect the identified Aboriginal object, and any other Aboriginal objects that may be identified during the collections. The location and context of recovered objects will be recorded. Artefacts will be removed from site and analysed as part of salvage excavation reporting being undertaken separately.

Artefact analysis, storage, and long-term management

Any recovered artefacts will be analysed in accordance with the salvage methodology outlined in the ACHMP. Any Aboriginal objects that are removed from the land by actions authorised by MCoA SSD-9667 will be moved as soon as practicable to the temporary storage location at the offices of Heritage Consultant engaged to complete the salvage excavations under MCoA SSD-9667.

While in temporary storage, artefacts will be stored in a locked storage cupboard. Aboriginal objects under temporary storage will not be subject to future harm. Objects will be stored until agreement is reached about the long-term management of Aboriginal objects in consultation with the RAPs.

Any Aboriginal objects recovered during salvage excavations, community collection activities and/or the proposed development works conducted under MCoA SSD-9667, will be managed consistently with the previously retrieved Aboriginal objects from the Project site.

Salvage reporting

Details regarding the identification, recording and collection of any Aboriginal objects will be included within the Aboriginal Cultural Heritage Salvage Report prepared in accordance with the requirements of the ACHMP.

Annexure G - Landscape Plan

Not relevant to in Stage 1

Annexure H– Vegetation Management Plan

Not relevant to in Stage 1

Annexure I - Fauna Relocation Plan

Not relevant to in Stage 1

Annexure J - Demolition and Waste Management Plan



Construction and Demolition Waste Management Plan

Property

165 Wallgrove Road & 475 Ferrers Road, Eastern Creek

Client

AWJ Civil

155 Newton Rd,

Wetherill Park NSW 2164

Version

CH1252_D9648

October 2021

Document Details

Project No.	CH1252	Document No.	D9648
Title	Construction and Demolition Waste Management Plan		
Site Address	165 Wallgrove Road & 475 Ferrers Road, Eastern Creek		
SSDA	SSD - 9667		
Prepared For	AWJ		
File Name	CH1252_D9648_C&DWMP		

Document Revision History

Version 1	Type	Prepared By	Date Issued
1.0	Construction and Demolition Waste Management Plan	Mia Smith	8/10/2021

Document Distribution

Version	Soft Copy	Printed Copy	Recipient
1.0	1		Domenic Gerace (AWJ)

The undersigned confirm that this document and all associated attachments relate to the Site under investigation and have been reviewed and checked for errors, omissions and inaccuracies.

Name	Signature	Position	Date
Richard Case		Director	08/10/2021



1.0 Introduction

1.1 Background

Compliance Health & Environmental Consulting Pty Ltd (CHEC) has prepared this Construction and Demolition Waste Management Plan (C&DWMP) on behalf of AWJ for Charter Hall. The C&DWMP was developed in response to conditions of consent from State Significant Development Application 9667 provided by the Minister for Planning for the Light Horse Interchange Business Hub (LHIBH).

1.2 Site Description

The site is identified as Part Lot 10 DP 1061237 and Part Lot 5 DP 804051, located at 165 Wallgrove Road & 475 Ferrers Road, Eastern Creek within the Blacktown City Council Area. The Site is largely unused pastoral land that was occupied by the Australian Defence Forces until the 1990's. Several buildings remain in the area of the former Army compound, including, accommodation building, warehouse and storage sheds. The Site also contains a Waste treatment plant and underground petroleum storage system.

Refer to **Figure 1** – Site Location and **Figure 2** – Site Layout.

1.3 Development Overview

Western Sydney Parklands Trust, in partnership with Charter Hall, to construct the LHIBH. The development will consist of 165,500m² of gross floor area for general industrial, light industrial, warehouse and distribution centres and ancillary office land located east of the M7 and south of the M4 Motorways

Stage 1 works will involve:

- Demolition of existing structures
- Remediation of the site
- Site preparation and bulk earthworks
- Construction of road access and internal roads and
- Installation of essential infrastructure services;
- Flood and stormwater management infrastructure works; and
- Subdivision of the site into 11 Torrens title lots, including seven future development lots and four lots comprising the stormwater detention basin, access road reserve and residual land to remain within Western Sydney Parklands.

2.0 C&DWMP Framework

This C&DWMP has considered the Waste Management Plan prepared by pitt&sherry in 2019 that accompanied the development application. Specifically, Sections 3 for the demolition / excavation stage and Section 4 for the Construction stage. Construction must not commence until this plan has been reviewed and approved by the Minister.

This plan will outline the procedures necessary to manage the waste being generated from development of the proposed business hub for the duration of construction works. The Plan will identify all potential wastes and appropriate methods to avoid, reduce or reuse wastes that are likely to be generated by the construction activities.

The specific objectives of this C&DWMP are as follows:

- To minimise resource requirements and construction waste through reuse and recycling, and the efficient selection of resources
- To maximise reuse or recycling of demolition waste either on site or at an appropriately licensed facility
- To assist contractors to develop systems for waste management that ensure waste is transported and disposed of in a lawful manner
- To provide guidance in regard to space, storage, amenity and management of waste
- To minimise risks associated with waste management at all stages of construction

2.1 Relevant Legislation

Table 1 Legislation that applies to this C&DWMP

Protection of the Environment Operations Act 1997	The Protection of the Environment Operations Act 1997 (POEO Act) is administered by the NSW Environmental Protection Authority (EPA) and provides for a system of environmental protection licences for scheduled development work and activities, as well as the ability to issue environmental protection notices for pollution and waste management. Environmental offences. The POEO Act and POEO (Waste) Regulations 2014 specify the legal requirements for the management of waste. There are serious offences under the POEO Act for the unlawful transportation and deposition of waste
Waste Avoidance and Resource Recovery Act 2001	The Waste Avoidance and Resource Recovery Act 2001 (WARR) provides the legislative framework to manage resource recovery in NSW and under which the Waste Avoidance and Resource Recovery Strategy can be implemented.
POEO(UPSS) Regulation, 2019	Demolition activities at the Site will require the removal and management of Underground Petroleum Storage Systems (UPSS). This process must be undertaken in accordance with the POEO(UPSS) Regulation, 2019 and Australian Standard AS4967-2008.

2.2 SSD Conditions

The following table summarises the relevant conditions as per the SSDA – 9667 Schedule 3 – Conditions of Consent for Stage 1 and where these matters are addressed within the C&DWMP.

Table 2 Consent Conditions

Condition	Comments	Reference
A10.	All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures. (Standards Australia, 2001)	Section 3.4 – Demolition Waste
B38	Prior to the commencement of construction, the Applicant must prepare a Construction and Demolition Waste Management Plan 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: <ul style="list-style-type: none"> (a) detail the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations; and (b) be implemented for the duration of construction works 	<ul style="list-style-type: none"> (a) Section 3.4 and 3.5 - Waste – Recycle and Disposal Estimates (b) Section 2.0 – Framework
B39	The Applicant must: <ul style="list-style-type: none"> a. not commence construction until the Construction and Demolition Waste Management Plan is approved by the Planning Secretary. b. implement the most recent version of the Construction and Demolition Waste Management Plan approved by the Planning Secretary 	Section 2.0 – Framework
B41	All waste materials removed from the site must only be directed to a waste management facility or premises lawfully permitted to accept the materials	Section 3.3 – Waste Handling and Storage
B42	The Applicant must assess and classify all liquid and non-liquid wastes to be taken off site in accordance with the latest version of EPA's Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) and dispose of all wastes to a facility that may lawfully accept the waste	Section 3.3 – Waste Handling and Storage Section 4.1 – Waste Management Compliance & Reporting
B43	Waste generated outside the site must not be received at the site for storage, treatment, processing, reprocessing, or disposal	Section 3.3 – Waste Handling and Storage

3.0 Identification and Management of Waste

3.1 Waste Generating Activities

The following activities have been identified to potentially generate waste during Stage 1 of the development and will require some form of management during demolition, Remediation and civil construction. Different types of waste generated during the demolition and construction phases for Stage 1 will be classified and allocated to be either re-used, recycled or disposed, minimising the amount of off-site waste disposal.

3.1.1 Building Asbestos Removal

Buildings at the Site have been reported as containing asbestos materials that will require removal prior to demolition. Specifically, these have been identified as:

Warehouse Building	Fibre cement roof sheeting and fibre cement eaves Bituminous membrane on ground slab
Accommodation Building	Fibre cement roofing and fibre cement eaves Vinyl Floor Tiles
Storage Sheds	Fibre cement roofing Fibre cement ceiling and Vinyl floor tiles
Sewage Treatment Area	Fibre cement walls, eaves and roofing

3.1.2 Building & Pavement Demolition

Subsequent to the clearance of asbestos materials, demolition will be undertaken in the following areas:

Warehouse Building	Brick walls, concrete flooring, timber, glass, Plastics, SMF and metal
Accommodation Building	Brick walls, timber, plasterboard, glass, plastics, SMF and metal
Storage Sheds	Concrete, Metal
Sewage Treatment Area	Contaminated soil, concrete and steel.
External Pavement	Concrete, bitumen steel
UPSS Infrastructure	Steel, contaminated Soil, concrete

3.1.3 Site Remediation

Site remediation will be undertaken in accordance with the RAP (WSP, 2021). The scope is likely to include the following waste generating activities:

Soil Stockpiles	Contaminated Soil – Asbestos Contaminated Soil – PAH (Asphalt)
Compound Area	Fibre cement fragments, Contaminated Soil - Asbestos
UPSS Decommissioning	Flammable tanks Contaminated Soil - Hydrocarbon

3.1.4 Civil Construction

Construction will include services installation, cut to fill excavation, fill importation and construction material importation. During this process, potential wastes that are likely to be generated include:

Bulk Excavation	Soils/ rock cut and placed Imported engineered Fill
Excavation - Unexpected finds	Contaminated Soil – Asbestos / PAH/ hydrocarbons / heavy metals / PFAS Non-compactible Soil Landfills – General Waste
Services Installation	Surplus aggregates Off Spec Recycled products Material Offcuts and breakage

3.2 Waste Hierarchy

The key framework underpinning waste management policy and practice in Australia is the waste management hierarchy, which ranks the ways of dealing with waste in order of preferences. It ranks strategies in order of preference from avoiding the creation of waste as the most desired outcome, and disposal as the least desired outcome.

Reuse and recycling ensures resources are kept in the circular economy, decreasing the need for virgin materials. If reuse and recycling are not viable options, energy recovery is considered in order to return energy to the community. This hierarchy will be implemented throughout demolition and civil works to prioritise reuse, recycling and/or reprocessing:

Waste generated through the demolition and construction phase will be assessed and classified in accordance with the NSW EPA Waste Classification Guidelines 2014. Where waste cannot be avoided, reduced, reused or recycled it will be classified allowing for appropriate and responsible disposal



3.3 Waste Handling and Storage

All waste is to be assessed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) by a suitably qualified contaminated land consultant. As per condition B41 all waste that cannot be reused at the Site will be removed and directed to a waste management facility or premises lawfully permitted to accept the materials. Any waste generated on site will be stored in an environmentally safe manner that prevents unauthorised access or an uncontrolled release, in accordance with the POEO Act. This waste will only be stored on a temporary basis until it can be handled by appropriately licensed contractors.

Liquid wastes generated from the decommissioning of the UPSS system will be tested by a suitably qualified person to determine the appropriate containment and transport methods. Where necessary liquid waste will be transported in vehicles certified to carry flammable liquids. Where liquids from the UPSS decommissioning cannot be transferred directly to a licenced transporter, they will be stored in appropriate containers in bunded areas until transported off-site. Bunded areas will have the capacity to hold 110 per cent of the liquid waste volume for bulk storage

UPSS infrastructure will be degassed and certified as non-flammable prior to transport in accordance with methods provided in AS4976-2008. In the event that dangerous goods require temporary onsite storage, the following measures must be implemented:

- All dangerous goods will be stored and handled strictly in accordance with all relevant standards and Work Health and Safety Regulation 2017.
- The transport of and any hazardous and/or industrial and/or Group A waste from the site will be conducted strictly in accordance with any requirements that may be specified by the EPA in relation to the transport of those wastes
- An emergency procedure for chemical spills and other potential incidents shall be developed before work commences

Any waste produced outside of the facility will not be accepted at the site for storage, treatment, processing, reprocessing, or disposal.

3.4 Demolition Waste.

All demolition must be carried out in accordance with Australian Standard AS 2601-2001 The Demolition of Structures. (Standards Australia, 2001). The NSW EPA Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (2012) states that, it is a stakeholder's responsibility to 'minimise construction and demolition wastes and maximise resource recovery of materials.' As required by Consent B38(a), estimates for the quantity of waste and where they will be taken to be recycled, reused or disposed of have been provided by the demolition contractor Central Civil as part of their demolition plan. These estimates are provided by Table 3 below.

Table 3 – Demolition Disposal Estimates

Material Type	Estimated Quantity	Off-Site Recycle	Disposal
Green Waste	80t	Bingo – Eastern Creek	
Asbestos & other Hazardous Material	58t		Bingo or Suez – Eastern Creek
Bricks	1385t	Sustainable Resource Centre – Fairfield City Council – Wetherill Park	
Concrete	3794t	Sustainable Resource Centre – Fairfield City Council – Wetherill Park	
Timber	154t	Bingo – Eastern Creek	
Plasterboard & Glass	42t		Bingo – Eastern Creek
Metals	150t	Sell & Parker – Kings park, St Marys	
Liquid	~2000L	Toxfree	

3.5 Remediation & Civil Construction Waste

Estimates of wastes associated with civil works and how they will be reused, recycled or disposed of is as follows

Table 4 – Demolition Disposal Estimates

Type of Waste Generated	Reuse (m ³)	Recycle (m ³)	Disposal (m ³)	Method of management or waste facility to be used
Excavated Material – Cut to Fill	50,000			Reuse portion as required as on-site fill. Stockpile soil and reuse for landscaping if deemed suitable.
Excavated Soil – UPSS / off spec fill		1000		Send to recycling facility where there may be geotechnical constraints and where chemical concentrations allow, otherwise retained in containment cell.
Excavated Soil – Contaminated	2000		500	Contaminated Soils may be contained and managed on site in accordance with long term management plan. Disposed at Bingo or Suez where soils exceed management limits.
Timber (off-cuts, studs, etc)		20	5	Separated on site and provided to timber recyclers such as D&R Henderson. Non-recyclable treated timber sent to Genesis Landfill
Concrete		235		Genesis Eastern Creek / Bingo, or Concrete Recyclers (Group)
Containers (cans, plastic, glass)		5		Sent to SITA Wetherill Park for recycling
Paper/Cardboard		5	1	Sent to Kurnell Landfill or Randwick Recycling Centre for recycling.

4.0 Environmental Reporting and Auditing

4.1 Waste Management Compliance & Reporting

The owner of the waste generated at the development and engaged contractors will be required to actively manage their responsibilities for waste management to ensure any material moved offsite is transported in accordance with the requirements of the Protection of the Environment Operations Act (1997). All records demonstrating lawful disposal of waste must be retained and kept readily accessible for inspection by regulatory authorities such as Council, OEH or WorkCover NSW.

Central Civil will conduct the removal of asbestos material, which will occur in the first instance with the affected areas taped off and sign posted accordingly "Asbestos Removal in Progress". A bin or truck will be provided, lined with 200-micron black plastic and asbestos removal will commence by the suitably qualified personnel. Any friable asbestos and all hazmat will be removed by 'Class -A' Asbestos removal licenced contractors using the "Wet Method" and transported to an approved tip site with the dockets made available.

All waste materials intended for reuse at the site must be assessed by a suitably qualified contaminated land consultant to determine if the materials comply with land use suitability criteria prescribed by National Environmental Protection Measure (NEPC,2013). Where material does not comply with land use suitability thresholds, a decision will need to be made to dispose off-site or retain on site in a managed area. All off site disposal should be accompanied by a Soil Export Classification undertaken in accordance with the POEO (Waste) Regulation, 2014 and the Waste Classification Guidelines, 2014.

Should contaminated material be retained onsite, a determination must be made by a suitably qualified contaminated land consultant for what management measures need to be implemented. This process may also require consent from the certifying authority for the development. The measures may range from physical barriers, pathway intervention techniques and/or site controls to prevent the material posing a risk to future occupants, the surrounding environment or any other sensitive receptor.

At the completion of any remedial work that requires on site containment, a validation report accompanied by a Long-Term Environmental Management Plan should be provided by the contaminated land consultant.

4.2 Complaints

The Project Manager in conjunction with Charter Hall are responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental complaint. The induction and toolbox talks should be used to ensure all site employees and contractors are aware of and understand their obligations for incident response. All employees and contractors who take receipt of a complaint, either verbal or written, are to immediately notify the Project Manager, who will then contact the relevant authority and maintain an environmental complaint register at the Site at all times

4.3 Construction Site Access

Existing vehicle access is available via Wallgrove Road and an underpass below the M7 Motorway during the demolition stage. When construction is complete vehicular access will be provided via a new access road and roundabout intersection from Ferrers Road. The access road has been designed to accommodate full access and manoeuvrability of B Double heavy vehicles. The existing road access via the M7 underpass will provide for a secondary emergency access only.

4.4 Construction Hours

Construction hours for the development will be in accordance with Condition B17 as shown below in table 4. Under condition B18, work can only be undertaken outside of these hours in the following circumstances:

- (a) works that are inaudible at the nearest sensitive receivers;
- (b) works agreed to in writing by the Planning Secretary;
- (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

Table 5 Construction Work Hours

Activity	Day	Time
Earthworks and Construction	Monday -Friday	7am to 6pm
	Saturday	8am to 1pm

4.5 Regulatory Authority Contact Details

Table 6 – Regulatory Authorities

Authority	Contact	Contact Info
Department of Planning and Environment (DPE)	Compliance Unit	1300 305 695
Environmental Protection Authority (EPA)	Environment Line	131 555
Safework NSW	Incident Notification Hotline	131 050

Figure 1 – Site Location



— Site Location



Title		Site Location					
Site Address	Lighthorse Interchange	Project No.	CH1252	Figure No.	1	Date	08/10/2021
Client	AWJ Civil Pty Ltd	Scale	NTS	Compiled	RC	Revision	Rev. 1

Figure 2 – Site Layout



— Site Location



Title		Site Layout					
Site Address	Lighthorse Interchange	Project No.	CH1252	Figure No.	2	Date	08/10/2021
Client	AWJ Civil Pty Ltd	Scale	NTS	Compiled	RC	Revision	Rev. 1

Annexure K - Community Consultation Plan

LIGHT HORSE INTERCHANGE BUSINESS HUB

Community Consultation Strategy

Prepared for:

Charter Hall

SLR Ref: -R01
Version No: -v0.1
November 2021

SLR 

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Charter Hall (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
660.30136.00000-R01-v0.2	8 November 2021	Kiera Plumridge	Dan Thompson	
660.30136.00000-R01-v0.1	19 October 2021	Kiera Plumridge	Dan Thompson	

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1 Introduction

1.1 Background

The Light Horse Interchange Business Hub (LHIBH) is an industrial business hub located within the Western City Parklands (WSP) in the City of Blacktown local government area (LGA), approximately 33 km west of the Sydney CBD (see **Figure 1**). The site is adjacent to the junction of the M4 Western Motorway and M7 Westlink Motorway at 165 Wallgrove Road and 475 Ferrers Road, Eastern Creek (Lot 10 DP 1061237 and Lot 5 DP 804051).

Western Sydney Parklands Trust (WSPT) (the Proponent), lodged State Significant Development (SSD) application SSD-9667 with the Department of Planning, Industry and Environment (DPIE) for the LHIBH a concept proposal for the tagged development of the site, and a detailed proposal for the first stage of development works and as granted development consent for SSD-9667 on 31 August 2021. Whilst WSPT are the Proponent for SS-9667, it should be noted that Charter Hall (the Developer) are responsible for the development of the site.

This Community Communication Strategy (CCS) has been prepared on behalf of the Developer and in accordance with Condition C3(g) and supporting conditions within the Development Consent, identifying relevant stakeholders, key issues, and the communication methods. Specifically, it details how the Developer, and their contractors will engage and interact with relevant stakeholders and the community. The CCS integrates with the Construction Environmental Management Plan (CEMP) and associated suite of documents to provide a comprehensive guide and benchmark for the construction process that aligns with the Development Consent conditions.

1.2 Purpose

The CCS includes the following key aspects:

- Identification of consultation triggers and methods with adjacent landowners and residents, key stakeholders, relevant agencies, and the wider community
- The tools and actions to be undertaken throughout the construction program to disseminate information through notification of relevant stakeholders
- Enquiry and Complaint management protocols; and
- Monitoring and feedback mechanisms.

The CCS will be updated as the project progresses to account for variations in the construction program and methodology and modifications to SSD-9667, along with changes in stakeholder situation that impacts on stakeholder interests, with these articulated through the feedback mechanisms.

SSD-9667 contains the following conditions of relevance to this CCS used to benchmark the contents:

- C1 – Management Plan Requirements
- C3 (g) – Community Consultation and Complaints Handling as part of the Construction Environmental Management Plan
- C8 and C9 – Revision of Strategies, Plans, and Programs; and
- C12 – Access to Information.

The details of these conditions are identified within **Table 1** below, along with a cross reference to the relevant section of this CCS.

Table 1 Relevant Conditions of Consent

Condition Number	Condition Detail	Report Reference
C1 – Management Plan Requirements	<p>Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p> <p>(a) detailed baseline data;</p> <p>(b) details of:</p> <ul style="list-style-type: none"> (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures; <p>(c) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</p> <p>(d) a program to monitor and report on the:</p> <ul style="list-style-type: none"> (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to paragraph (c) above; <p>(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(f) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>(g) a protocol for managing and reporting any:</p> <ul style="list-style-type: none"> (i) incident and any non-compliance (specifically including any exceedance of the impact assessment criteria and performance criteria); (ii) complaint; (iii) failure to comply with statutory requirements; and <p>(h) a protocol for periodic review of the plan.</p> <p>Note: the Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans</p>	<ul style="list-style-type: none"> a) Refer to Project CEMP b) Table 1, Sections 4 & 5 c) Section 4 d) Section 5 e) Section 4.6 f) Section 5.3 g) Section 5.2 h) Refer to Project CEMP
C3 (g) – Community Consultation and Complaints Handling as part of the Construction Environmental Management Plan	<p>As part of the CEMP required under Condition C2 of this consent, the Applicant must include the following:</p> <p>(g) Community Consultation and Complaints Handling.</p>	This CCS Document

Condition Number	Condition Detail	Report Reference
C8 and C9 – Non-Compliance Notification	<p>The Planning Secretary must be notified in writing to via the Major Projects website within seven days after the Applicant becomes aware of any non-compliance.</p> <p>A non-compliance 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.</p>	Section 5.3 Refer to Project CEMP
C12 – Access to Information	<p>At least 48 hours before the commencement of construction until the completion of all works under this consent, the Applicant must:</p> <p>(a) make the following information and documents (as they are obtained or approved) publicly available on its website:</p> <ul style="list-style-type: none"> (i) the documents referred to in condition A1 of Schedule 2 and A2 of Schedule 3 of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged; (v) regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent; (vi) 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; (vii) a summary of the current stage and progress of the development; (viii) contact details to enquire about the development or to make a complaint; (ix) complaints register, updated monthly; (x) the Compliance Report of the development; (xi) audit reports prepared as part of any Independent Audit of the development and the Applicant’s response to the recommendations in any audit report; (xii) any other matter required by the Planning Secretary; and <p>(b) keep such information up to date, to the satisfaction of the Planning Secretary.</p>	Section 4.3.1

1.3 Community Communications Strategy Scope

The CCS applies to works undertaken by the Developer and their engaged contractors. This CCS outlines the method, triggers and timing of consultation, notification and complaints and queries handling required in the course of the construction of the development and arising from the requirements of the relevant consent conditions outlined in **Table 1**.

1.4 Project Description

SSD-9667 was approved on 31 August 2021, granting approval for the Light Horse Interchange Business Hub (LHIBH) comprising the following:

- Concept Proposal for the staged redevelopment of the site as an industrial business hub with 157,600 sqm of industrial and light industrial floorspace and 7,900 sqm ancillary office floorspace; and
- Detailed Proposal for the first stage of development which will include demolition works, remediation, site preparation and bulk earthworks, roadworks, site infrastructure and subdivision of the site.

The development, as approved under SSD-9667 is outlined in **Table 2** below:

Table 2 Approved Development

Application Number	Development Description
SSD-9667	<p>Concept Proposal for:</p> <ul style="list-style-type: none"> • Establishment of up to 165,500 m² of gross floor area for general industrial, light industrial, warehouse and distribution centres and ancillary office land uses; and - conceptual development levels, footprints and building envelopes for Lots 1-7, roads, parking, site access and landscape design <p>Stage 1 works for:</p> <ul style="list-style-type: none"> • Demolition of existing structures; • Remediation of the site; • Site preparation and bulk earthworks; • Construction of road access and internal roads and installation of essential infrastructure services; • Flood and stormwater management infrastructure works; and • Subdivision of the site into 11 Torrens title lots, including seven future development lots and four lots comprising the stormwater detention basin, access road reserve and residual land to remain within Western Sydney Parklands.

The site works will be undertaken by a primary contractor and multiple sub-contractors. All contractors involved in delivering the project will be required to comply with the approved CCS.

The project involves construction activities including:

- Site establishment
- Vegetation clearing
- Site construction access
- Demolition of existing buildings
- Site remediation

- Sediment erosion control works
- Bulk earthworks; and
- Construction of civil infrastructure including access roads and utilities.

Figure 1 below identifies the site masterplan.

Figure 1 Site Masterplan

DEVELOPMENT DATA			
OVERALL SITE AREA	236,788m ²		
LOT 8 - SITE 810-840/1000	71,211m ²		
LOT 115 PART OF LOT 8 - RESIDUAL	7,570m ²		
ACCESS ROAD RESERVE PART OF LOT 115	16,341m ²		
TOTAL DEVELOPABLE AREA (LOT 1 TO 8)	249,229m ²		
TOTAL BUILDING AREA	188,800m ²		
FLOOR SPACE RATIO	76.1%		
DEVELOPABLE LOT	WHP AREA	OFFICE AREA	TOTAL
LOT 1	19,000	1,000	20,000
LOT 2	18,900	900	19,799
LOT 3	22,700	1,200	24,400
LOT 4	21,400	1,000	22,400
LOT 5	24,700	1,300	26,000
LOT 6	20,000	1,000	21,000
LOT 7	25,000	1,000	26,000
TOTAL	187,000	7,700	188,800
CARPARK PROVISIONS			
TOTAL CARPARK REQUIRED	773 spaces		
LOT 1 Warehouse 1 space/100m ²			
Other 1 space/100m ²			
TOTAL CARPARK PROVIDED	710 spaces		



Light Horse Interchange Business Hub
Eastern Creek NSW [SSD 9667]

Concept Masterplan

1:3000@ A3 or 1:1500@A1
DATE July 2020 DRAWING NUMBER 10925_MP100P111

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2 Key Stakeholders and Potential Issues

2.1 Key Stakeholders

The key stakeholders likely to require consultation, notification and or likely to raise comment or complaint in the course of the construction of the project include (but are not limited to):

- Adjacent or nearby property owners or occupiers
- Local Council (Blacktown City Council)
- State Government Departments, Offices or Agencies, including:
 - Environmental Protection Authority
 - Fire and Rescue NSW
 - WaterNSW
 - NSW Rural Fire Service
 - NSW Department of Industry – Crown Lands and Water
 - Department of Planning Industry and Environment, specifically the:
 - Greater Sydney, Place and Infrastructure, Central Western Team
 - Industry Assessment
 - Environment, Energy and Science Group including Office of Environment and Heritage
 - Natural Resource Access Regulators and Water Group
 - Transport for NSW (TfNSW) and Westlink M7
- Utility and Services Providers, including:
 - Jemena Gas Networks
 - Endeavour Energy
 - Telstra
 - NBN
 - Sydney Water; and
- Other Interested Parties.

2.2 Previous Consultation

The Proponent and their representatives, as well as the Developer and their representatives have previously undertaken consultation with agencies, the community, and stakeholders during the development of the Project. Details of this consultation are included in the EIS (Urbis, 2019).

In response to public notification of the proposal, a total of 19 submissions were received, including three submissions from the general public and 16 submissions from government or public authorities. In response to the issues raised, the Proponent made minor amendments to the proposal and provided additional technical information, which informed a Response to Submissions Report (Urbis, 2020).

For more information, refer to the Department of Planning and Environment’s Major Project Assessments webpage at: <https://www.planningportal.nsw.gov.au/major-projects/project/10631>.

Consultation has also been undertaken to date with relevant stakeholders to satisfy conditions of SSD-9667 and to inform the preparation of management plans required under the Consent. Record of this consultation, where relevant is included within the management plans located within the Project CEMP.

2.3 Potential Issues and Strategies

The Developer is committed to ongoing proactive consultation with the community and stakeholders while understanding the importance of addressing potential issues and minimising construction related impacts. **Table 3** outlines potential project issues that are likely or known to be of interest or concern to the community and stakeholders. The table also details communications related measures and strategies that the Proponent will undertake to manage and mitigate impacts. Where an incident or non-compliance arises relating to environmental management and beyond the scope of matters relating to consultation, the CEMP identifies management and mitigation measures to address those matters, with reference to be made to Section 3.5 of outlining Incident and Non-Compliance Response and Handling Procedure.

Table 3 Issue Identification and Mitigation

Potential Issue	Potential Key Impacts	Mitigation Strategy
Construction Traffic	A temporary increase in traffic movements may be experienced associated with the import of fill material, the movement of construction machinery to and from the site and the movement of workers light vehicles.	The CEMP and supporting Construction Traffic Management Plan identify specific mechanisms to manage and mitigate these impacts.
Stormwater, Sediment Control, Erosion, Water Quality	High rainfall events could result in localised flooding. Construction could result in impacts to local water quality, associated with sediment laden runoff.	The CEMP and supporting Erosion and Sediment Control Plan identify specific mechanisms to manage and mitigate these impacts in accordance with the relevant Council standards and commitments within the SSD approvals package.
Waste Management	Earthworks, demolition, and construction waste present at the site during works.	The CEMP and supporting Demolition and Waste Management Plan identify specific mechanisms to manage and mitigate these impacts.
Removal of Flora and Fauna	The project approval requires the clearance of flora and fauna to facilitate the development, with the associated potential for impacts on safety of immediately adjacent receivers, along with biodiversity and visual amenity.	The CEMP and supporting Vegetation Management Plan for the Stage 1 development and Fauna Relocation Plan identify specific mechanisms to manage and mitigate these impacts.

Potential Issue	Potential Key Impacts	Mitigation Strategy
Noise and Vibration	Truck, machinery, and light vehicle movements within, to and from the site, along with civil works have potential to result in negative impacts associated with noise and vibration.	<p>Sensitive receivers and affected stakeholders will be consulted prior to actions likely to generate high levels of noise or vibration in accordance with Section 4 of this Strategy.</p> <p>Up to date information on current and proposed works will be accessible to stakeholders and the wider public on the project web page.</p> <p>Additionally, should any works be likely to generate impacts beyond those identified within the approval's documentation consultation would be undertaken with the applicable managing agency.</p> <p>The CEMP and supporting Construction Noise and Vibration Management Plan for the Stage 1 development contain specific measures to manage these impacts. These management plans have been informed by commitments contained within the SSD approvals package, EPA standards and guidelines.</p>
Aboriginal Heritage	There is the potential for encountering items of Aboriginal Heritage during excavation.	<p>Monitoring of works by appropriately qualified personnel, along with the implementation of an unexpected finds protocol in consultation with Aboriginal Stakeholders and Heritage Division of the Department of Planning, Industry and Environment</p> <p>The CEMP and supporting Aboriginal Cultural Heritage Management Plan identify specific mechanisms to manage and mitigate these impacts.</p>
Hazardous Goods and Contamination	There is the potential for environmental incidents relating to the hazardous goods and contamination on site during construction.	The CEMP and supporting Unexpected Contamination Procedure identify specific mechanisms to manage and mitigate these impacts.
Misinformation and Misunderstanding	<p>Lack of project awareness within the wider community may result in complaints being raised by those unaware of the extent of the approval, with these complaints not directed through the appropriate project hotline.</p> <p>Unauthorised release of project information by the project team to the media, stakeholders or the community has potential to impact on project perception in the community.</p>	<p>The CCS includes measures at Section 4.3 to provide regular updates in plain language, supported by imagery to stakeholders and the wider community through public and private media.</p> <p>Contact details including the hotline details will be provided on site, the project web page and in all information issued. Information on project works, reporting and compliance is to be maintained and updated on the project website.</p>

Potential Issue	Potential Key Impacts	Mitigation Strategy
Emergency Event	Unforeseen emergency with the potential to impact on the community either directly, or indirectly through out of hours activities that may generate additional traffic or noise.	The CCS includes measures at Section 4.4 to provide updates in emergency events, with the CEMP identifying specific mechanisms to manage and mitigate these impacts from an environmental management perspective.

3 Communications and Community Liaison Representative

The Developer have nominated a Communications and Community Liaison Representative (CCLR) who will provide the community and stakeholders with a single point of contact for all aspects of the project, responsible for receiving and disseminating information requests and complaints, along with addressing any interface issues. The CCLR will also facilitate property access should it be required.

The CCLR will be available for contact by local residents and the community at all reasonable times to answer any questions and address any concerns relating to the project. The CCLR will have up-to-date information on:

- Emerging stakeholders
- Planned construction activities
- Planned traffic arrangements
- Current landowner discussions with members of staff
- Planned community and stakeholder consultation
- Complaints or enquiries received
- Duties and accountabilities of staff; and
- Commitments to stakeholders made by the Proponent.

The CCLR will be responsible for recording, actioning and provided response to comments, queries or complaints received with relation to the construction of the project and will maintain the consultation register.

The contact details for the CCLR will be included within this CCS when confirmed by the Developer.

4 Community and Stakeholder Engagement

4.1 Objectives

The key objectives of the strategy are to meet the requirements of Condition C3 (g) of SSD-9667 and:

- Keep the local community and key stakeholders informed of the progress of works relating to the Project
- Ensure that enquires and complaints received from the community or key stakeholders are addressed and responded to in a timely and effective manner
- Inform relevant parties in advance of potential disturbances and events likely to cause impact
- Be good neighbours and members of the local community throughout the duration of the project's lifespan
- Providing an open two communications channel to allow ongoing, iterative engagement; and
- Seek opportunities for improvement throughout the project.

4.2 Conduct

In their communications and consultation with the community and key stakeholders, the Proponent and their representatives will comply at all times with the requirements of the *Privacy and Personal Information Protection Act 1998 (NSW)* and the *Privacy Act 1988 (Cth)*.

4.3 Communication, Management, and Mitigation Tools

A range of tools and techniques will be used to inform and engage with the community and stakeholders regarding the project. **Table 4** below provides an overview of the mechanisms to be utilised to notify and consult with local community and key stakeholders and measures to mitigate potential issues throughout the development.

Table 4 Communication Management and Mitigation Tools

Tool/ Technique	Description	Person Responsible	Audience	Frequency/timing	Specifications
Consultation Meetings	Meetings held to notify, discuss, or consult on matters arising of relevance to community and or key stakeholders. Meetings to be held either face to face or on virtual platform(s)	CCLR	The wider community and key stakeholders.	Meetings to be held on an as needs basis dependant on matters to be discussed and appropriate timing of discussions	Details and matters to be discussed to be tailored to the purpose and aims of the meeting. Record of conversation (informal) or minutes of meeting (formal) to be recorded, retained by the CCLR and provided to all attendees following the meetings. A record of the discussion shall be included in the consultation register and actioned as required.
Consultation Register	Recording community and stakeholder interactions (including notification, consultation, queries, comments, and complaints), along with associated remedial actions as required.	CCLR	The wider community and key stakeholders.	Project duration	The maintenance of the consultation register is required to satisfy the requirements of Condition C1, C3 (g), and C12 (ix) of SSD-9667. The register will be continually updated to record community engagement, including information provided by the Proponent, feedback received, and remedial action undertaken where required.
Agency Meetings	Meetings with agencies to discuss matters relevant to their agency	CCLR and/or the Proponent	Relevant Agency	As required.	Meetings will be held as required to address matters relevant to specific agencies including the satisfaction of conditions of consent. These shall be undertaken either directly by the proponent or facilitated by the CCLR at the Proponent's discretion.

Tool/ Technique	Description	Person Responsible	Audience	Frequency/timing	Specifications
Notification Letterbox Drop	Letters would be provided to specific receivers identified as being potentially affected by construction. This may be undertaken in tandem with door knocking.	CCLR	Landowners and occupiers of the immediate area.	As required for the project duration.	Letter box drop details to be recorded in the consultation register. Timing of construction activity to be identified along with relevant contact details.
Email and phone	Where agreed to by the stakeholder and contact details provided, contact is made via email, phone and/or text message to notify or respond to query or complaint	CCLR	The wider community and key stakeholders.	As required for the project duration.	With the stakeholder's consent, contact details shall be utilised to provide notification or further contact to respond to query or complaint. Recorded contact details are to kept private and used exclusively for the purpose of consultation on the project.
On Site Signage	Project information details.	Site Foreman and Management Staff	Visitors to the site and residents of the immediate area.	Project duration.	Contain key project contact details including the hotline and web page, along with relevant project and safety information.
Project Information and Complaints Number	Phone number to be contacted should information on the project be required or complaint lodged.	CCLR	The wider community and key stakeholders.	Project duration.	Phone number to be included on site signage, the web page, and all project information material. Feedback provided to be incorporated into the consultation register and actioned as required.
Staff and Visitor Induction and Training	Project information details.	Site Foreman and Management Staff	Staff and visitors to the site.	Project duration.	Key project safety information, contact details, emergency procedures and site information.

Tool/ Technique	Description	Person Responsible	Audience	Frequency/timing	Specifications
Toolbox and Prestart Meetings	Project information details.	Site Foreman and Management Staff	Staff and visitors to the site.	Project duration.	Task specific safety information, emergency procedures and relevant project updates. All staff and subcontractors to be made aware of external and internal communications procedures
Website	A web page shall be established for the project	The Proponent	The wider community and key stakeholders.	Project duration.	Website address and phone number located on site signage and all project information material. Web page to provide all details outlined in Section 4.3.1 below.

4.3.1 Project Website

The Proponent will establish a website to be accessible from at least 48 hours prior to commencement of construction until the completion of all works approved under SSD-9667.

The following information will be made available on the website and updated monthly or more frequently when necessary and as required by SSD-9667 Condition C12:

- The documents referred to in condition A1 of Schedule 2 and A2 of Schedule 3 of the consent
- All current statutory approvals for the development
- All approved strategies, plans and programs required under the conditions of this consent
- The proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged
- Regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent
- 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
- A summary of the current stage and progress of the development
- Contact details to enquire about the development or to make a complaint
- Complaints register, updated monthly
- The compliance report of the development
- Audit reports prepared as part of any independent audit of the development and the applicant's response to the recommendations in any audit report; and
- Any other matter required by the planning Secretary.

The Developer is responsible for keeping such information up to date, to the satisfaction of the Planning Secretary.

4.4 Notification Procedure

Where notification is required pursuant to Condition(s) of SSD-9667, notification shall be undertaken within the timeframes outlined within the Consent. Where notification is required due to a potential impact or issue, notification shall be undertaken in accordance with **Table 5** below.

Table 5 Notification of Potential Impact or Issue

Potential Impact or Issue	Method of Contact/Consultation	Timeframe
High noise generating work	Email, Text Message or Letterbox drop – notifying of expected commencement, duration and affected hours	No less than 24 hours prior to the activity
Vibration intensive activity	Email, Text Message or Letterbox drop – notifying of expected commencement, duration and affected hours	No less than 24 hours prior to the activity

Potential Impact or Issue	Method of Contact/Consultation	Timeframe
Traffic management disruption	Email, Text Message or Letterbox drop – notifying of expected commencement, duration and affected hours Variable Message Signs	No less than 24 hours prior to the activity
Respite offerings	Email or phone calls will be undertaken to determine whether respite is required and appropriate scheduling and duration for respite periods	No less than 24 hours prior to the activity
Emergency Event	Email, Text Message or Letterbox drop – notifying of expected commencement, duration and affected hours	As soon as possible

4.5 Complaints Procedure

The Developer is committed to the timely and effective management of enquiries and complaints relating to construction activities for the project. To this end, the following complaints procedure will be adhered to, enabling the receipt, and recording of enquiries and complaints, along with the methods of response and resolution of issues raised.

The complaints handling procedure outlined below and illustrated in **Figure 2**.

4.5.1 Receiving and Recording Enquiries and Complaints

The Developer will establish a Project email address and phone number for the receipt of enquiries and complaints relating to the development. The email account will be regularly monitored to receive and respond to customer feedback and enquiries. The phone number will be available for contact from the commencement of works. The CCLR will manage the phonenumber from the commencement of the project until the completion of works. Where calls are received during hours of construction work (including out of hours works) all calls will be answered by the CCLR. Where calls are received outside of hours of construction works the caller will be invited to leave a message. All approaches from the community and stakeholders will be registered in the project’s consultation register. The facilities established for receiving enquiries and complaints about the project during construction are shown in **Table 6**.

Table 6 Enquires and Complaints Facilities

Facility	Purpose	Detail
Phone number	A contact phone number and associated contact name (the CCLR) for questions/enquiries and the lodgement of complaints relating to the development.	The contact details for the CCLR will be included within this CCS when confirmed by the Developer.
Email Address	An email address for questions/enquiries and the lodgement of complaints relating to the development.	The contact details will be included within this CCS when confirmed by the Developer.
Postal Address	A postal address for the receipt of questions/enquiries and the lodgement of complaints relating to the development.	The contact details will be included within this CCS when confirmed by the Developer.

In person verbal	Verbal enquiries and complaints can be made formally during meetings or may be made informally where staff interact with members of the public in informal settings.	Where enquiry or complaint is made face to face to persons other than the CCLR, staff will immediately notify the Contractor's Project Manager who will then contact the CCLR. Record of the conversation (including the recording of contact details with consent) will be made by the staff member and provided to the CCLR immediately
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The Developer has established a consultation register to record all complaints and enquiries received by the above means. The consultation register will be maintained on a regular basis. The consultation register shall include the following details for all complaints or enquiries received:

- Date and time of complaint or enquiry
- Method by which the complaint or enquiry was made
- Name, address, contact telephone number of complainant (if no such details were provided, a note to that effect)
- Nature of complaint or enquiry
- Action taken in response including follow up contact with the complainant
- Any monitoring to confirm that the complaint or enquiry has been satisfactorily resolved; and
- If no action was taken, the reasons why no action was taken by you.

An excerpt of the consultation register is included at **Appendix A**.

4.5.2 Responding to and Resolving Enquiries and Complaints

Where a complaint or enquiry is received the CCLR will attempt to provide an immediate response, if possible, via phone or email. Where a complaint or enquiry cannot be responded to immediately the CCLR will assess and prioritise the submission and provide the complainant or enquirer with a follow up verbal response on what action is proposed within two hours during construction works (including night and weekend works) and 24 hours at other times. Where a complaint or enquiry cannot be resolved by the initial or follow-up verbal response, a written response will be provided to the complainant or enquirer within ten days.

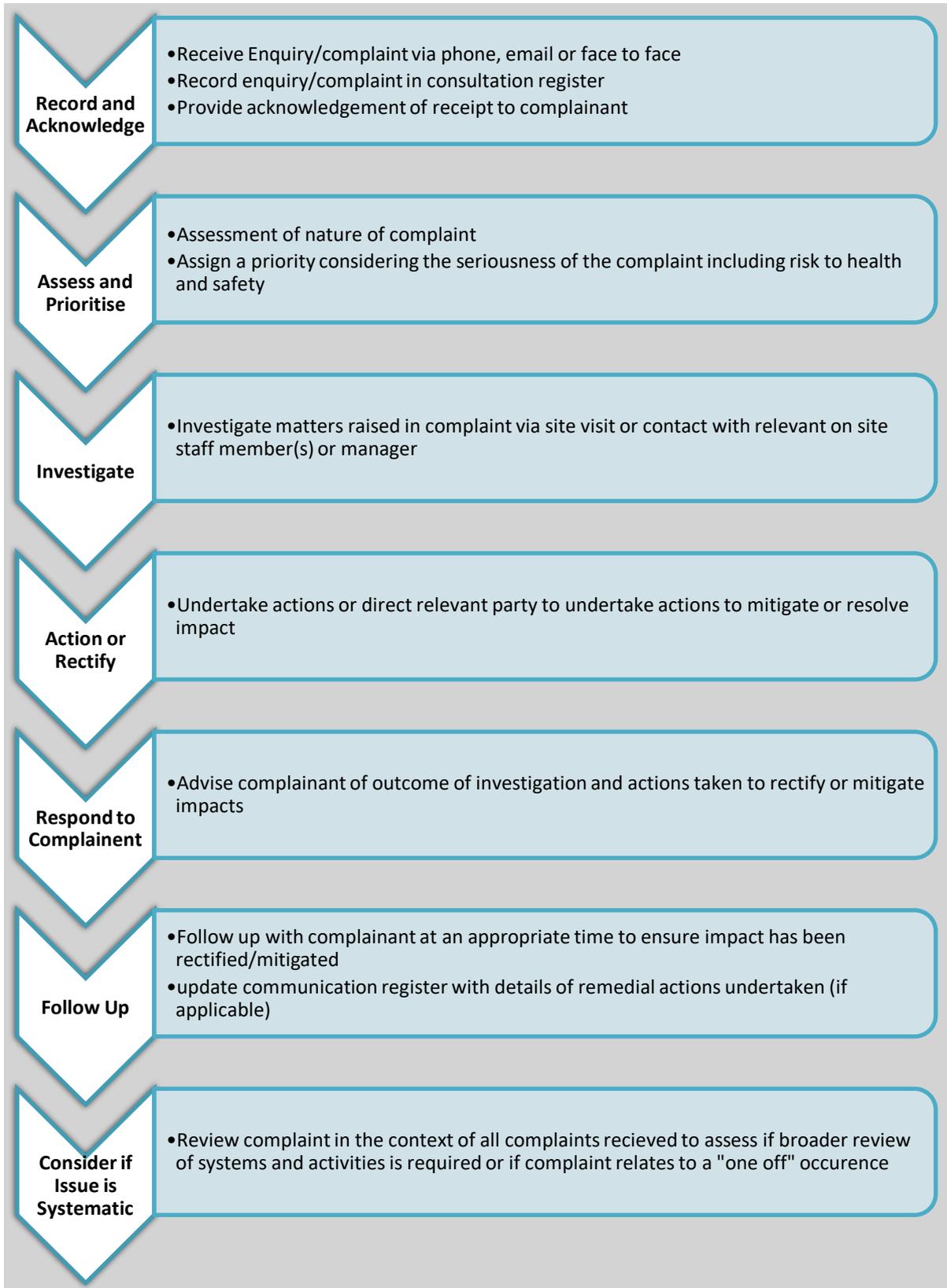
In the event of a complaint, the CCLR will assess whether the complaint is founded or unfounded and if necessary, delegate the resolution of the issue to the project manager for action or to the relevant project engineer. The CCLR will oversee the rectification of the issue and respond to the complainant once the issue has been resolved.

In the event of an enquiry, the CCLR will endeavour to provide an immediate response where they are in possession of the relevant information. Where more specific or detailed information is required, the CCLR will liaise with the project manager or relevant project engineer to obtain the information required to respond to the enquiry and provide this information to the enquiring party once in hand.

Where the above protocol is unsuccessful in resolving complaints, mediation may be undertaken at the discretion of the Proponent to facilitate negotiation between affected parties. This shall be performed with the assistance of the ER and potentially via an independent person (mediator) appointed by the Proponent as required.

A summary of complaints and enquiries will be provided on a monthly basis to the ER for inclusion in their monthly report, with records made publicly available.

Figure 2 Complaints Handling Procedure



4.5.3 Unreasonable Complainant Conduct

The NSW Ombudsman provides guidelines which define unreasonable complaint conduct as:

“...any behaviour by a current or former complainant which, because of its nature or frequency, raises substantial health, safety, resource or equity issues for the parties to a complaint.”

Whilst it is not envisioned that the project will attract complainants that exhibit this behaviour, where a complainant is seen to potentially have a negative impact on the CCLR or project team’s health, safety, resourcing or equity of service, The Proponent shall adhere to the procedures and practices outlined within the NSW Ombudsman’s *“Managing Unreasonable Complainant Conduct Practice Manual 2nd Edition”*.

4.6 Contingency Management Plan

In accordance with Condition C1(e) of the SSD-9667 consent, a contingency management plan has been developed to outline the management of unpredicted impacts and their consequences. Details of these events, their severity and response are detailed in **Table 7** below:

Table 7 Contingency Management Plan

Key Element	Trigger/ Response	Condition Green	Condition Amber	Condition Red
Submission	Trigger	General feedback/comment (no complaint or query).	Enquiry made by formal or informal channels.	Complaint made by formal or informal channels.
	Response	Acknowledge receipt and record in consultation register. No further response required.	Acknowledge receipt and record in consultation register. Direct enquiry to relevant person for actioning and response within 5 days.	Acknowledge receipt and record in consultation register. Respond to complaint immediately, if possible, if not direct enquiry to relevant person for actioning and provide complainant with a follow up verbal response on what action is proposed within two hours during construction works (including night and weekend works) and 24 hours at other times.
Media	Trigger	Positive story in print, online, radio or television.	Neutral or advisory story in print, online, radio or television.	Negative story in print, online, radio or television.
	Response	Record in consultation register and advise the proponent media/marketing team. No further response required.	Record in consultation register and advise the proponent media/marketing team. No further response required.	Record in consultation register and advise the proponent Project Team for further action and response. Contact relevant person for actioning and response within 48 hours
Unscheduled Event	Trigger	Event occurring outside of plan or schedule without impact or potential impact.	Event occurring outside of plan or schedule with minor impact or potential impact.	Event occurring outside of plan or schedule with major impact or potential impact.

Key Element	Trigger/ Response	Condition Green	Condition Amber	Condition Red
	Response	No response required. Identify opportunities for improvement to manage potential future events.	Contact relevant person for actioning and response within 48 hours. Acknowledge in consultation register. Identify opportunities for improvement to manage potential future events.	Contact relevant person for actioning and response immediately. Acknowledge in consultation register. Identify opportunities for improvement to manage potential future events.
Political Interest	Trigger	General or non-specific enquiry by Local, State or Federal political representative.	Enquiry or complaint relating to minor issue by Local, State or Federal political representative.	Enquiry or complaint relating to major issue by Local, State or Federal political representative.
	Response	Community consultation team in conjunction with The Proponent Project Team to prepare and provide response or assign response task to relevant staff member for comment. Record in consultation register.	Community consultation team in conjunction with the proponent Project Team to prepare and provide response within 48 hours. Record in consultation register.	Community consultation team in conjunction with the proponent Project Team to prepare and provide response within 24 hours. Record in consultation register.

5 Monitoring, Reporting and Evaluation

Monitoring, reporting, and evaluation will be undertaken to measure the effectiveness of community consultation, stakeholder engagement and responses to complaints and enquiries. Opportunities for improvement will be sought on a continuous basis, with an annual review of the CCS undertaken to formalise these incremental improvements.

5.1 Monitoring

The performance of this strategy will be monitored monthly based upon an assessment of the following data:

- Total number of monthly complaints
- Review of number of monthly complaints relating to lack of consultation/misinformation/confusion
- Review of number of monthly enquiries relating to information previously disseminated to the community through other channels
- Monthly review of enquiries or complaints of a similar nature or theme indicative of underlying systematic issues with the project or communication strategy; and
- Response timeframes, including initial acknowledgement and the response to enquiries or remediation of issue(s).

The parameters of monitoring and performance criteria are outlined in **Table 8** below.

Table 8 Summary of Monitoring Data

Monitoring Parameter	Rationale	Performance Criteria	Monitoring Frequency
Total number of complaints	The number of complaints received in total is indicative of the community's satisfaction with the project.	A reduction in number of complaints, baseline determined by number of complaints received in preceding months.	Monthly
Number of complaints relating to lack of consultation/misinformation/confusion	Number of complaints relating to lack of consultation/ misinformation/ confusion is indicative of the effectiveness and clarity of communication tools utilized.	A reduction in number of complaints, baseline determined by number of complaints received in preceding month.	Monthly
Number of enquiries relating to information previously disseminated	Number of enquiries relating to information previously disseminated is indicative to the effectiveness of the delivery of information.	A reduction in number of enquiries, baseline determined by number of enquiries received in preceding month.	Monthly
Number of complaints/enquiries within defined categories based on theme or subject	A large number of complaints or enquiries relating to a single issue may be indicative of a systematic issue to be addressed as a priority.	A reduction in number of complaints, baseline determined by number of complaints received in preceding month.	Monthly

Monitoring Parameter	Rationale	Performance Criteria	Monitoring Frequency
Response timeframes	Response to enquiries and complaints should be timely to ensure effective responsiveness and rectification of issues and to encourage trust within the community.	Enquiries and complaints acknowledged within 48 hours. Urgent enquiries and complaints responded to within 48 hours of receipt, non-urgent enquiries and complaints responded to within 5 days.	Monthly

5.2 Reporting

A monthly community consultation summary will be made publicly available on the project web page and shall include:

- A summary of community consultation activities undertaken within the preceding month; and
- A summary of all enquiries and complaints received within the preceding month, including details of response and/or remediation activities.

5.3 Evaluation and Review

Review of this strategy shall be undertaken in accordance with the provisions of the Project CEMP.

Where performance criteria are not being satisfied, review of this strategy and its implementation will be undertaken by the CCLR and changes to the strategy may be made to rectify the short fall. Where systematic issues are identified associated with construction activities, the project manager will be advised, and immediate rectification of the issue will be requested.

This strategy will be reviewed in accordance with Condition C5 of SSD-9667 and where necessary updated or revised in accordance with Condition C6 of SSD-9667.

6 References

NSW Ombudsman (2012) *Managing Unreasonable Complainant Conduct Practice Manual 2nd Edition*.

Charter Hall (2021). *Construction Environmental Management Plan*.

Urbis (2019) *Environmental Impact Statement Lighthorse Interchange Business Hub, Eastern Creek*.

Urbis (2020) *Response to Submissions and Preferred Project Report*.

APPENDIX A

Consultation Register

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Annexure K - Community Consultation Plan

Annexure L– Contamination Unexpected Finds

Contamination

In the event that previously unidentified contamination that has not been included in this RAP is uncovered during the remediation works, the following procedures must be implemented:

- 1) The workers that encounter the potential contamination must stop work immediately and notify their supervisor. The supervisor must then immediately notify the principal contractor representative. Work must cease in this area until further assessed and advice by a suitably qualified person (e.g. Environmental Consultant or Occupational Hygienist).
- 2) If the encountered contamination presents an immediate risk to human health or the environment (e.g. ruptured oil drum or friable asbestos), controls must be immediately implemented to isolate/barricade the area, contain and prevent further release of the contaminant. Workers initiating such controls must be suitably competent and wearing suitable PPE, which should be stored on-site. Chemical spill kits should also be stored on-site.
- 3) The principal contractor representative is to immediately notify an Environmental Consultant/Occupational Hygienist to undertake preliminary assessment of the potential contamination. Based on the findings of the preliminary assessment, further sampling and investigation may be required.
- 4) Once confirmed that a contamination risk has been identified, the principal contractor representative is to verbally advise the client of the unexpected find. Written notification should follow, which will provide relevant information relating to any special recommendations to Site workers/employees, further sampling, investigation and remediation that may be required.
- 5) If required, the principal contractor representative must notify any relevant regulatory authorities (e.g. SafeWork NSW, NSW EPA, etc.) of the contamination incident as soon as practicable.
- 6) Based on the findings of the preliminary assessment and any further investigations undertaken, a remediation strategy or RAP may be required to be prepared by the Environmental Consultant/Occupational Hygienist.
- 7) If remediation is required, the client must notify relevant regulatory authorities (as required) of the planned commencement and completion dates and details of the remediation strategy to be adopted. Any information/reports relating to assessment, investigation or remediation of the unexpected contamination must be included as part of this notification.
- 8) Any material identified as contaminated must be managed in accordance with the Remediation Action Plan unless the site has been validated and the Site Audit Statement has been obtained as per condition B47 of the Development Consent. In the event that unexpected contamination is found, after the Site Audit Statement is issued, all contamination must be disposed off-site, with the disposal location and results of testing submitted to the Planning Secretary, prior to its removal from the site.
- 9) The client has a responsibility to keep regulatory authorities updated throughout the duration of any remedial works. If validation testing/validation programs are required on completion of the remediation works, a validation report will be prepared by the Environmental Consultant/Occupational Hygienist or alternatively be incorporated into the final validation report for the overall remediation works. Copies of the validation results and clearance reporting must be provided by the client to all relevant parties.

Unexploded Ordnance

WSP notes that the information provided to date (specifically Appendix G of the EES 2019 RAP) indicates that the site presents a low risk of possessing unexploded ordnance (UXO). However, should potential UXO be identified during works, the following procedure should be followed:

1) If a suspect UXO item is found - DO NOT TOUCH, disturb or tamper with the item in any way. This includes making any attempt to move the item to a 'safe' location.

2) Carefully note the appearance of the item and the location. Take a photograph if it is possible to do so without further approaching or disturbing the item.

3) If possible, mark the location so that it can be found later. Coloured tape or paint make easily recognised marker material. Note the route to the item.

4) Inform the property owner, park ranger, prime contractor, site foreman or supervisor of the find.

5) Inform the Police that a possible ammunition item has been found. They will instigate a request for Defence personnel to attend and dispose of the item During each incident of identification of potential UXO all of the following should be collected for incorporation into the final validation report:

— Photographic evidence of the potential UXO and approximate GPS location (if safe to do so).

— Details of correspondence as per the above UXO protocol.

— Details of Emergency Services and Department of Defence site attendance.

— Resolution of the



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